



TECHNISCHE UNIVERSITÄT MÜNCHEN

Ingenieur fakultät Bau Geo Umwelt

Lehrstuhl für Bodenordnung und Landentwicklung

Spatial justice and land tenure security. Insights from urban re-development in Kigali, Rwanda

Ernest Uwayezu

Vollständiger Abdruck der von der Ingenieur fakultät Bau Geo Umwelt der Technischen Universität München zur Erlangung des akademischen Grades eines Doktor-Ingenieurs genehmigten Dissertation.

Vorsitzender: Prof. Dr.-Ing. habil. Thomas Wunderlich,

Prüfer der Dissertation:

1. Gutachter: Prof. Dr. ir. Walter Timo de Vries
2. Gutachter: Prof. Dr.-Ing. Winrich Voß
3. Gutachter: Prof. Dr. Jaap Zevenbergen

Die Dissertation wurde am 26.02.2020 bei der Technischen Universität München eingereicht und durch die Ingenieur fakultät Bau Geo Umwelt am 17.07.2020 angenommen.

Table of contents

Table of contents	i
List of figures	vi
List of tables	viii
List of appendices.....	ix
List of abbreviations	x
Abstract.....	xii
Zusammenfassung	xiii
Acknowledgements	xiv
Chapter 1. General introduction	1
1.1. Introduction	1
1.2. Research background: grasping trends of land tenure insecurity within urban (re)development processes	2
1.3. Problem statement: trends of spatial injustices and land tenure insecurity amidst the legal formalisation of land rights in Kigali City.....	3
1.4. Grasping spatial justice claim within the urban (re)development settings.....	6
1.5. Theoretical and evaluative framework	7
1.5.1. Research objectives and questions.....	10
1.6. Relevance of the study.....	12
1.6.1. Contribution to sustainable urban (re)development.....	12
1.6.2. Contribution to urban land governance	13
1.7. Research methodology	15
1.8. Research framework	16
Chapter 2: Scoping land tenure security for the poor and low-income dwellers from a spatial justice lens.....	20
Abstract	20
2.1. Introduction	20
2.2. Methodology	22
2.3. Results and discussion	24
2.3.1. The main claim and conceptualisation of spatial justice	24
2.3.2. Main forms of spatial justice	25
2.3.3. Defining land tenure security	26
2.3.4. The passage of City Statute and the emergence of spatial justice in the city of Recife27	

2.3.5. Connecting spatial justice to land tenure security: evidence from urban (re)development in Recife.....	28
2.4. Conclusion	32
Chapter 3: Exploring the connection between spatial justice and land tenure security: insights from inclusive urban (re)development schemes in Recife, Brazil.....	34
Abstract.....	34
3.1. Introduction.....	34
3.2. Study area and methodology	37
3.3. Results and discussion	40
3.3.1. Main aspects of spatial justice.....	40
3.3.1.1. Material aspect (physical manifestation of spatial justice)	41
3.3.1.2. Axiological aspect.....	41
3.3.1.3. Ideological aspect (or spatial justice as slogan)	41
3.3.1.4. Epistemological aspect	42
3.3.2. Potential of spatial justice to land tenure security: evidences from urban (re) development schemes in Recife.....	44
3.4. Conclusion.....	53
Chapter 4: Indicators for measuring spatial justice and land tenure security for poor and low-income urban dwellers	56
Abstract.....	56
4.1. Introduction.....	56
4.2. Research methodology	59
4.3. Theoretical background	61
4.3.1. A brief review of the theoretical framework of spatial justice	61
4.3.2. Relating spatial justice to land tenure security.....	62
4.3.3. Towards developing indicators which measure the trends in spatial justice and land tenure security.....	63
4.4. Results and discussion.....	68
4.4.1. Framing spatial justice and land tenure security in terms of a just spatial planning process	68
4.4.2. Integrating spatial justice into urban redevelopment processes	69
4.4.3. Indicators for the evaluation of spatial justice and land tenure security	74
4.5. Conclusion	84
Chapter 5: Expropriation of real property in Kigali City: scoping the patterns of spatial justice	86
Abstract.....	86
5.1. Introduction.....	86
5.2. Conceptual framework.....	88
5.3. Data sources and methods	92

5.3.1. Study areas and sampling	92
5.3.2. Data collection.....	94
5.3.2.1. Primary data.....	94
5.3.2.2. Secondary data.....	94
5.3.3. Data analysis	95
5.4. Results and discussion	95
5.4.1. Patterns of spatial justice in the law and processes of expropriation and compensation	95
5.4.1.1. Procedural justice and compliance dilemma.....	97
5.4.1.2. Trends of procedural, recognitional and redistributive justice.....	99
5.4.2. Paucity of redistributive justice	107
5.4.2.1. Access to new properties in the close vicinity	107
5.4.2.2. Decreased access to basic infrastructure and services.....	109
5.5. Conclusion and recommendations	112
Chapter 6: Can in-kind compensation for expropriated real property promote spatial justice? An analysis of experiments in Kigali City, Rwanda.....	114
Abstract	114
6.1. Introduction	114
6.2. Referents of spatial justice from the in-kind compensation through the resettlement process.....	117
6.3. Evaluative framework.....	118
6.4. Data sources and methods.....	123
6.4.1. Study site	123
6.4.2. Sampling.....	124
6.4.3. Data collection method.....	125
6.4.3.1. Primary data.....	125
6.4.3.2. Secondary data.....	125
6.4.4. Data analysis and presentation of results.....	126
6.5. Results and discussion	126
6.5.1. Patterns of spatial justice emerging from the in-kind compensation in Kigali City... 126	
6.5.1.1. Trends of spatial justice in the in-kind compensation for the expropriated real property owners in Kangondo and Kibiraro.....	130
6.5.1.2. Scanty trends of spatial justice in the implementation processes and outcomes of the in-kind compensation.....	134
6.5.2. Options for promoting spatial justice in the implementation of the in-kind compensation in Kigali City.....	140
6.5.2.1. The in-cash compensation and self-help incremental housing development: procedural, recognition, and redistributive justice.....	140
6.5.2.2. Promotion of the social mix through the in-situ relocation.....	141
6.5.2.3. Urban village and diversified dwelling units: reframing recognitional, redistributive and intra-generational justice.....	142
6.5.2.4. Increasing housing size and progressive ownership approach through recognitional and redistributive justice.....	143

6.6. Conclusion	144
Chapter 7: Stakes of spatial justice and land tenure security from the resettlement of informal settlements dwellers in Kigali City, Rwanda.....	147
Abstract.....	147
7.1. Introduction.....	147
7.2. Spatial justice claim as a catalyst for changes in Kigali City (re)development processes .	148
7.3. Theoretical foundations of spatial justice and evaluative framework	149
7.4. Data sources and methods	153
7.5. Results and discussion.....	154
7.5.1. Trends of spatial justice emerging from the resettlement of informal dwellers in Kigali City	155
7.5.1.1. Limited patterns of procedural justice	158
7.5.1.2. High trends of recognition and redistributive justice: access to quality housing	160
7.5.1.3. Protection of informal dwellers’ lives through intra - and inter-generational justice	161
7.5.2. Re-established land tenure security	161
7.5.3. Alternative approaches for informal settlements management in Kigali City	164
7.5.3.1. Informal settlement upgrading.....	164
7.5.3.2. Development of shared residential apartments	166
7.6. Conclusion	168
Chapter 8: Are the so-called affordable houses under-development in Kigali City really affordable?	170
Abstract.....	170
8.1. Introduction.....	170
8.2. Access to affordable house as a spatial justice metric	172
8.3. Evaluative approach for the housing affordability	174
8.4. Data sources	176
8.5. Results presentation and discussion.....	178
8.5.1. Trends in housing affordability based on households’ incomes.....	180
8.5.2. Strategies to promote housing affordability in Kigali City	189
8.5.2.1. Access through private low-cost rental housing.....	189
8.5.2.2. Progressive housing ownership through rent-to-own	190
8.5.2.3. Decreasing housing costs and change in investment strategies.....	191
8.5.2.5. Improving the existing houses through informal settlements upgrading	196
8.5.2.6. Slum conversion into shared residential apartments.....	198
8.6. Conclusion	202
Chapter 9: General conclusion and recommendations.....	204
9.1. Introduction.....	204
9.2. Main findings.....	205

9.3. Relevance of the key findings on scientific knowledge and different aspects of spatial management.....	213
9.3.1. Connection between spatial justice and tenure security	213
9.3.2. Relevance of the key findings on urban space (re)development and recommendations	224
9.4. Further research.....	227
10. References	229
General summary.....	263
Appendices	A

List of figures

Figure 1: Analytical framework for the assessment of spatial justice and land tenure security trends.....	8
Figure 2: Overview of the dissertation structure.....	17
Figure 3: Author’s contribution to each of the produced papers	19
Figure 4: Connection between the main forms of spatial justice.....	26
Figure 5: Convergence between the elements of land tenure security	27
Figure 6: Framing inter-linkages between spatial justice and land tenure security.....	30
Figure 7: Retrieved references on inclusive urban (re)development schemes meant to promote spatial justice	38
Figure 8: Evaluation criteria of the connection between spatial justice and land tenure security.....	40
Figure 9: Connections between different aspects of spatial justice.....	43
Figure 10: Potential of spatial justice to land tenure security in Recife	46
Figure 11: Framework for measuring spatial justice and land tenure security	59
Figure 12: Scale of land tenure security and relation to evaluative indicators	64
Figure 13: The continuum of spatial justice and land tenure security	81
Figure 14: The matrix of the three dimensions of spatial justice	83
Figure 15: Surveyed sites.....	93
Figure 16: Trends in satisfaction and dissatisfaction on the compensation before (a) and after (b) 2015101	
Figure 17: Poor housing quality for the expropriated poor groups in Kangondo II(a) and location of some of the expropriated residential buildings in the wetland area(b).....	102
Figure 18: Comparison between mean reference price for expropriation and the market	104
Figure 19: Comparison between maximum reference price for expropriation and the market	105
Figure 20: Trends in cost of new buildings, compared to compensation value (a) and according to the location of resettlement for the expropriated people (b).....	108
Figure 21: Poor quality aspects of most of the expropriated houses(a) and quality aspects of buildings under development in relocation site (b)	109
Figure 22: Distance to basic amenities in the origin and destination areas for the expropriated people .	110
Figure 23: Resettlement sites for the expropriated people and travel network to working places	111
Figure 24: Travel to working places before and after expropriation.....	111
Figure 25: Framework for evaluating spatial justice and land tenure security in land resources management	120
Figure 26: Location of the study area	124
Figure 27: Housing aspects before and after the resettlement.....	131
Figure 28: Location of the expropriated buildings	133
Figure 29: Working places for the inhabitants of Kibiraro and Kandongo	138
Figure 30: Options for promoting spatial justice through the in-kind compensation as selected by the expropriated property owners	140
Figure 31: Model of low-cost housing underdevelopment in Kigali City	143
Figure 32: Houses in a high-risk area marked for demolition.....	148
Figure 33: Conceptual framework for the evaluation of the trends of spatial justice in spatial resources management	151
Figure 34: Surveyed sites.....	153

Figure 35: Patterns of spatial justice and land tenure security identified in the resettlement of informal urban dwellers in Kigali City.....	157
Figure 36: Housing conditions before the resettlement process	159
Figure 37: Houses and education facilities allocated to resettled informal urban dwellers.....	160
Figure 38: Features of tenure (in)security associated with informal settlements development in Kigali City	162
Figure 39: Shared residential apartments under development in Busanza zone	167
Figure 40: Proposed model for shared apartments through a condominium tenure	167
Figure 41: Linkages between housing affordability and spatial justice	173
Figure 42: Location of the study area.....	177
Figure 43: Modern brick duplex and model houses proposed by Skat.....	192
Figure 44: Model for single family houses under development in Kigali City	194
Figure 45: Self-help construction using durable material in a condominium approach	195
Figure 46: Spatial distribution of the affordable housing projects and informal settlements in Kigali City	199
Figure 47: Connection between spatial justice and land tenure security: model synthesis	214
Figure 48: Overview of trends of spatial justice in rules, processes and outcomes of Kigali City (re)development.....	225

List of tables

Table 1: Retrieved literature on implementation of a spatially just framework for urban (re)development	23
Table 2: Potential of spatial justice to enhance land tenure security in Recife	29
Table 3: Elements of land tenure security emerging from inclusive urban (re)development schemes in Recife	49
Table 4: The central focus of the existing and proposed land tenure security indicators	66
Table 5: Connecting spatial justice to selected urban (re)development approaches and processes.....	71
Table 6: Evaluative indicators for spatial justice and land tenure security	77
Table 7: Matrix for measuring spatial justice alongside the expropriation of the real property in Kigali City	90
Table 8: Trends of spatial justice within the expropriation law, its implementation practices and outcomes	96
Table 9: Comparison between the land prices in 19 locations and the current reference prices in the USD	103
Table 10: Variation in compensation values, based on first and counter-valuation.....	106
Table 11: Cost of new properties, compared to the compensation	108
Table 12: Key aspects of guidelines and mechanisms for the implementation of the in-kind compensation in case of expropriation and resettlement.....	119
Table 13: Indicators for measuring spatial justice in the in-kind compensation for expropriated real property in Kigali City	121
Table 14: Patterns of spatial justice in rules and practices of the in-kind compensation in Kigali City...	128
Table 15: Status of access to basic amenities before and after resettlement.....	131
Table 16: Market values of the in-kind compensation compared to the values of expropriated properties	136
Table 17: Cost for daily transport before and after the resettlement	139
Table 18: Indicators evaluating trends of spatial justice emerging from the resettlement of informal dwellers in Kigali City	152
Table 19: Trends of spatial justice and land tenure security alongside the resettlement of informal dwellers in Kigali City.....	155
Table 20: Status of access to basic amenities before and after resettlement.....	160
Table 21: Estimated cost for upgrading Kimisagara informal settlements.....	165
Table 22: Trends in housing affordability based on household incomes in summary	179
Table 23: Trends in Housing affordability based on 30 % of household income	181
Table 24: Housing affordability indices based on bank loan at 30 % of the household monthly income	185
Table 25: Synthesis of options proposed option for enhancing access to housing in relation with spatial justice forms	201

List of appendices

Appendix 1. Selected resources and their central focus.....	A
Appendix 2. Definition of key concepts and terminologies used in the development of indicators	B
Appendix 3. Cross analysis of the forms of spatial justice and main urban development processes.....	C
Appendix 4. Indicators for evaluating spatial justice trends alongside the expropriation in Kigali City	D
Appendix 5. Location of the study area	E
Appendix 6. Number of the households and sample sizes in the surveyed sites	F
Appendix 7. Main characteristics of participants to household survey.....	G
Appendix 8. Variation in land prices from 2015 to 2018.....	H
Appendix 9. Property owners' decisions/perceptions on appealing and using counter-valuation processes	I
Appendix 10: Spatial distribution of households identified in high-risk zones in Kigali City.....	J
Appendix 11: Slope map of Kimisagara zone	K
Appendix 12: Slum upgrading map of Kimisagara zone.....	L
Appendix 13: Interview guide for local leaders, spatial planners, policy and decision makers in Kigali City	M
Appendix 14: Interview guide for real property valuer.....	O
Appendix 15: Questions for household survey in Kigali City.....	Q

List of abbreviations

AGFE-UN-Habitat: Advisory Group on Forced Evictions of the United Nations Human Settlements Programme
BRD: Development Bank of Rwanda
CBD: Central Business District
CGIS-UR: Centre for Geographic Information Systems and remote Sensing of the University of Rwanda
COHRE: Centre on Housing Rights and Evictions
COMUL: Comissões de Urbanização e Legalização (or Urbanisation and Legalisation Commission)
DAAD: Deutscher Akademischer Austauschdienst (or German Academic Exchange Service)
FAO: Food and Agriculture Organization of the United Nations
FIG: International Federation of Surveyors
FNRU: Nacional de Reforma Urbana (or National Forum for Urban Reform)
GIS: Geographic Information Systems
GLTN: Global Land Tool Network
GNESD: Global Network on Energy for Sustainable Development
GRNUHE: Global Research Network on Urban Health Equity
HI: Household Income
HIC: Habitat International Coalition
IAD: Institutional Analysis and Development
IMF: International Monetary Fund
INES: Institute of Applied Sciences of Ruhengeri
IPAR: Institute of Policy Analysis and Research
IRPVR: Institute of Real Property Valuers of Rwanda
JSTOR: Journal storage
KCMP: Kigali Conceptual Master Plan
LTR: Land Tenure Regularisation
MINAGRI: Ministry of Agriculture and Animal Resources
MINICOFIN: Ministry of Finance and Economic Planning
MINIJUST: Ministry of Justice
MININFRA: Ministry of Infrastructures
MINIRENA: Ministry of Natural Resources
MINITERE: Ministry of Lands, Environment, Water and Mines
NGO: Non-Governmental Organisation
NISR: National Institute of Statistics of Rwanda
NLC: National Land Centre
NLTRP: National Land Tenure Regularization Project
OECD: Organisation for Economic Co-operation and Development
OSCE: Organisation for Security and Co-operation in Europe
PIR: Price-to-Income Ratio
PPP: Public Private Partnership
RDB: Rwanda Development Board
RDF: Rwanda Defence Forces
REMA: Rwanda Environment Management Authority
RGB: Rwanda Governance Board
RHA: Rwanda Housing Authority
RNRA: Rwanda Natural Resources Authority
RSSB: Rwanda Social Security Board

SPSS: Statistical Package for the Social Sciences
UN: United Nations
UNECA: United Nations, Economic Commission for Africa
UNECE: United Nations, Economic Commission for Europe
UNESCO: United Nations Educational, Scientific and Cultural Organisation
UN-Habitat: The United Nations Human Settlements Programme
UNHCHR: United Nations High Commissioner for Human Rights
UR: University of Rwanda
USD: United States Dollar
ZEIS: *Zonas Especiais de Interesse Social* (or Special Zone of Social Interest)

Abstract

The existing studies on spatial justice discuss different aspects through which the pursuit of this form of justice in the urban space management can enhance access to basic urban amenities and services for the poor and low-income urban dwellers. However, there are no studies that explore how to promote land tenure security, a pre-condition for access to these urban material resources and services, from a spatial justice lens. This doctoral research contributes to bridge this lacuna. It relies on the meta-synthesis, content and narrative analysis of the literature on spatial justice and land tenure security, and the implementation of the inclusive urban (re)development schemes in Recife city (Brazil). This is done in a bid to derive the connection between different aspects and forms of spatial justice and identify their potential to promote land tenure security. This research also investigates trends of spatial justice and tenure security from different processes of urban (re)development in Kigali City (Rwanda). From the literature review, it identifies four aspects of spatial justice consisting of the epistemological, axiological, ideological and material aspects and four forms of spatial justice consisting of procedural, recognitional, redistributive and inter-and intra-generational justice that are inter-related. Embedded in the urban (re)development schemes, they promote active participation of the poor and low-income urban dwellers in the urban (re)development processes and the integration of their neighbourhoods into the urban fabric, from which the three elements of land tenure security (the de facto, the perceived and the de jure) emerge. Building upon these findings, a holistic framework of indicators that measure trends of spatial justice and land tenure security for the poor and low-income urban dwellers in developing countries were developed. Thereafter, they were applied to investigate these trends using different cases of urban re-development from Kigali, the capital city of Rwanda.

The investigation consists of ascertaining the features of spatial justice and land tenure security from the processes of the real property expropriation and related compensation options, resettlement of informal settlements dwellers displaced from high-risk zones, and the affordability of housing units developed under the affordable housing schemes. Findings reveal very limited evidence of spatial justice trends in the expropriation and compensation practices. However, good patterns of spatial justice and tenure security have been identified from the resettlement of the informal settlement dwellers, through the increased access to decent housing and basic urban amenities and services. In addition, findings of this study reveal that the prices for the so-called affordable houses under-development in Kigali City are very prohibitive for the low-income urban dwellers (who are among the target beneficiaries), thus become incommensurate with the aspirations of spatial justice with regard to the equality of opportunities for all urban dwellers to have access to decent houses. The study draws some recommendations for promoting both spatial justice and land tenure security alongside Kigali City (re)development processes and concludes on the relevance of its finding, with respect to spatial justice aspirations, in different aspects of urban (re)development and land management.

Keywords: Spatial justice, land tenure security, urban (re)development, expropriation, displacement, (re)settlement, housing, urban amenities, poor and low-income urban dwellers, Kigali City.

Zusammenfassung

Innerhalb bestehender Forschungen über räumlicher Gerechtigkeit werden hauptsächlich die Möglichkeiten diskutiert diese zu erreichen, indem grundlegende Infrastrukturen in urbanen Räumen für Personenschichten im unteren Einkommensbereich geschaffen werden. Keine der existierenden Untersuchungen beschäftigt sich mit der Möglichkeit diese Gerechtigkeit zu erreichen durch die Stärkung von Eigentumssicherheit, was die Basis für den Zugang zu den oben erwähnten Ressourcen und Infrastrukturen darstellt. Diese Doktorarbeit soll dazu beitragen diese Lücke zu schließen und bedient sich deshalb der Methoden der Metasynthese, Inhaltsanalyse und Narrativen im Rahmen der räumlichen Gerechtigkeit und Eigentumssicherheit. Hierbei wird vor allem auf die Umsetzung des integrierten Standortentwicklungskonzepts der brasilianischen Stadt Recife eingegangen. Diese Analyse wird hauptsächlich dafür verwendet das Potential von verschiedenen Aspekten und Arten der räumlichen Gerechtigkeit zu ermitteln und Eigentumssicherheit zu stärken. Außerdem untersucht die Arbeit Entwicklungen von räumlicher Gerechtigkeit und Eigentumssicherheit anhand der städtebaulichen Entwicklungen in Kigali (Ruanda). Durch die untersuchte Literatur ergeben sich die folgenden vier Aspekte räumlicher Gerechtigkeit: epistemologisch, axiologisch, ideologisch und materialistisch. Diese vier Aspekte resultieren innerhalb eine der folgenden vier Arten räumlicher Gerechtigkeit, die sich untereinander beeinflussen: Verfahrensorientierte, anerkennungs-basierte, umverteilungs-basierte oder inter- bzw. intragenerationale Gerechtigkeit. Eingebettet in städtebauliche Entwicklungen fördern die Arten der Gerechtigkeit die aktive Beteiligung aller Bevölkerungsschichten inklusive der Ärmere Bevölkerungsschichten und Niedriglohnbevölkerung. Innerhalb dieses Konstrukts werden zusätzlich auch benachbarte Räume eingebunden und die drei Dimensionen von Eigentumssicherheit (de facto, empfundene und rechtliche Sicherheit) gefördert. Basierend auf diesen Erkenntnissen wurde ein ganzheitlicher Ansatz mit Indikatoren entwickelt, um Entwicklungen in räumlicher Gerechtigkeit und Eigentumssicherheit innerhalb von Entwicklungsländern zu messen. Anschließend werden die Ergebnisse verwendet, um die Entwicklungen anhand verschiedener städtebaulicher Entwicklungsmaßnahmen in Kigali, der Hauptstadt Ruandas zu untersuchen.

Im Rahmen der Untersuchung werden die Dimensionen von räumlicher Gerechtigkeit und Eigentumssicherheiten anhand folgender Prozesse ermittelt: Enteignungen und Entschädigung, Umsiedlung von Bewohnern aus Marginalsiedlungen in Regionen mit hohen Naturgefahrenpotentialen und das Schaffen von sozialen Wohnungsbau für Geringverdiener. Die Ergebnisse zeigen, dass gerade in Fällen von Enteignung und Kompensation nur sehr wenig räumliche Gerechtigkeit vorhanden ist. Dennoch konnten gute Verhaltensmuster identifiziert werden, wenn es zur Umsiedlung aus Bewohnern in Marginalsiedlungen kam, da diese zusätzlichen Zugang zu Infrastrukturen erhalten und in eine planvolle Umgebung umgesiedelt werden. Außerdem zeigen die Ergebnisse, dass es sich trotz der Umsetzung von sozialen Wohnen mit bezahlbaren Wohnraum in Kigali viele Betroffene im Niedriglohnsektor diese Wohnungen nicht leisten können obwohl diese der Zielgruppe entsprechen sollten. Die Arbeit zeigt einige Handlungsempfehlungen für eine räumlich Gerechte und Eigentumssicherheit stärkende Entwicklung von Kigali auf und welche Bedeutung diese Ergebnisse im Streben nach gerechten Städtebaumaßnahmen und Bodenmanagement haben.

Schlüsselwörter: Räumliche Gerechtigkeit, Eigentumssicherheit, städtebauliche Entwicklungsmaßnahmen, Enteignung, Umsiedlung, Wohnen, städtische Grundausstattung, arme Personen und Niedrigverdiener in Städten, Kigali.

Acknowledgements

The completion of this Doctoral research would never have been possible without the immense and valuable supports from different people and agencies. This note serves for the expression of my tribute to all of them. However, it is not possible to mention all their names since the list is too long. Apologies for this limitation.

I specially thank Prof. Dr. ir. Walter Timo de Vries, my “Doktorvater” for having accepted to take me on the research board at the Chair of Land Management, in the Faculty of Civil, Geo and Environmental Engineering of the Technical University of Munich (TUM: Technische Universität München). His support and constructive criticisms were highly valuable for the improvement of my writing throughout this Doctoral thesis. My sincere gratitude goes to the staff of this Chair for various support that they provided me during my research period. Dr.-Ing. Uchendu Eugene Chigbu, the coordinator of the PhD programme, deserves special gratitude for having facilitated my integration within this Chair as well as for his mentorship during my research period and invaluable scientific discussions that enriched my research skills. I would also express my gratitude to other staff, namely Mr. Tobias Bendzko, Dr. Duran Diaz Pamela and Mrs Christine Schwarz for different kinds of support they provided to me. I am very thankful to the German Academic Exchange Service (DAAD) for the scholarship award, and the University of Rwanda (UR) for the study leave that made it possible for me to undertake this Doctoral research programme. Dr. Rwanyiziri Gaspard, the Director of the CGIS-UR played an important role in getting this study leave approved. I also owe a debt of gratitude to him. Mr. Michael Alexander Hillenblink from the DAAD office was very friendly to me and had very timely responded to my scholarship related inquiries and supports. I will always remember his responsive attitude.

It is my pleasure to address my thanks to all people who directly or indirectly contributed to the writing of this Doctoral thesis, from the topic formulation stage to the end. I am deeply grateful to Professor Emmanuel Twarabamenye and Professor Nduwamungu Jean, from the University of Rwanda, who critically my initial research proposal for the DAAD scholarship application. He, as well as Professor Nduwamungu Jean from the same university supported this application through the provision of the reference letters. I cannot forget the Emeritus Professor Erling Berge, from the Norwegian University of Science and Technology, and Professor Maarten Loopmans, from the Katholieke Universiteit Leuven, who also commented on this initial research proposal and were willing to take me on their research boards in the case I could be admitted to any of the doctoral programmes at these respective universities. My sincere gratitude is also dedicated to decision-makers, professional staff, and researchers from various public and private agencies in Kigali City and neighbouring districts for having participated in my interviews, and allowed me to access the secondary data (from their respective offices) relevant to this study. These agencies include Kigali City, Bugesera district, Gasabo district, Kicukiro district, Nyarugenge district, Rulindo district, Rwamagana district, Ministry of infrastructure (MININFRA), Rwanda Housing Authority (RHA), Rwanda Environment and Management Authorities (REMA), Skat Ltd, Rwanda Social Security Board (RSSB), Rwanda Development Board (RDB), Rwanda Governance Board (RGB), Office of the Ombudsman, UN-Habitat, ESRI Rwanda, Institute of Policy Analysis and Research (IPAR), University of Rwanda (UR), Ministry of Justice (MINIJUST), etc. I am very grateful to various officials and professionals within the above-mentioned districts for their participation to my interviews and facilitation of the household surveys.

My sincere thanks go to different people who provided me with invaluable supports through the collection of empirical data for this study. They include my colleagues at the University of Rwanda, the graduates from the same university (especially the department of Geography) and the Institute of Applied Sciences of Ruhengeri (INES), some friends and relatives. I cannot forget all members of the local communities who accepted to participate in my study, through the household surveys, interviews and focus group discussions. I extend my appreciation to the moral and material supports from various families and friends that I met during my stays in Germany, The Netherlands and Belgium. I would mention the families of Alfred and Antoinette, Jean Damascène, Faustin, Anastase, Damien, Stanislas, Wilson and Landouard. Mr. Frodouald Nsanzumuhire was very friendly to me through his continuous support in maintaining my laptop remotely. Since I had been always alone in my sleeping room in Munich, they used to call me on a regular basis and ask if I was still surviving. This let me not feel lonely. It was very amazing to share the ups and downs experienced during this doctoral research programme with my colleagues, PhD candidates and MSc Students, from Rwanda, Burundi, Ghana, Mongolia, China, South Korea, Nigeria, and Philippines that I met during my stay in Germany. They were very supportive and encouraging as we used to talk to each other about the research progresses and challenges.

Finally, I would like to acknowledge the immense support that I received from my family, relatives and friends in Rwanda. My wife and our children stayed at home during the whole period of this research. I am specially gratefully to her for keeping the headship of the family and taking care of our children, and more particularity to the latter for being very patient during my absence. They have been also doing well at schools. They are so wonderful to me. Since I have been very far from home, some relatives and friends have been very close to my family. I salute this friendly attitude of Viateur, Dafrose, Bonifride, Thamar, Jean Bosco, Innocent, Joseph, Lucia, Jean de Dieu, Joyeuse, Damien, Christian, Vestine, Venantie, Martin, Télésphore, Rachel, and Solange. Before I close this page, I address my warmest words of gratitude to my parents (my mother and late father) and Father André Nzitabakuze. You are great personalities in my academic journey since you formed its core part and priceless foundation. My God bless you all.

Chapter 1. General introduction

1.1. Introduction

Since the last five years, I have been reading a bunch of research papers in the field of urban and regional planning, land administration and management in Africa. Having a background education in land administration, I was very interested in private rights to land and tenure security. On one hand, I was fascinated by different land reforms being adopted by different governments in Africa. In urban areas these reforms reiterate strong efforts for the provision of basic infrastructure and formalisation of land ownership (even in the informal settlements) that entrenches the legal tenure security. On the other hand, I was surprised by the insecurity of tenure steered by urban (re)development regulations in African cities. I have then been inspired at analysing the main causes of land wrongs driven by the trajectory of urban (re)development processes, focusing on the problem of land tenure insecurity which hinders the living conditions of poor and low-income urban dwellers.

This problem of land tenure insecurity is rooted in the process of rapid urbanisation that has characterised most of the urban spaces in Africa from the last century. This region has recorded high increase in urban population than in other regions of the world. From 1950 to 2000, its urban population increased from 33 to 288 million and will reach 1.3 billion of people by 2050 (Cobbinah et al., 2015). The highest proportion of urban population lives in slums or unplanned settlements (UN-Habitat, 2005). In 2012, the UN-Habitat estimated that 61.5 % of urban dwellers in Sub-Saharan African cities were living in slums and this proportion will remain high until 2050 (UN-Habitat, 2013). The rapid growth of slums in Africa is attributed to the failures of African Governments to provide enough planned areas and plots for housing development (Kironde, 2000), inefficiency of land delivery institutions (Jessop, 2002), inability of urban governance systems to manage land in sustainable manner (Richard, 2014), and failure to provide housing for the poor (Durand-Lasserre & Selod, 2007). These slums have been perceived as threats to public security and safety, health and wellbeing of people, especially the privileged classes (Huchzermeyer, 2004).

To address various problems associated with these slums, new rules related to urban land management have been adopted. They have been implemented through the process of urban regeneration or redevelopment with different aims. Firstly, these rules consist of controlling urban sprawl and attenuating the growth of informal settlements (Durand-Lasserre et al., 2013), in order to promote land values, and improve environmental quality and sustainability (Kombe & Kreibich, 2000). Secondly, they have been acclaimed to enhance the social network by adopting different planning strategies that involve different stakeholders and integrate different groups of people, including the poor and low-income people, in the urban fabric (Kim, 2011; Helen Wei Zheng et al., 2014b). Finally, they intend to provide socio and economic infrastructure, the restoration or protection of the degraded zones, the rehabilitation of the old structures or land use conversion through the construction of new physical structures (Akkar Ercan, 2011; Zheng et al., 2014a). These rules are however inherent to the traditional land planning approaches that are deterrent to land tenure security. Instead of promoting the social values of individuals' property rights, they lead to social exclusion, defocalise the interests of the poor and low-income urban dwellers by separating their property right from the social anchoring (Peters, 2009), and entrench social differentiation and inequality that deepen rifts between low income people and rich (Ubink, 2007). Generally, they have been flourishing land tenure insecurity, whose main roots are discussed in the next section.

1.2. Research background: grasping trends of land tenure insecurity within urban (re)development processes

From 1990s, different agendas to socio-economic development and poverty eradication have been defined and advanced by different international organisations (Huchzermeyer, 2004). In the urban land sector, efficient rules and legal frameworks that promote and enforce people rights to land and enhance land tenure security for all households had to be institutionalized (UN-Habitat, 2005). Toolkits and policy guidelines for land resources redevelopment, including possible interventions in slums like upgrading programmes and tenure regularisation have been proposed. They are expected to enhance land tenure security and develop inclusive cities (Hove et al., 2013). Moreover, millennium development goals include the development of inclusive cities that are resilient and sustainable. This would be achieved by improving housing conditions in slums, the protection of urban inhabitants against unlawful eviction and the promotion of equal access to land and housing on an equitable basis (UN-Habitat, 2013; UN-Habitat., 2012). In this regard, political leaders in different developing countries have been committed to improve the governance of land resources and service delivery to meet the global goals of millennium and sustainable development (Huchzermeyer, 2004). However, in African cities, urban (re)development rules that have been introduced opened the room to different types of stresses, articulated through insecure land tenure (Napier et al., 2013). These rules fail to incorporate the needs of all the socially underprivileged classes. Their implementation is characterised by a “*push out*” strategy that worsens the deplorable situation of poor through land alienation processes that compound social exclusion (Pritchett, 2003a). Though these rules are deemed to redevelop the existing cities, they are rather steered by the intentions of urban planners and political leaders to reshape and transform these cities into smart urbanised areas. They provide building codes and construction standards that escalate the costs of building materials and technologies that are prohibitive for the poor and low-income people (Berrisford, 2014). Land development standards are eminent from zero tolerance rules that are coercively enforced. Lack of compliance capability to these rules result in precarious social-economic situation of the poor and low-income urban dwellers who already live in critical conditions (Napier et al., 2013).

Recently, donors and international agencies have been calling African governments to revise their policies and adopt new options to urban land management that address land rights of urban poor and protect them from the eviction (Jessop, 2002). But, different countries continue to implement rules that affect patterns of land ownership and security of tenure (Napier et al., 2013; UN-Habitat, 2011). They do not change, because the strategies in use may endow different leaders and decision makers some privileges as they are among few people who control land (Otiso, 2002). They contradict with the goals of land reforms undertaken by most of African countries that aim at promoting access to land for all people and guaranteeing land tenure security for all citizens (Obeng-Odoom, 2012). Insecurity of tenure observed in African cities is driven by different approaches related to urban (re)development. This study discusses two of these approaches. The first is the process of slum clearance and demolition, which is usually combined with forced evictions through bulldozing (Kironde, 2000; Kombe, 2005). For instance, the literature on urban (re)development in South Africa points out the process of slum clearance applied during the last ten years by the national Department of Housing (established by the Government of South Africa in 2004), to “eradicate the informal settlements by 2015”. Instead of adopting some mechanisms to prevent the growth of informal settlements, the department has used ruthless interventions, backed by the Government, and supported by security bodies to demolish houses and displace squatters in different cities (Huchzermeyer, 2004; Muller, 2013). Many other cases of forced eviction of squatters without abiding by legal framework have been documented in various African countries (Kombe & Kreibich, 2006; Larbi, 2008; Unruh, 2006).

The second is the land alienation for public or private investment, without fair compensation. It is a kind of process of “*property accumulation by dispossession*” generally intends to exclude undesirable urban dwellers from well-resourced areas in favour of the wealthy people. It is claimed to prevent undesirable use of land, but it aims at opening the room for the elites and powerful groups to expand their properties (Watson, 2009). Some economists, like de Soto (2000), associate this approach to purposive individual choice while analysing the process of private capital accumulation. For him, the lack of tenure security for poor people is increased by that tendency of private accumulation of land capital in the hand of small group of wealthy people who are socially and politically privileged (De Soto, 2000). It consists of coercive processes of asset accumulation, in the hands of the powerful at the expense of the less favoured. The process of capital accumulation is characterized by the use the state power through commodification and privatization of land to forcefully expulse poor populations from their lands (Harvey, 2009). Various studies describe different instances in South Africa, Zimbabwe, Ghana, Kenya, and Tanzania where the advocates of urban renewal have exercised the powers of eminent domain for the benefit of private developers and local elites to alienate land rights of the urban poor (Hove et al., 2013; Obala & Mattingly, 2013; Pritchett, 2003b; UN-Habitat, 2014). A research that analyses in depth the potential problems resulting from the implementation of these urban (re)development approaches and their impacts on land rights of urban landowners need to be carried out.

1.3. Problem statement: trends of spatial injustices and land tenure insecurity amidst the legal formalisation of land rights in Kigali City

The main problem this research intends to scrutinize is the paradox of urban (re)development rules that do not balance their approaches and objectives they intend to achieve. They promote land market values out of the sync with the needs of the societies they claim to regulate, and cause land tenure insecurity for most of the urban dwellers. Kigali City is used as study area. As other African cities, the development of this city did not follow any legal framework for land development. One of the crucial problems related to land use in Kigali City has been the development of informal settlements, consisting of poor housing without access to basic infrastructure and growing environmental degradation (MININFRA, 2008; MINITERE, 2003). In 2008, the Government of Rwanda adopted a conceptual master plan that provides the legal framework for orderly urban development of this city (City of Kigali, 2010). At that time, land rights for all landowners in Rwanda were being registered through the processes of Land Tenure Regularisation (LTR) which was completed in 2015 (Ngoga, 2016). Some of the main aims of this process were to enhance the security of tenure for all landowners and to ensure effective land transactions among the users of land resources through the provision of landownership certificates (Kelsey et al., 2014; Ngoga, 2016). However, in Kigali City, the implementation of the 2008 conceptual master plan and associated detailed master plans has been claimed to be detrimental to Kigali inhabitants’ land rights and their tenure security. This is reflected in the loss of their real properties, especially for poor and low-income people who live in unplanned residential areas which occupy more than 70 % of Kigali City’s developed land (REMA, 2015). It is for that reason that Kigali City can be used as a case study for analysing various patterns of land tenure insecurity that pertain to urban redevelopment processes in African cities.

I live in Kigali City since 2004 and have been witnessing vexing land tenure security problems related to the re-development process of this city. Most of the time, I have been using public buses while travelling in this city. This was an opportunity to informally talk to different passengers, from whom I had chances to hear different stories and their opinions on the re-development processes of Kigali City. On one hand, they highly appreciate some outcomes of

the ongoing urban re-development processes. These outcomes consist of the provision of the basic urban infrastructure and services. New roads have been created, while the old ones have been rehabilitated. New luxurious hotels, shopping malls, business buildings have been erected in various neighbourhoods. This is a genial endeavour of the government of Rwanda that intends to make the city more liveable and attractive. On the other hand, Kigali City residents claim that these processes of urban re-development apply a social exclusionary approach. They criticise the expropriation process that involve the acquisition of individuals' properties such as land and houses for the development of these infrastructure and services. They find it unjust because it ends up with unfair compensation. According to Kigali city inhabitants, the expropriation process excludes the affected property owners from the urban fabric and pushes them outside the city where the cost for land and housing development is relatively affordable, compared to compensation fees they receive. Their critics are central on the contravention of their properties rights by the urban re-development and land acquisition approaches and rise the resentments about the urgency of struggle for changes in the urban politics.

The opinions of Kigali City residents reminded me some stories related to forced evictions and tensions between the urban dwellers and Kigali City authorities, which were orchestrated by the process of urban redevelopment. I will mention two cases that have attracted attention of most of the public and the media:

- In 2010, I heard from the media commenting on some cases of forced eviction that were taking place in the city center, an area called "*Kiyovu y' Abakene*" (*Kiyovu* is an urban neighbourhood inhabited by poor people, termed "*Abakene*" in the local language). Some of these people were contesting and complaining against unclear process of expropriation and unjust compensation. They attempted to resist against the displacement from their lands. A police intervention was deployed to step down that resistance and to displace them to *Batsinda* zone, where houses for their relocation were developed. Arrived there, they raised other claims, because the sizes and value of the houses in which they were relocated were smaller than the ones they had been living in before their displacement. As Kigali City authorities did not react to those claims, the displaced people had unwillingly accepted to occupy and live in they received as the compensation options.

- In 2015, I heard another case of tensions between Kigali City authorities and landowners in another zone of Kigali City, called "*Rwarutabura*". In that area, landowners were contesting against the compensation rolls established during the process of expropriation. They tried to persist from leaving and vacating their properties due the inadequate compensation. The main factor for that persistence is the insufficient compensation that would not allow them to reintegrate in other urban neighbourhoods. As the process of valuation was contested, Kigali City authorities accepted to negotiate with landowners. Another expropriation process was proposed and carried, but it also resulted in the insufficient compensation. Yet, the amount of compensation fees was relatively greater than the ne determined during the first process of valuation. As Kigali City authorities were not willing to engage in other negotiation process, landowners were compelled to accept the proposed compensation fees and leave their properties, otherwise, forced eviction strategy should have been applied.

After several reflexions on the abovementioned issues, my interest in the problems related to Kigali City re-development was much increased. I was then motivated at reading what the existing literature says about these re-development processes and related outcomes. Empirical publications that I read rise similar questions about the expropriation process. Various concerns which are documented in the literature that I read are summarised in the following paragraphs.

The first critic is the expropriation of land and other properties which does not follow any legal process and the calculation of the compensation at low value, compared to the market prices (Mugisha, 2016; Payne, 2011). Yet, the expropriation law provides the options through which landowners can appeal against unsatisfactory compensation values. But Kigali City residents are sceptic to the use of this option, because it may not be affordable for most of them.

This problem of unfair compensation inspired me to read the expropriation law of Rwanda in order to understand how the process of expropriation should be carried. Throughout my reading, I identified some incongruences between the expropriation process and the provisions of the law. In this section, I make comment on some of these provisions, in relation to the payment of the compensation. Article 4 of the expropriation law stipulates that any project which results in the need for the expropriation for public or private interest shall provide for all “just compensation” in its budget. Article 2 of the same law, defines “*just compensation*” as an indemnity equivalent to the value of the land and the activities performed thereon given to the expropriated property owners. This compensation has to be calculated based on the market prices. Article 3 of the same law reiterates that for the activity carried out on private land with an aim of public interest and which causes any loss to landowner, the property owner shall receive just compensation. Article 6 states that when individual activities meant for private interests are to be carried out on private land, the investors shall negotiate with the person to be expropriated and shall give him or her just compensation in accordance with the relevant laws and in consultation with the competent authorities. Article 23 of the same law provides that the expropriation for private investment should follow the agreement between the expropriating agency or person and the affected property owner. In such case, the compensation may either be monetary or equivalent real property as long as either option leads to fair and just compensation (Republic of Rwanda, 2007).

According to the experiences of Kigali City inhabitants and empirical studies on the expropriation processes in Kigali City all the above-mentioned provisions of the expropriation law are not applied. Kigali City authorities negotiate with the investor and carry out expropriation processes and determine the property value without reference to the market value (Manirakiza, 2012; Mugisha, 2016). This has been the source of tenure insecurity and tension between these authorities and properties as the latter are generally forcefully displaced to leave their properties (Goodfellow, 2014; Kartas & Jütersonke, 2011). Insecurity of tenure is also perceived by squatters who illegally construct the residential houses in the wetlands and on high slope lands. Current master plan considers the residential settlements in these areas as critical challenges for the re-development of Kigali City since there are no financial means to upgrade them into serviceable residential areas with basic amenities such as sanitation systems and road networks. The relocation process as provided in the master plan has not been consistently implemented as it may cost a lot to Kigali City (REMA, 2013 (a), 2013 (b)). The lack of official recognition of informal settlements in the structure of this city has remained a crucial problem for their dwellers. Although these urban dwellers received the titles of ownership during the process of land registration, they highly perceive the risks of losing their properties in the case any eviction measure is undertaken by Kigali City authorities (Kartas & Jütersonke, 2011). Such evictions may follow the legal procedures but empirical studies state that many evictions do not have full legal basis or are not carried out according to the legal procedures (Bizimana et al., 2012). Generally, the existing literature raises the question about the reasons for which actors in Kigali City re-development processes adopt strategies that do neither abide to the formal rules nor respect the rights of properties’ owners, which may result in unjust outcomes (Durand-Lasserve, 2007; Finn, 2018; Goodfellow, 2014; Goodfellow & Smith, 2013; Michelin, 2009). Despite these critical problems associated with the expropriation and slum clearance, the existing literature on Kigali City acknowledges other programmes which are intended to promote

inclusive urban development. One instance is the development of the affordable housing for the low and middle-income people, including those living in informal settlements. However, this literature points out that this programme is not solving the problem of housing affordability. It rather results in unjust outcomes since the developed housing units are not affordable for most low-income people and therefore does not promote their integration in the urban fabric (Centre for Affordable Housing Finance in Africa, 2018; Gardner et al., 2019; Manirakiza and Ansoms, 2014; Planet Consortium, 2012). Therefore, these studies recommend the in-depth studies which shed lights on how these aspects of unjust outcomes of urban re-development in Kigali City are produced and can be mitigated.

In the urban management literature, the unjust outcomes of urban space re-organisation operations have been generally conceived as the indicators of spatial injustices. Soja (2010) criticises the unjust structures and spatial disadvantages which rigidly originate from the abuse of power or violation of land management rules which result in the exclusion of the poor and low-income people from the city. Critical to this are the commodification of the urban resources at the advantage of the well-off people, the privatisation of the urban space, brokered by the state interference in private property rights (Soja, 2010). To unfold clearly the power of urban (re)development rules and politics in producing these injustices, spatial justice theorists mention the roles of the government actors as rule and decision makers in forcibly displacing some categories of urban dwellers from their properties through what they call “*place based-operations*”, such as slum clearance which results in material resources deprivation and land tenure insecurity (Marcuse 2009, 2010). These operations are criticised for being a pro-rich urban (re)development convergence grounded on deliberate political decisions and urban restructuring operations which exclude some categories of urban dwellers (Soja, 2010, p.20). They also result in the development of the amenities that are affordable for the rich and middle-income people, at the expense of interests of poor people who are excluded from their neighbourhoods (Harvey 2008; Marcuse 2010; Harvey 2012). Since this research aims at exploring the potential of spatial justice to promote land tenure security, it is worthwhile to understand how various cycles of spatial injustices producing land tenure insecurity and depriving the access to basic urban resources for the poor and low-income urban dwellers operate and how they can be redressed. In this study, spatial justice is applied as a theory and analytic framework that helps to understand the production processes of the urban space and suggest various urban (re)development options that can promote progressive integration of these categories of people in the city and improvement in their living conditions. In this respect, this study attends to establish the connection between spatial justice and land tenure security and explore their interplay in Kigali City, with focus on the processes of land acquisition through the expropriation, the associated compensation practices, operations related to slum clearance and the development of affordable housing as pointed out in the above paragraphs.

1.4. Grasping spatial justice claim within the urban (re)development settings

Proponents of sustainable development decry the uneven allocation of basic spatial resources among the users of any geographic space and their extreme concentration among a small groups of elites, driven by the implementation of inefficient and exclusive land management rules (Berke, 2016; Campbell, 2013). They contend that inclusive urban redevelopment rules and processes can spur land tenure security, enhance and sustain their welfare. Enhanced tenure security is one of the most significant aspects in the process of creating decent and supportable living conditions for all users of land resources. It also constitutes a crucial opponent of inclusive cities which integrate the poor and low-income groups in the urban fabric and improved their access to basic urban amenities and services (UN-Habitat., 2012). This happens when the urban

(re)development rules and processes promote the social values of private properties through the increases respect of the land rights for these categories of urban dwellers (Hine et al., 2015). For example, slums upgrading projects instilled by the ethical frames and moral norms resulted in improving the living conditions of the poor and low-income urban dwellers and integrate them in the urban fabric in Stadtumbau Ost city, in Germany (Bernt, 2009; Garcia-Zamor, 2012) in Favela Bairro of Rio de Janeiro, in Brazil (Handzic, 2010) and Kahama town in Tanzania (Halla, 2002). In Asia and Latin America, incremental housing development or community self-help housing approaches, have enhanced the security of tenure for slum dwellers (Jan Bredenoord & van Lindert, 2010; Bredenoord et al., 2010; Ferguson & Smets, 2010). The main driver for these successes is the passage of urban (re)development rules and processes grounded on the normative theory of justice, which claims for the increased consideration of the social and use values of basic resources for all urban dwellers and advancement of the diversity within the urban space (Cardoso & Breda-Vazquez, 2007; Fainstein, 2005, 2009, 2014). To put it clear, the key claim is the inclusive urban re-development which requires the politics and profession of urban planning and development to abide by the principles of justice in both rules and processes of urban (re)development (Campbell, 2013). And yet, what kind of justice that need to be embedded in these rules and processes of urban (re)development? The answer to this question is provided by notable scholars in the urban geography and planning such as Davies, (1968); Harvey (2012); Lefebvre (1968); Marcuse (2010). They have been advocating for the embeddedness of spatial justice in both rules and processes of urban space management that they acclaim central for the promotion of the inclusive urban (re)development, which is accountable to all urban inhabitants that the government and urban planners are expected to work for.

1.5. Theoretical and evaluative framework

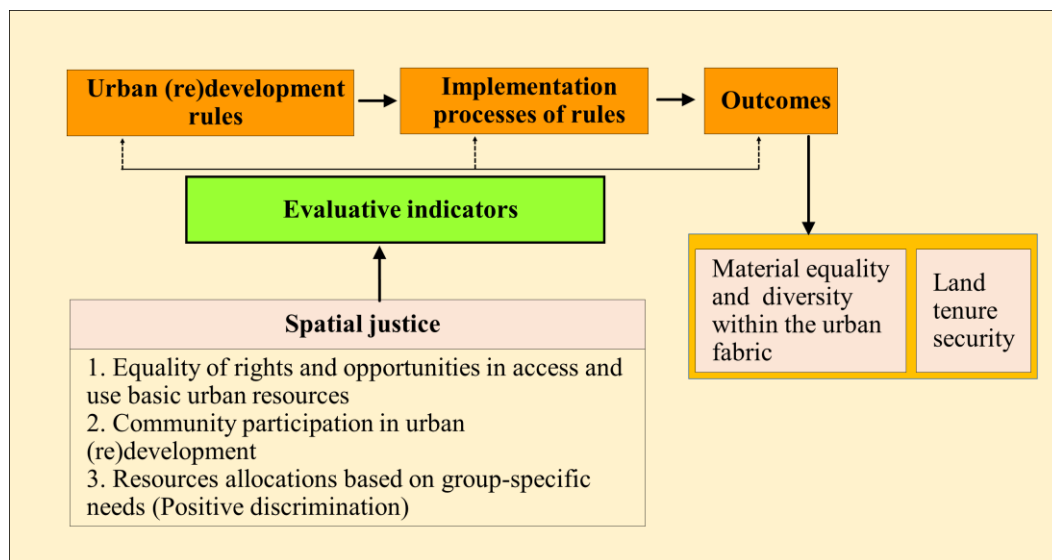
The connection between spatial justice and inclusive urban (re)development is well captured in the rights of all urban dwellers to inhabit well in the urban space, participate in its management (in making the related rules or decisions and their implementation) and access its basic resources and opportunities to improve their welfare needs (Lefebvre, 1991; Marcuse, 2014; Young, 1990). The recognition and respects of these rights is central in the debates about socio-spatial justice that have been classically conceptualized as the “Right to the City”. This invokes the full recognition of the rights of all urban dwellers, through spatial development processes based on justice, democracy, and equality of rights for all citizens (Harvey, 2008). The ideology of the Right to the City proclaims a deontology that strives for just rules, procedures and outcomes in the allocation of the urban space and its basic resources among all its inhabitants. It entails their rights to access or appropriate these resources which include land that the city embodies (Harvey, 2008; Purcell, 2002), to enable these people to physically occupy and use the urban space. The recognition and respect of all individuals’ land rights is very important, because it endows them other rights such as the access to services, participation in decision making through which the owners and users of land resource make known their activities in the urban area and participate its politics (Mustafa, 2001). Therefore, advocates of these rights conceived the theory of spatial justice to provide substance to the general framework of urban (re)development processes based on equality of rights and opportunities to enjoy the urban life and benefits from its development (Marcuse, 2010; Soja, 2010).

By paying attention on the processes of space production (Mustafa, 2001), the theory of spatial justice is therefore used to understand and explore how some processes of spatial production or re-organisation are carried and why they may operate in a way which is characterised by the domination and gentrification that are sources of spatial injustice that can physically be

manifested in the built environment (Marcuse, 2010, Soja, 2010). This theory transcended from the Rawlsian theory of justice, from which has derived a framework for the allocation of basic material resources and services and the rights to use them among all users of any geographic space, based on the principles of fair (re)distribution and equality of rights and opportunities, within the precinct of the fundamental human rights and liberties (Rawls, 1971,1999). In addition, the redistributive metric of this theory claims for the arrangement of social and economic inequalities according to the greatest benefit of the least advantaged in the society (Rawls 1999, 53).

Spatial justice, as an analytical framework is applied to explore “*place-based operations*” like the implementation of the urban (re)development programmes or to develop a general understanding of why these programmes are characterised by the exclusionary processes, including the unfair property expropriation and compensation or forced evictions (Yenneti et al., 2016). In this case, the investigation of spatial (in)justice trends is carried out at three dimensions, consisting of Rules, Processes which command the development or re-organisation of any geographic space and their Outcomes, which can be just or unjust (Dikeç, 2001; Marcuse, 2010; Soja, 2009, 2010). This research relied on this tripartite character of spatial justice as desired within the lived physical space, which makes it fundamental for evaluating its trends in the legal aspects and decisions guiding the organisation or re-organisation of the urban space, the manner (including the interactions among actors in the urban (re)development and users of its resources) these decisions are implemented and the resulting outcomes. This is shown on Figure 1 which constitutes the analytical framework for this research.

Figure 1: Analytical framework for the assessment of spatial justice and land tenure security trends



Adapted from Dikeç (2009), Fainstein (2014), Fraser and Honneth (2003), Harvey (2010), Lefebvre (1996), Marcuse (2009), and Rawls (1999)

Rules stand for the independent variables in this analytical framework. They are set of policies, laws, constitutions, and government directives and social norms, conventions, and political decisions that determine the actors in the urban space management, define their roles, the actions that are allowed or constrained, guide their interactions, define how different activities

can be carried out, and the procedures that these actors have to follow. Processes are the dependent variables for the rules and consist of a series of actions or various operation undertaken by actors in the urban space management to implement the rules. These processes can be just or unjust, depending on the effectiveness of the rules under implementation or compliance with these rules by the actors who implement them. Outcomes are the result of the performed processes. These outcomes can also be just or unjust, depending on the fairness or ineffectiveness of the processes. Yet, the desired outcomes should be just. When this aspiration is met, actors in the urban space (re)development and users of its resources continue to implement the adopted rules and processes to achieve more desired outcomes. Generally, the expected just outcomes are twofold:

1. Material equality embraces access to basic urban resources such as land, housing and basic amenities and services by all categories of urban dwellers, while diversity is associated with the integration (without spatial segregation) of diverse urban neighbourhoods and their dwellers in the urban space (Kipfer et al., 2008, p. 66; Young,1990).
2. Land tenure security derives from this spatial integration and urban (re)development rules and plans which promote this integration.

When these outcomes are not achieved (which implies the unjust outcomes), actors in urban (re)development and users of urban space can change some variables such as rules or processes to improve the outcomes. They can also adopt other viable options to redress these unjust outcomes and meet the collective aspirations expected from the urban space management. Evaluative indicators are divided into three categories which are either connected to rules, processes or outcomes. They were developed based on four principles of spatial justice, framed in its different forms as discussed in various seminal works of notable proponents of spatial justice such as Harvey (2010), Lefebvre (1996), Marcuse (2009), and Rawls (1999). These principles are elaborated as follows:

- The principle of equality of rights and opportunities demands the respect of basic human rights and an equal treatment of all people when devising rules and making decisions regarding the urban space (re)development, allocation of its basic material resources and services and the rights to use them. It is connected with the recognitional justice which seeks for increased respect of these rights. This principle endows adherence to a legal system or an institutional framework that enforces, respects and recognises the rights of individuals or community to basic spatial resources (including land) and creates a good environment enabling them to develop their lands and enjoy the related rights (Hafeznia & Hajat, 2016; Rawls, 1999; Trinder, Hay, Dignan, Else, & Skorupski, 1991).The regulatory aspect of the institutional framework for spatial resources management is primarily connected to procedural justice, which is at the forefront of all forms of spatial justice (Theodorakopoulos et al., 2015; Fraser, 2001; Rawls 1999).
- The principle of participation, which is also connected to procedural and recognitional justice, demands for the combination of active participation of the local community and dialogue between different actors while making these decisions regarding the urban space (re)development. Establishing such combination promotes equity and helps to identify the needs of all people including the poor and marginalised groups and permits to achieve a just distribution of material resources (Fainstein, 2000). Actually, participation promotes recognition and inversely (Schlosberg 2009, 2013). This allows for devising urban(re)development rules and implementation options which allow the distribution of material resources or rights to use the urban space that permit all categories of urban

dwellers to meet their basic needs (Blader & Tyler, 2003; Fainstein, 2009, 2014; Fraser, 2001; Nylund, 2014; Rawls, 1999). Fair distribution of material resources and services or allocation of rights to use them are achieved through the pursuit of procedural, recognitional and distributive justice which allows for decreasing material inequalities among different users of the urban space and their living places (Klusgens et al., 2019).

- Resources allocation based on group specific needs: this principle substantiates the logic that prioritises the material resources distribution based on the needs of the worse off. This redistribution is enabled by the combination of recognitional and redistributive justice when allocating spatial resources among their users (Jackson, 2015; Young, 1990). This allows for meeting the aspiration of the inter- and intra-generational justice. Although the inter-generational justice is actually located on the spectrum of environmental issues, like the effective use and preservation of natural capital to satisfy the needs of both current and future generations, it also stems for decreasing deprivation in material resources in order to improve the livelihoods of the socially and economically disadvantaged groups. This is worth being done since improving the conditions of future generations presupposes the better off of their predecessors (Barry, 1997). Intra-generational justice relates to the equality of access to basic material resources and services among the members of the current generation not only in order to improve their living conditions, but also to create a base for the access to these resources and services for future generations (Boulanger, 2013).
- The principle of positive discrimination: during the allocation of material resources and services, a principle of positive discrimination which strengthens the Rawls's hypothesis stating that injustices are acceptable if they intend to improve the status of people who are initially deprived of basic material resources can be applied (Rawls, 1999). This principle is grounded on the significance of exception to the principle of equal rights to remedy to injustices which can arise while trying to equally treat people who are unequal from the points of view of socio-economic situations (Barry, 1997; Hay, 1995; Young, 1990). This means that disadvantaged people should be given priorities in resources allocation and options to use them, to improve their living conditions (Zhao, 2016). The main aspect of this principle is to arrange all social and economic inequalities to the greatest benefits of people who are the least advantaged like the low-income, poor and marginalised groups (Rawls, 1999; Trinder et al., 1991).

The communality of all principles of spatial justice is the conformance to general morality and inclusiveness aspect of the urban re-development and the decreased resources deprivation attained through the involvement of all categories of urban dwellers in the urban space management. These general aspirations are central to this study, whose objectives have been defined in the next section.

1.5.1. Research objectives and questions

The main research objective for this study is to ascertain the potential of spatial justice to promote land tenure security and to propose an evaluative framework measuring trends of spatial justice and land tenure security alongside the urban (re)development processes. Specific research objectives and questions pertaining to the main research objective are formulated as follows:

1. To assess the potential of different forms of spatial justice to promote land tenure security for poor and low-income urban dwellers in Recife city;

- How spatial justice and land tenure security are conceptualised in the existing literature?
 - What are the essential elements of spatial justice and land tenure security and their relationships?
 - Which forms of spatial justice can be identified in the current urban (re)development schemes in Recife?
 - How do they promote land tenure security for poor and low-income urban dwellers in Recife?
2. To assess the potential of different aspects of spatial justice to promote land tenure security for poor and low-income urban dwellers in Recife city;
 - What are the main aspects of spatial justice discussed in the existing literature?
 - Which of these aspects can be identified in the current urban (re)development schemes in Recife?
 - How do they promote land tenure security for poor and low-income urban dwellers in Recife?
 3. To develop indicators measuring trends of spatial justice and land tenure security for poor and low-income urban dwellers.
 - Which urban (re)development approaches and options aim to promote spatial justice and promote land tenure security?
 - How do they promote spatial justice and tenure security in practice?
 - Which indicators can measure trends of spatial justice and land tenure security alongside urban (re)development?
 4. To ascertain trends of spatial justice in the current Rwandan expropriation law and its implementation processes and outcomes in Kigali City;
 - To which degrees are the law, processes and outcomes of expropriation in Kigali City in line with patterns of spatial justice?
 - Is compensation always determined at market value?
 - How satisfied are expropriated people with the received compensation?
 - Does the paid compensation allow expropriated property owners to acquire other assets and to pursue their livelihoods in the same city?
 5. To evaluate if the in-kind compensation for expropriated real properties in Kigali City promotes spatial justice and land tenure security;
 - Do rules and practices governing the in-kind compensation option for expropriated real properties in Kigali City promote spatial justice?
 - How can this compensation option be effectively applied to advance spatial justice for the expropriated real property owners in Kigali City?
 6. To ascertain patterns of spatial justice and land tenure security from the processes of clearing informal settlements and resettling the affected urban dwellers in Kigali City.
 - How does the resettlement of poor and low-income residents of informal settlements in high-risk zones in Kigali City advance spatial justice?
 - Can this resettlement process efficiently eradicate the problem of informal settlements in Kigali City?
 - Which other informal settlements management approaches can be applied in the current Kigali City (re)development processes?
 7. To evaluate if the affordable housing schemes under implementation in Kigali City promote access to housing for low and middle-income inhabitants who are the prospective beneficiaries.
 - To what extent can the low and middle-income Kigali City inhabitants afford housing units developed under the affordable housing schemes?
 - Which strategies can be adopted for promoting housing affordability for all categories of Kigali City inhabitants?

1.6. Relevance of the study

In the modern society, urban space has been viewed as a site of the social and economic inequalities reflecting different patterns of spatial injustices, for which alternatives and just social-spatial forms can be imagined (Jones et al., 2019). In this respect, a large number of studies in the field of urban management have reiterated the need for more research exploring strategies that could be applied to counteract the blatant spatial injustices that continuously perpetuate these inequalities, driven by unjust spatial resources allocation among different urban dwellers and their neighbourhoods (Jones et al., 2019; Purcell, 2002). The common argument is the embeddedness of spatial justice in rules and processes related to spatial structuring and the provision of basic infrastructure and services in a bid to redress patterns of inequalities of the contemporary urban planning and development rules (Fainstein, 2009, 2014; Todes, 2012). Spatial justice as theory (Gabrielson et al., 2016; Nordquist, 2013). Spatial justice also relates to a kind of analytical framework in assessing the effectiveness of policies, laws, decisions and processes related to any geographic space management (Barbieri et al., 2019; Ferrari, 2012) by providing some principles, such as equity, democracy and diversity which should command the development of such space (Fainstein, 2010; Lefebvre, 1968, 1991). Abiding to these principles is therefore expected in the day-to-day activities of the urban systems in order to decrease spatial injustices that have been depriving the urban poor and low-income groups of access to basic urban resources and services (Adegeye & Coetzee, 2019, p. 11). The role of academic researchers is to provide sufficient clarity on how various policies, rules, strategies and processes of urban space management can produce greater justice by decreasing these injustices (Adegeye & Coetzee, 2018; Jones et al., 2019; van Wyk, 2015). Research on spatial justice needs to consider the extent to which various categories of urban dwellers from different urban neighbourhoods are provided with the rights, the capabilities or the capacity to shape more just social and economic forms in the urban spaces (Dikeç, 2002; Jones et al., 2019). Assessing how these aspirations can be attained in the contemporary urban (re)development processes should focus on how to redress spatial injustices towards developing just and inclusive cities that integrate all categories of urban space users, especially poor and low-income groups, and respond to their basic needs (Mattila, 2002). Therefore, this study contributes to scientific knowledge on spatial justice issues in the urban settings, with focus on two domains: sustainable urban development and urban land governance.

1.6.1. Contribution to sustainable urban (re)development

From the lens of Sustainable Development Goals (SDGs), spatial justice relates to the goal 11 which is about making cities and human settlements inclusive, safe, resilient and sustainable. For the clarity in the scope of this study, it focuses on two specific targets: 11.1 and 11.3. The target 11.1 is concerned with ensuring access for all people to adequate, safe and affordable housing and basic services and upgrade slums, while the target 11.3 is to enhance inclusive and sustainable urbanisation and capacity for participatory, integrated and sustainable human settlement planning and development (United Nations Secretariat, 2015). Generally, sustainable development is a development that reconciles environmental, social, and economic concerns and initiatives. It encompasses three pillars: economic development, ecological preservation, and inter-generational equity, which should be balanced along all processes of spatial management (Godschalk, 2004; Rogers et al., 2008; Spijkers, 2018). In urban areas, sustainable development requires to craft spatial development and environmental management rules that enforce a rational use of urban resources, the protection of sensitive areas and improving the welfare of local people. Meeting these goals presupposes setting up just urban development rules and options which are aligned with social, economic and environmental objectives and ensuring that

these objectives are pursued in a balanced manner (Dalal-Clayton & Bass, 2002). When the concern is to improve the wellbeing of all urban dwellers, actors in urban (re)development should pay attention to the social and economic anchors of sustainable development, through protecting all categories of urban dwellers against different hazards and diseases, and improving their access to decent housing, basic infrastructure and services. However, there is a persisting concern that land use regulations and (re)development plans which are claimed to promote sustainable development in most cities of developing countries have been ignoring the social and economic dimensions of sustainability, especially the rights to land, housing and basic urban resources and services for the poor and low-income groups (Zheng et al., 2014). Remedy to these problems and achievement of the goals of sustainable urban development require the pursuit of spatial justice aspirations in both rules and processes of urban space management. In this respect, meeting these aspirations can contribute to sustainable urban development goals and conversely (Erdiaw-Kwasie & Basson, 2018; Roberts, 2003). As previously mentioned, the global goals of sustainable urban development include the development of urban space in effective ways to improve the living conditions for all urban dwellers, with regard to various aspects of socio-economic development and quality of environment. Spatial justice embeddedness in urban (re)development rules and options can also promote sustainability and socio-spatial inclusion towards achieving long-term actions in relation to environmental, social and economic development, through efficient use and fair allocation of basic urban resources (Berke, 2016; Campbell, 1996; Pereira et al., 2017; Watson, 2009). Fair distribution of these resources constitutes a fundamental ethos of the social architecture of urban spaces, prevents different forms of inequalities which have a draining effect on the vitality of cities and engender unsustainable lifestyles of their inhabitants (Konstantinos & Stamatina, 2019, p. 63; Mega, 2010). Sustainability concern also requires promoting access to land, fair allocation of rights to its use, and crafting land use regulations which do not deprive all users and owners of land resource of their properties. This becomes a driver for the security of tenure (Lusugga Kironde, 1995). This concern is also on the spatial justice agenda (Ferrari, 2012; Lefebvre, 1991). Thus, research on spatial justice can help to explore if different rules and processes of urban (re)development are crafted and implemented in a way that permits to achieve a fair distribution of benefits. It can also help to suggest various urban (re)development options that allow for mitigating the disadvantages in all aspects of urban space management (Fainstein, 2009, p. 262; 2014; Fainstein & DeFilippis, 2016), which is among the general goals of sustainable development (Denoon-Stevens, 2016; Durrant, 2017; Elkin et al., 1991; McGranahan et al., 2016; Mensah, 2019).

1.6.2. Contribution to urban land governance

Land governance refers to the rules, processes and structures through which decisions are made about access to land and its use, the manner in which these decisions are implemented and enforced, and the way the related competing interests are managed (Deininger et al., 2010; Deininger et al., 2012; UN-Habitat, 2008; Williamson et al., 2010). The key aspects of land governance, which are consistent with general aspiration of spatial justice, are threefold: how and by whom rules and decisions are made, how they are implemented and how conflicting interests and land wrongs are managed (Food and Agriculture Organization, 2009). Land governance has also to do with various activities of actors or stakeholders involved in land related matters, such as land acquisition, payment of fair compensation, enforcement of individuals' property rights (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2016). These activities can be achieved through the application of different rules which requires a professional ethos and strong collaboration among these actors with land resource users (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2016; Enemark, 2006; Enemark et al., 2014). Land governance is grounded different principles such as subsidiarity, equity, security (including tenure security),

rule of law, community engagement, and sustainability which are applied in the management of land resources (Deininger et al., 2012; Food and Agriculture Organization, 2007, 2009). Subsidiarity embraces the inclusive rules and well-functioning, accessible, and decentralised land administration and management systems in order to provide good services to the community. Equity relates to non-discrimination, sensitivity to women and poor people in land management (and land administration) which goes hand in hand with the promotion of tenure security. This can be attained if land administration and management agencies recognise all types of tenure systems (statutory, customary, religious, and informal). Rule of law clings to procedural fairness in the implementation of rules and processes related to land management and handling the resulting conflicts. Community engagement stands for collaboration among stakeholders (including landowners and users) and these agencies, which can result in increased recognition and respect of individuals' rights to land. Sustainability requires balancing the national development goals (social, economic and environmental concerns) and local community needs to attain the general aspirations of socio-economic development programmes as well as the community welfare. In urban areas, land governance should comprise mechanisms and decision-making processes through which citizens articulate their interests and exercise their legal rights and obligations towards their social and economic development. It has to be more responsive to the needs of all urban dwellers (Food and Agriculture Organization, 2009). Particularly, it helps to protect land rights of poor and low-income households, which becomes a prerequisite for poverty alleviation and provision of access to employment, housing and basic urban amenities and services (Deininger, 2003). Therefore, urban land governance consists of making cities more inclusive, promotes land tenure security for all categories of urban inhabitants.

Principles of land governance and its end goals are in harmony with the aspirations of spatial justice. These aspirations include the equity and diversity in both rules and processes related to the management of any geographic space. They comprise respect of basic rights to spatial resources for all users of the designated space and their active participation in crafting and implementing these rules, processes or related decisions. Generally, consideration of different forms of spatial justice in rules and decisions making can contribute to good governance of land resources that permits policy-makers, planners and regulators to make fully informed and comprehensive choices in different aspects of land management, such as land use planning (Magel, 2015). The pursuit of spatial justice in the processes of compulsory land acquisition or urban land governance can help in preventing related conflicts and minimising the associated risks for land deprivation (Food and Agriculture Organization, 2008; Holtslag-Broekh et al., 2016). For instance, the pursuit of procedural and recognitional justice can promote the balance of power through negotiation, bargaining and interactions between decision makers and users of land resources during these processes to ensure that they contribute to the general objectives of urban (re)development, and address the needs of the local community within various forms of tenure (Daes et al., 2002; Marcuse, 2014; Mashhadi Moghadam & Rafieian, 2019; Njoh, 2013). It is worth noting that in all forms of tenure, the definition, enforcement and respect of individuals' land rights are determined based on human interactions and rules of games which also embrace some aspects of procedural and recognitional justice (Hull et al., 2019; Leach et al., 2012; Njoh, 2013).

Spatial justice is also concerned with the extent to which land management rules and related activities redress land wrongs that have an explicit spatial manifestation of injustices, observable either in inequalities in land redistribution or allocation of land use rights (Stein, 2017). Redressing these injustices is a common aspiration of various forms of spatial justice, such as procedural, recognitional, redistributive and inter-generational justice (Fainstein, 2009; Ferrari, 2012; Fraser, 2001; Magel, 2016; Rawls, 1999) as well as good land governance (Chigbu et al., 2017; de Vries & Chigbu, 2017; Deininger et al., 2012). In the urban space management, good

land governance seeks for participatory and inclusive land use planning, promotion of access to land through different redistribution approaches, and incremental informal settlement upgrading which have largely been conceived among the drivers for land tenure security. This form of security can also be achieved through consideration of spatial justice aspirations of crafting inclusive rules and community-centred decision-making approaches in urban management (Beyers, 2016, 2017; Nel, 2016; Omena De Melo, 2017; Republic of South Africa, 2013). This means that spatial justice bears a lot to the governance of urban land resources in different ways (Fainstein, 2009; Moroni, 2019). Its embeddedness in rules and processes of urban space (re)development helps to decrease spatial injustices that may trigger access to and use of land resources which form the potential capital of all urban communities and provide them with direct input to their social and physical well-being (Chatterton, 2010). Therefore, this study contributes to the scientific knowledge on how the application of spatial justice can help in making good choice of processes and decisions that various actors in urban management can apply towards meeting the aspirations of land governance. In addition, its findings can inspire decision-makers, political leaders on various areas of reforms in both policies and rules related to land management towards attaining these aspirations.

1.7. Research methodology

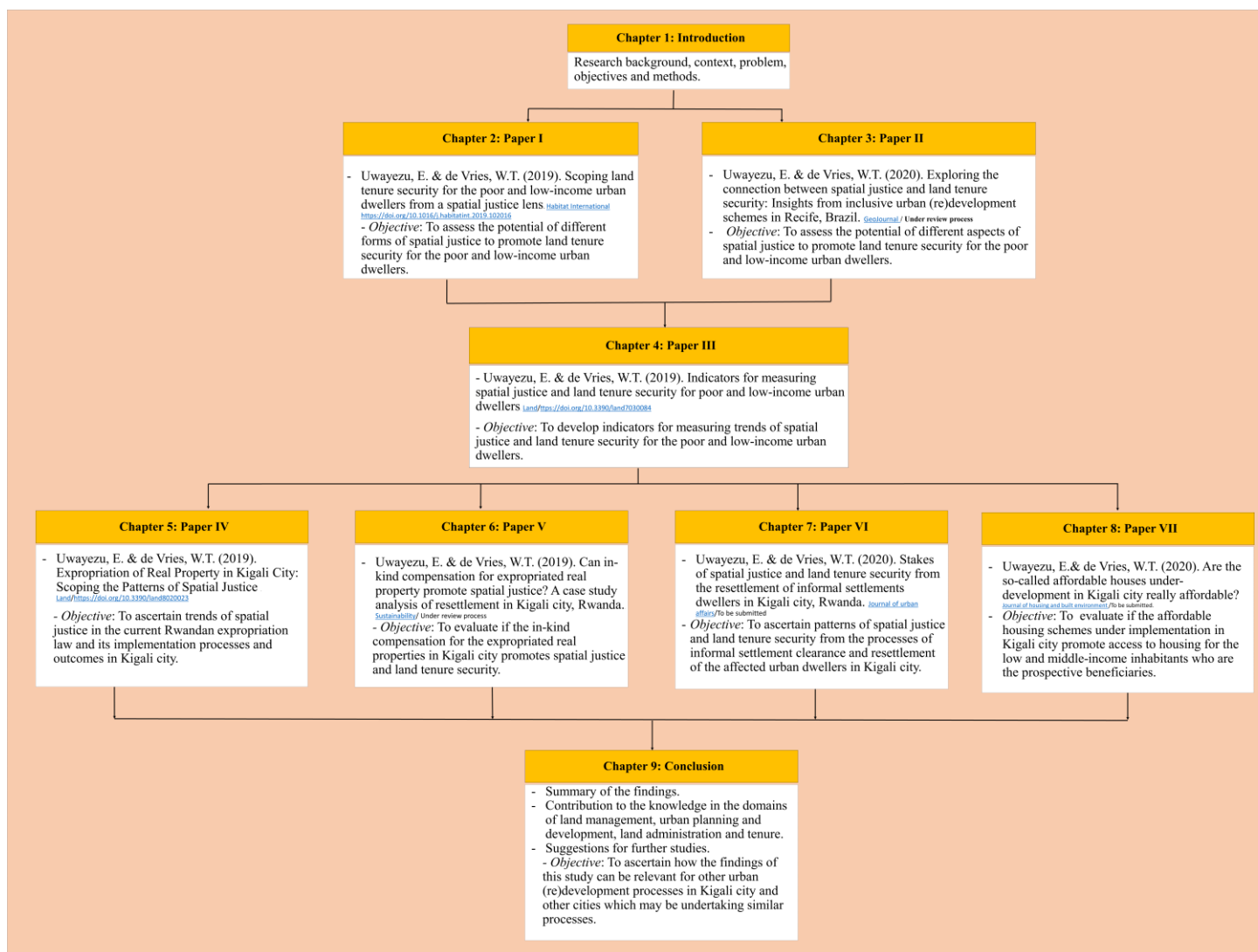
Different research methods have been applied to achieve the above-mentioned research objectives and to respond to the related research questions. This section briefly discusses these methods, which are described in details in each chapter (from chapter two to seven), corresponding to a single journal paper. The applied methods include the review of the existing literature on spatial justice, land tenure security, and best practices of urban renewal or (re)development which are intended to promote spatial justice, including the integration of poor and low-income urban dwellers in the urban fabric. As Kigali City is used as study area, I have also conducted a review of different government documents, research papers and reports related to land and urban management in Kigali. Government documents include the laws, policies, and regulations related to the development of Kigali City, its master plans, and the activity reports of Kigali City and its constituent districts. Primary data on Kigali City were collected through household survey, semi-structured interviews and field observations. Household surveys and Focus Group Discussions (FGD) were organised for the heads of households in different neighbourhoods on the topics related to the expropriation and the payment of compensation for the expropriated people, resettlement of urban inhabitants living in informal settlement, and access to land and housing for poor and low-income urban dwellers. Interviews were organised with different staff working in both public and private organisations which participate in the management of Kigali City. These people include decision-makers at Kigali City hall level, district level, members of the district and sector councils, staff at the ministry and authority in charge of infrastructure and housing development, decision makers and professionals at the Rwandan authority in charge of land use and management, urban planners and land managers, researchers at the Institute of Policy Analysis and Research (IPAR-Rwanda), the Rwanda Governance Board (RGB) and the University of Rwanda (UR), staff of the ministry of justice and the office of the Ombudsman, property valuers, and local government leaders. Through triangulation and qualitative analysis of the collected data, this research ascertains the degree to which rules related to the (re)development of Kigali City and their implementation processes show some patterns of spatial (in)justices and how spatial justice may be reinvigorated to promote land tenure security for all urban dwellers. The results of this research constitute a contribution to the knowledge on how the design and implementation of urban (re)development rules and processes, which are grounded on the promises of spatial justice, can spur land tenure security in urban areas. They will hopefully inspire urban planners, decision and policy makers in

Rwanda to take into account the rights to land for poor and low-income inhabitants, and to integrate these people into any process of urban (re)development to develop inclusive cities.

1.8. Research framework

This PhD thesis is organised in the form of seven peer review journal papers, corresponding to each chapter, except for chapter one which consists of the introduction and chapter eight consisting of the conclusion and recommendations. The connection between these chapters is structured in Figure 2.

Figure 2: Overview of the dissertation structure



The focus of each chapter is briefly summarised as follows:


1. Chapter one constitutes the introduction to the study. It provides the overview of urban land tenure problems in developing countries, the background of the study, research problem, objectives, questions, research framework and the methodology.
2. Chapter two covers the review of the literature on spatial justice and land tenure security. It mainly discusses how spatial justice and land tenure security are conceptualised in the existing literature and identifies the main forms of spatial justice and explore their potential to promote land tenure security, based on the experience of the urban (re)development in Recife, Brazil. This chapter resulted in a journal article, entitled “*Scoping Land Tenure Security for the Poor and Low-Income Dwellers from a Spatial Justice Lens*”, published by the Habitat International journal.
3. Chapter three extends the literature review on spatial justice and land tenure security, through the identification of the main aspects of spatial justice and assessment of their potential to promote land tenure security using the same case study as in chapter two. This chapter resulted in a journal article entitled “*Exploring the connection between spatial justice and land tenure security: insights from inclusive urban (re)development schemes in Recife, Brazil*”. It was submitted to the Geo-journal and it is currently under review.
4. Chapter four consisted of developing the indicators for trends of measuring spatial justice and land tenure security. These indicators constitute a holistic evaluative framework that can be used to assess if urban (re)development rules and processes in developing countries cities are just and result in the outcomes which are just. Spatial justice is discussed from the perspective of promoting the integration of all urban dwellers in the urban space, their increased access and use of basic urban resources, from which can tenure security emerge. The chapter resulted in a journal article entitled “*Indicators for Measuring Spatial Justice and Land Tenure Security for Poor and Low-Income Urban Dwellers*”, published by Land journal.
5. Chapter five, six and seven consisted of applying the developed indicators to assess trends of spatial justice and land tenure security from the urban re-development rules, processes and their outcomes in Kigali City. In chapter five, the assessment focused on the expropriation and the in-cash compensation. It resulted in a journal article entitled “*Expropriation of real property in Kigali City: scoping the patterns of spatial justice*”, published by Land journal. In chapter six, the assessment covered the processes of the expropriation and the associated in-kind compensation, through the resettlement of the expropriated property owners. It resulted in a journal article entitled “*Can In-Kind Compensation for Expropriated Real Property Promote Spatial Justice? A Case Study Analysis of Resettlement in Kigali City, Rwanda,*” published by the Sustainability journal. In chapter seven, the assessment covered the processes of relocating the informal settlement dwellers from the high-risk zones to the planned and serviced residential neighbourhoods. It resulted in a journal article entitled “*Stakes of spatial justice and land tenure security from the resettlement of dwellers of informal settlements in Kigali City, Rwanda*”. It was submitted to the journal of Development Policy Review.
6. Chapter eight consisted of analysing the affordability of housing units which are produced under the government supported housing schemes to promote the access to decent housing for the low- and middle-income urban dwellers in Kigali City. It is structured in the form of in a journal article entitled “*Access to Affordable Houses for the Low-Income Urban Dwellers in Kigali: Analysis Based on Sale Prices*”, which was published by Land journal.
7. Chapter nine provides the conclusion of the study, recommendations on the strategies that can be applied in Kigali City to promote spatial justice and land tenure security for poor and low-

income urban dwellers and contribution of the study on the relevance of spatial justice in various aspects and domain of spatial resources management and service delivery in the public sector.


Since each of the seven chapters of this thesis consists of a single and independent journal paper, some of the concepts, research methods or frameworks were repeatedly included in different chapters without major alteration. It is therefore worth mentioning this, in order to not divert the attention of my readership. Yet, each paper covers a specific topic as mentioned above. Figure 3 below, shows the contribution of each author to these papers.

Figure 3: Author’s contribution to each of the produced papers

Paper title	Journal	Status	Author contribution	
			Uwayezu Ernest	Walter T. de Vries
1. Scoping Land Tenure Security for the Poor and Low-Income urban dwellers from a Spatial Justice Lens	Habitat International	Published	70%	30%
2. Indicators for Measuring Spatial Justice and Land Tenure Security for Poor and Low Income Urban Dwellers	Land	Published	70%	30%
3. Expropriation of Real Property in Kigali City: Scoping the Patterns of Spatial Justice	Land	Published	70%	30%
4. Exploring the connection between spatial justice and land tenure security: Insights from inclusive urban (re)development schemes in Recife, Brazil	GeoJournal	Under review	75%	25%
5. Can In-Kind Compensation for Expropriated Real Property Promote Spatial Justice? A Case Study Analysis of Resettlement in Kigali City, Rwanda.	Sustainability	Published	80%	20%
6. Stakes of spatial justice and land tenure security from the resettlement of informal dwellers in Kigali city, Rwanda.	Development Policy Review	Under revision	85%	15%
7. Access to Affordable Houses for the Low-Income Urban Dwellers in Kigali: Analysis Based on Sale Prices.	Land	Published	85%	15%



Mr. Uwayezu Ernest, PhD Candidate



Prof. dr. ir. Walter T. de Vries, Supervisor

Chapter 2: Scoping land tenure security for the poor and low-income dwellers from a spatial justice lens¹

Abstract

Existing studies on spatial justice discuss how different aspects of spatial injustices repeatedly deprive the poor and low-income urban dwellers of access to urban amenities. According to these studies, increasing equity in the allocation of urban resources for all categories of urbanites can remedy these injustices. However, land tenure security, a pre-condition for access to urban amenities for the poor and low-income urban dwellers, is hardly addressed. This study explores the potential of spatial justice to land tenure security discourse, using a meta-synthesis of the literature on both concepts. It draws upon the Brazilian experience of implementing inclusive urban (re)development framework, which aims at integrating the poor and low-income urban dwellers in the urban fabric. Land tenure security is understood from the spatial aspect of social justice, rather than its traditional economic conceptualisation. We find that the pursuit of the three forms of spatial justice (alongside the processes of urban (re)development) promotes the three elements of tenure security differently. Procedural justice is identified as the main driver of land tenure security, whose prominent features are the perceived and the de facto tenure security.

Keywords: Spatial justice, land tenure security, urban (re)development, poor and low-income urban dwellers.

2.1. Introduction

The concept of spatial justice first appeared in academic debates in the 1970s. Advocates of social justice became aware of geographic aspects of social injustices (Smith, 1994). They coined the concept of ‘spatial injustice’ to depict injustices emerging from the passage and implementation of unjust spatial development rules and processes which are meant to re-organise geographical spaces (Philippopoulos-Mihalopoulos, 2011). In urban areas, spatial injustices impinge upon the livelihoods of urban dwellers differently, especially the poor and low-income groups. These injustices result from the coercive implementation of exclusive land development standards, whose costs outweigh the financial capacities of these people, thereby pushing them forcibly outside of the city (Fainstein, 2009). Spatial injustices are also produced through the processes of land accumulation such as the expropriation without fair compensation or resettlement options, which displace poor and low-income groups from their properties (Harvey, 2009; Marcuse, 2010). Forced evictions or displacements constitute the main common features of these injustices and drivers of land tenure insecurity for the affected people (Moroni, 2018).

Remediation to these forms of spatial injustices requires a fair distribution of urban resources to all urbanites, equality of rights to inhabit the city and use its resources, through increased spatial justice in the management of the urban spaces (Harvey, 2009). Spatial justice consists therefore of a form of social justice providing all people with equal rights to access and/ or use spatial resources in order to meet their basic needs (Miller, 1999). Envisioning spatial justice from the perspective of social justice requires devising rules that equally allocate urban resources to all

¹ This chapter is based on a published paper: Uwayezu, E. and de Vries, W.T., Scoping land tenure security for the poor and low-income urban dwellers from a spatial justice lens, Habitat International, <https://doi.org/10.1016/j.habitatint.2019.102016>

urban dwellers. This can also be achieved by providing these people with equal opportunities to use these resources (Friendly, 2013). In this vein, social justice can contribute to reducing or preventing economic inequalities and resources deprivation (Soja, 2009). It also endows the combination of active participation of all urban dwellers regardless of their socio-economic precincts, and dialogue between actors in the management of the urban spaces and their users in the design and implementation of these rules (Rawls, 1999). This results in balance of power among these people and the creation of equal opportunities for all urban dwellers to access and/or use urban resources (Gooding, 2016).

Spatial justice, from the perspective of urban land management, can grant diverse categories of urbanites, including the poor and low-income groups, equal opportunities to hold and use their lands (Goldman & Cropanzano, 2015). Therefore, this requires enhancing the security of tenure for these categories of urban dwellers (UN-Habitat, 2016; United Nations Secretariat, 2016). Instilled by this requirement, different studies on spatial justice have been carried out since the last two decades. They mostly focus on the equality of rights in accessing urban amenities and affordable housing (Bodnar & Molnar, 2010; Hingorani, 1997; Kay, 2005; Klyuev, 2011; McFarlane, 2018). Others discuss the issues of access to employment and active participation of all urbanites in the broad context of urban management (Choi, 2016; Nicholls, 2001). However, there are no studies that fully explore the potential of spatial justice to land tenure security, which is a condition for all urban dwellers to reap various socio-economic benefits that accrue from urban (re)development (Lelandais, 2013; UN-Habitat, 2016). Enhancing land tenure security from a spatial justice lens requires not separating land rights from other basic human rights that spatial justice claims for. Chatterton (2010) and Lefebvre (1991) contend that the recognition and respect of the individuals' property rights constitutes a basis for their well-being. In other words, this is a plea for enhancing the security of their tenure.

Discussing land tenure security for the poor and low-income urban dwellers is very relevant. They are mostly affected by the insecurity of tenure driven by exclusionary or gentrifying urban (re)development rules and processes (Davy, 2012, p. 210; Shi, Lamb, Qiu, Cai, & Vale, 2018). However, land tenure security can be enhanced. Enhancing it from an economic lens relies on the formal registration of land rights (Simbizi, Bennett, & Zevenbergen, 2014). This option is supported by de Soto (2000) and the World Bank economists such as Deininger (2003) and Deininger, Jin, and al. (2006). They associate the security of tenure to the economic value of the land and land titling outcomes such as incentive for investment in land resources. Land tenure security is also discussed from the social construction and political lenses. These lenses connect the security of tenure to individuals' perceptions, deriving from social norms which enforce the respect and recognition of property rights within the community (Fenske, 2011). It is also attached to politics, when political leaders recognise rights to land for property owners, like the dwellers of informal settlements, in reward for political loyalty (Isin & Nyers, 2014). However, in urban areas, the security of tenure associated with these constructions can be undermined. This is the case when urban (re)development rules are restrictive and deprive some categories of landowners or users (Davy, 2014), such as the poor and low-income urban dwellers, of their rights to use land resources, despite the possession of property ownership documents (Payne, 2001; UN-Habitat & GLTN, 2017). Moreover, different processes of spatial re-organisation can displace these people from the city, despite their loyalty to political regime (Padilla, 2002).

Envisioning land tenure security from a spatial justice lens is therefore relevant, because it is not always carved out of the above-mentioned economic, social or political constructs (Boone, 2019). In this chapter land tenure security is therefore envisioned from the social value of land, within the framework for urban management. Proponents of this vision include Harvey (2010), Lefebvre (1991), and Purcell (2011) who call for the respect and promotion of the social value of

urban land, alongside the management of the urban space. In this ethos, spatial justice can be a catalyst for enhancing land tenure security, for the poor and low-income urban dwellers, alongside urban (re)development. In order to ascertain this, this study relies on the documented frameworks for urban (re)development in Latin America. The goals of these frameworks include the promotion of the social value of the land over its exchange value and the integration of all urban dwellers in the cities (Davy, 2018; Friendly, 2013). The selected case study is the city of Recife, in Brazil. It has been under transformation since the 2000's, following the passage of the City Statute, a federal law which has instilled the (re)development of inclusive urban spaces, based on the general aspirations of spatial justice (Friendly, 2013). In line with the above, the main of this chapter is to assess the potential of different forms of spatial justice to promote land tenure security for the poor and low-income urban dwellers in Recife city. It is guided by the following main research objectives: How spatial justice and land tenure security are conceptualised in the existing literature?; What are the essential elements of spatial justice and land tenure security and their relationships?; Which forms of spatial justice can be identified in the current urban development schemes in Recife?; How do they promote land tenure security for the poor and low-income urban dwellers in Recife? In the next sections, the chapter provides an overview of the research methodology. Thereafter, it presents and discusses the findings, and finally, it ends with a conclusion.

2.2. Methodology

This study is based on a meta-synthesis, which involves a qualitative review of the literature on the concepts of spatial justice, land tenure security and urban (re)development. The literature review was made in five stages following an approach of meta-synthesis by Cooper (1998). These steps are: problem formulation, literature search, data quality evaluation, analysis and interpretation, and presentation of results. They are discussed as follows:

1. The problem formulation followed a preliminary desktop search, which consisted of knowledge acquisition about the concept of spatial justice, through retrieval and scanning of related publications within grey literature. This helped grasp the general meaning of spatial justice and related concepts, such as spatial injustices, social justice, and Right to the City. It also helped build an understanding of how spatial injustice and land tenure insecurity, on the one hand, and spatial justice and land tenure security on the other hand, inter-relate. This first step enabled a general description connecting spatial justice and land tenure security for the poor and low-income urban dwellers and the identification of the research topics. These topics include the conceptualisation of spatial justice, its forms, land tenure security and the connections between spatial justice and land tenure security. In this stage, the keywords that were used in the literature search were also selected and categorised in three groups. They include spatial, social and justice; Right to the City, just city, justice in urban planning and (re)development; land rights and tenure security.

2. The second step consisted of retrieving literature from the databases of science citation indexes, including Elsevier, Routledge, Springer, Sage, Taylor & Francis, Wiley-Blackwell and google scholar. This was done through a combination of the selected keywords and search options such as Boolean operations. In total, 437 publications were considered potentially significant.

3. The next step consisted of evaluating the quality of retrieved materials by assessing their relevance to the research topics. This resulted in selecting 101 references for the review process

appendix 1). They include peer-reviewed journal articles and edited books on social or spatial justice, urban planning and (re)development, and land tenure security. Other references include the technical reports and policy documents, which were retrieved from the grey literature and authored by international organisations actively publishing on the topics pertaining to urban (re)development or land tenure security. These organisations include [but not limited to] the UN-Habitat, the World Bank and the United Nations. The selected references were published between 1968 and 2018. Initially, we were only interested in recently published literature, but the preliminary search revealed that the concepts of spatial justice and related topics largely emerged from the academic debates in the 1990s. Selected materials were therefore, published after 1990. However, their authors have significantly and frequently cited some works published since 1968. A number of seminal works which stand out are those authored by Harvey (1973) and Lefebvre (1968). For this reason, a backward spider literature search, combining titles and author names and publication year, was applied to retrieve these publications. They were included in the review because they discuss theoretical foundations of spatial justice.

During this step, a case study for assessing the potential of spatial justice to land tenure security was purposively selected from the global South. The selection was based on results of preliminary literature review. As stated in the introduction, this research uses Recife as a case study. As presented in Table 1, Recife represents the most cited and documented example of urban (re)development schemes intended to promote spatial justice.

Table 1: Retrieved literature on implementation of a spatially just framework for urban (re)development

Country	City	Number of retrieved resources	Distribution of retrieved resources by topics of interest ²			
			Urban (re)development framework recognises and respects individuals' property rights	Community participation in urban management	Equality of opportunities to use urban land	Integration of poor and low-income groups in the city
Brazil	Recife	18	12	13	11	6
	Belo Horizonte	7	3	5	2	4
	São Paulo	6	4	4	3	3
	Rio de Janeiro	4	4	3	3	3
	Porto Alegre	2	2	2	2	2
Colombia	Medellin	6	4	5	3	6
Mexico	Mexico city	3	1	2	2	3
South Africa	Durban	4	4	3	3	2
	Johannesburg	2	2	2	2	2
	Cape Town	3	3	2	1	0
Thailand	Bangkok	6	2	5	4	2
India	Mumbai	5	1	4	2	3
Philippines	Manila	4	2	3	1	3
Australia	Brisbane	3	2	2	3	3
New Zealand	Aotearoa	3	2	3	2	3
	Christchurch	2	1	2	0	2

² Some resources discuss different topics at the same time. Therefore, they are counted several times.

Table 1 shows the number of retrieved studies on different experiences of urban (re)development, grounded on the claims of spatial justice. The selection of the case study was based on the connection between the topics of interest covered by these studies and the main criteria used in assessing whether urban management promotes spatial justice and land tenure security. These criteria are defined by Fainstein (2009), Tonon (2016), UN-Habitat (2010) and the United Nations Secretariat (2016). They include: (1) existence of legal framework for urban (re)development that recognises the rights to land for all people, (2) local community participation in urban management (3) implementation of non-exclusive urban (re)development options that allow landowners to use their lands, (4) integration of the poor and low-income neighbourhoods and their dwellers into the formal city. Based on these criteria and results presented in Table 1, the city of Recife was selected for the in-depth case study, given its more frequent citations in existing studies than other cities.

4. The analysis and interpretation were performed through a combination of narrative and meta-synthesis analyses. These approaches helped in the compilation of ideas and key sentences from the reviewed evidence-based studies and documented practices. In addition, they were used to summarise and synthesise findings with regard to research objectives (Levack, 2012; Walsh & Downe, 2005). As the key objective is to ascertain the potential of spatial justice to land tenure security, the abstraction modelling, using graphic representations as described by Kotiadis and Robinson (2008), helped in establishing the relationships and connections between different elements of both concepts.

5. The last step consisted of presenting the results in the form of narrative and descriptive texts, with illustrative Tables and figures in the following section.

2.3. Results and discussion

The following sub-sections present and discuss the results of the literature review. They focus on the conceptualisation of spatial justice and its potential to promote land tenure security alongside urban (re)development processes.

2.3.1. The main claim and conceptualisation of spatial justice

Urban thinkers use the concept of spatial justice largely to advocate the need for institutionalisation of inclusive rules and processes governing spatial organisation. These rules and processes are required for the alleviation of the consequences of spatial injustices and the re-establishment of equity in resource distribution (Marcuse, 2009; Philippopoulos-Mihalopoulos, 2011; Soja, 2009). Scholars such as Dikeç (2009), Harvey (2009), Lefebvre (1996), Rawls (1999), as well as others who include Soja, Dufaux, Gervais-Lambony, Buire, and Desbois (2011) discuss spatial justice in the sense of decreasing social marginalisation and increasing recognition of the rights to urban resources for all urbanites and/or equality in access to or use of these resources. They conceptualise spatial justice as a material aspect of social justice, in a socio-spatial dialectic demanding equal distribution of physical resources and related services among urban dwellers (Dikeç, 2009). To put it clearer, spatial justice is materialised through the distributional patterns of diversified urban neighbourhoods, which accommodate diverse categories of urbanites, with various social-economic statuses, and permit them to inhabit the city (Lefebvre, 1991). Diversity within the urban space is a key approach to integrate different groups of people into this space, and therefore to promote spatial justice (Young, 1990).

Spatial justice contributes to the discourse on land tenure security, through the increased recognition and protection of the rights to land for all people regardless of their tenures or socio-economic conditions (United Nations Secretariat, 2015). Promoting land tenure security within the spectrum of socio-economic diversity can be attained through a legal framework for urban management developed and implemented in a participatory manner. This framework allows for the adoption of land development options aligned with the needs of land resource users (Soja et al., 2011; UN-Habitat, 2004). When such a framework does not exist, it can be established through a kind of emancipatory politics or a social movement (Shin, 2013; Williams, 2017), mobilisation synergies or scholar debate instilling politicians and municipal leaders to promote spatial justice in the broad context of urban (re)development (Dikeç, 2001; Soja, 2009). It therefore follows that spatial justice is not only a claim for social embeddedness. It is rather a call for a more robust account and actions of how all urban dwellers are materially and geographically embedded in the urban fabric (Deborah, 2011; Shin, 2013). Its main claims are twofold: redressing social-spatial exclusion and promoting the inclusion of all people, including the poor and low-income groups, in the urban space in both rules and processes of urban (re)development (Nel, 2016).

3.3.2. Main forms of spatial justice

In the previous sub-section, spatial justice was conceptualised in a single approach, based on how different scholars comprehend it. This sub-section expands that conceptualisation over three forms through which spatial justice can be manifested, depending on how actors in spatial resources management pursue it, or with regard to the outcomes it can lead to. The three forms of spatial justice are procedural, recognitional and redistributive. They are discussed as follows:

1. *Procedural justice or procedural fairness* (Hay, 1995), relates to the appropriateness of rules and decision-making procedures while allocating rights to use land resources. In the urban areas, pursuing this form of spatial justice requires crafting in a participatory manner and enforcing urban management rules that are aligned to the needs of all land resource users (Iveson, 2011). Results are increased opportunities for all landowners to use their properties in order to meet their needs (He & Sikor, 2015; Njoh, 2013).

2. *Recognitional justice* pertains to the recognition of the rights to land for all people in the process of distributing land resources or allocating rights to use them. In order to redress resource deprivation, recognitional justice demands for the involvement of socially and economically disadvantaged people in making decisions that affect the use of or access to land resources (Young, 1990). Unlike procedural justice, recognitional justice focuses on the implementation of rules rather than on institutionalising them. Its pursuit implies treating different people in different ways so that the poor or marginalised people can be privileged in the allocation of rights to use land. The results can be increased respect of their property rights and improved socio-economic status, through the use of their properties (Hafeznia & Hajat, 2016; Rawls, 1999).

3. *Re-distributive justice* seeks for a fair distribution of land resources or allocation of their use rights, based on needs of all people in order to overcome material deprivation (Stanley, 2009). This form of spatial justice relates to access to land resources and their development. It is pursued by putting the processes of land (re)distribution or rights to use them within legitimate social and politico-administrative institutions that are close to the local community. Through direct collaboration, representatives of these institutions and the local community can develop different land development options that allow various categories of landowners to use their lands (Fraser & Honneth, 2003).

The common patterns of the three forms of spatial justice are the fairness of rules and processes, recognition and respect of human rights in the distribution of land resources or allocation of rights to use them. Pursuing fundamental claims of spatial justice necessitates the combination of its three forms which are inter-connected (Dabinett, 2010; Fraser & Honneth, 2003) as shown in Figure 4. For example, remediation to any form of spatial injustices through recognitional justice requires its combination with redistributive justice and procedural justice to achieve the desired outcomes.

Figure 4: Connection between the main forms of spatial justice

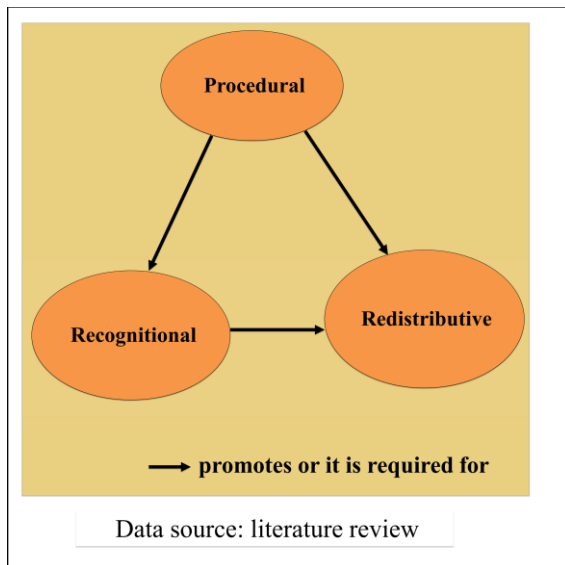


Figure 4 depicts the connection between the three forms of spatial justice as discussed by its prominent scholars such as Harvey (2010). He recognises a significant effect of recognitional to redistributive justice to redress resource deprivations. He also pleads for the application of procedural justice for significant mitigation of these deprivations. Lefebvre (1991) and Rawls (1999) place procedural justice above other forms of spatial justice because it advances both recognitional and distributive justice. Similarly, Fraser and Honneth (2003) argue that good resource management rules and social norms translated into procedural justice advance recognition of the rights of all users of spatial resources or allow for effective redistribution of

these resources. In this fashion, Magel (2015) concludes that a combination of all forms of spatial justice is likely to lead to more just outcomes. To scrutinise the potential of spatial justice to land tenure security, we begin by discussing first the concept of land tenure security in the following sub-section.

2.3.3. Defining land tenure security

The discourse on spatial justice has been discussed in the previous sub-section. Assessment and understanding of its potential to improve land tenure security require a recap of the conceptualisation of the latter, as is discussed by scholars of land management and related fields. They define land tenure security as a landowner perception of his/her rights in relation to a piece of land on a constant basis, free from eviction or interference from outside sources. It includes the ability to enjoy the benefits of investments in land resources (Bruce & Migot-Adholla, 1994; Roth & Smith, 1995). There is tenure security for the owners or users of land and related properties, if they perceive little likelihood of losing these properties within a future time period and feel protected from an arbitrary removal from their lands (Deininger, 2003).

Land tenure security comprises of three elements: the de jure (or legal), the de facto and the perceived security (Payne, 2004; van Gelder, 2009). The de jure tenure security derives from legal recognition of land rights connected to the provision of a certificate of property ownership, through land registration. It can grant the legal protection to property owners against arbitrary eviction and interference from third parties in their rights (van Gelder, 2010). The de facto tenure security derives from the protection of individuals' rights to land by social and politico-administrative institutions. This is attained through the enforcement of the recognition of these

rights within the society, even when these rights are not formally registered (Payne, 2004; UN-Habitat, 2003). Dwellers of informal settlements can enjoy this element of tenure security when political agencies recognise these settlements and improve them through the provision of basic urban amenities. The perceived tenure security is connected to psychological feelings, expressing individuals' perceptions on non-likelihood of losing their land rights (Payne, 2001; van Gelder, 2007). These feelings are embodied in property owners' stability in their living places. They are also connected to socio-political environment which recognises individuals' property rights, especially when neither the de facto nor the de jure tenure security is established or after the establishment of one of these elements of tenure security (van Gelder, 2009). The relationships which can exist between the three elements of land tenure security as discussed by Payne (2001), Reerink and van Gelder (2010), and Nakamura (2016) are presented in Figure 5.

Figure 5: Convergence between the elements of land tenure security

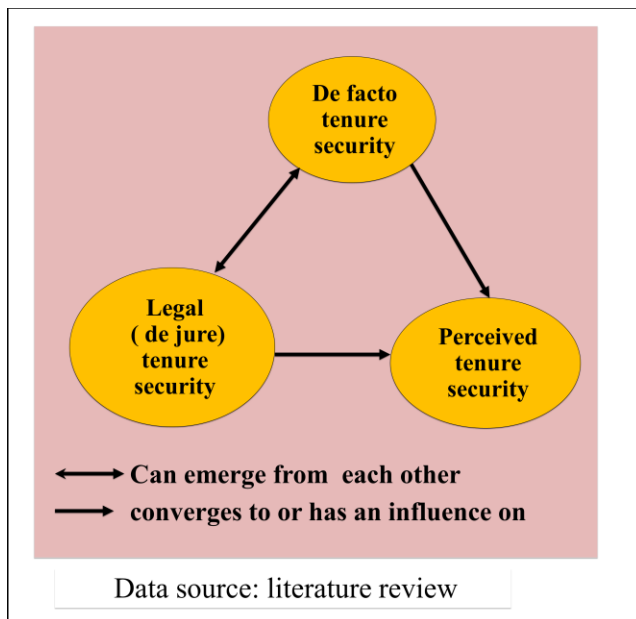


Figure 5 demonstrates that the perceived tenure security can derive from the de facto tenure security when politico-administrative institutions recognise and enforce land rights for all people. Following the established the de facto tenure security, these institutions can introduce the process of land titling, from which emerges the de jure tenure security. The latter can, thereafter, converge to the de facto tenure security when these institutions enforce the respect of recorded property rights, through well-functioning land administration and land conflict management systems (Williamson, Enemark, Wallace, & Rajabifard, 2010). The perceived tenure security can also emerge from the de jure tenure security

after the processes of land rights recording (van Gelder, 2010). However, in urban areas, land tenure security can be undermined by the non-inclusive and unjust framework for urban (re)development which neither recognises nor respects the individual property rights (Payne, 2001; Williamson et al., 2010). This concern broadens debates on tenure security beyond the legal framework for land titling from which derives the de jure tenure security or the socio-political environment which nurtures the de facto or the perceived tenure security. Therefore, land tenure security needs to be boosted through a spatially just framework for urban (re)development that advances the social value of the land (Chigbu, Alemayehu, & Dachaga, 2019; de Vries & Voß, 2018; United Nations Secretariat, 2016). The next sub-section explores how this can happen.

2.3.4. The passage of City Statute and the emergence of spatial justice in the city of Recife

This sub-section introduces the experiences of changes in urban management, observed in Recife, the capital city of Pernambuco. This city lies in the Northeast of Brazil, on the shores of the Atlantic Ocean (de Souza, 2001). From the 1940s, the spatial growth of this city was characterised by massive development of slums due to limited capacities of the urban authorities

to provide suitable and serviced lands for the development of residential buildings (Rolnik, 2014). Between the 1960s and 1980s, the authoritarian government, through city authorities and urban planners, implemented exclusive urban (re)development rules, which only private investors benefited from. The implementation of these rules resulted in escalating socio-spatial inequalities, evictions of poor and low-income urban dwellers from their lands, and their confinement into marginal lands, deprived of basic urban amenities (Gutberlet & Hunter, 2008; Koster, 2014).

From 1980, community movements, social activists and urban reform forums in Brazil launched calls for the development of inclusive cities after two decades of dictatorship and elitist urban planning rules (Holston, 2008). These calls emerged from public awareness about the general theory of spatial justice and the ideology of the Right to the City. They decry discriminatory urban development rules that had long been depriving poor and low-income groups of access and rights to use urban resources (Mitchell, 2012). In the 1990s, these social and popular rallying cries successfully influenced the institutionalisation of the democratic and decentralised urban (re)development framework, introducing a component of local community involvement in making and implementing decisions regarding the management of the city and their neighbourhoods (Friendly, 2013). Later in 2001, the passage and adoption of the City Statute legally confirmed the rights to urban resources for all urban dwellers and has remained the main driver for change in the management of urban spaces (Freitas, 2017).

The City Statute provides guidelines aiming for the democratic management of the cities (Rolnik, 2013) and the promotion of the social function of urban property by prioritising the use value of land resources over their exchange value (Davy, 2018). It constitutes a legal document, which defines the role of the federal government, city authorities, and the citizen in establishing a new framework for urban (re)development. In Recife city, the established framework embodies social norms such as equality of rights and community participation in all processes related to the urban space management, in order to redress the existing socio-spatial exclusions and resources deprivations (Fernandes, 2007, 2011). This framework has boosted the recognition and respect of individuals' rights to land in informal settlements, which are commonly called the "Favelas" (Cities Alliance, 2010). In the 2010s, more than half of the population of Recife, estimated at 1.5 million, was living in the Favelas (Maia, Lucas, Marinho, Santos, & de Lima, 2016). Some of these settlements were converted into ZEIS ("*Zonas Especiais de Interesse Social*" or "Special Zone of Social Interest") within the framework for the development of an inclusive city, which helped spur land tenure security (de Souza, 2001). The next sub-section discusses how this has been achieved.

2.3.5. Connecting spatial justice to land tenure security: evidence from urban (re)development in Recife

In this sub-section, we present findings on how the adoption and implementation of the new framework for urban (re)development in Recife have been a potential driver for the three elements of land tenure security for the poor and low-income groups. These findings are derived from the meta-synthesis of published peer-reviewed articles and working reports, based on field surveys in Recife, and which discuss and assess the outcomes of the institutionalised new framework for the urban (re)development. The focus of this sub-section is the outcome of pursuing the three forms of spatial justice alongside the implementation of this framework, with consideration of their connections to different elements of land tenure security. These findings are presented in Table 2 and discussed using figure 5 below:

Table 2: Potential of spatial justice to enhance land tenure security in Recife

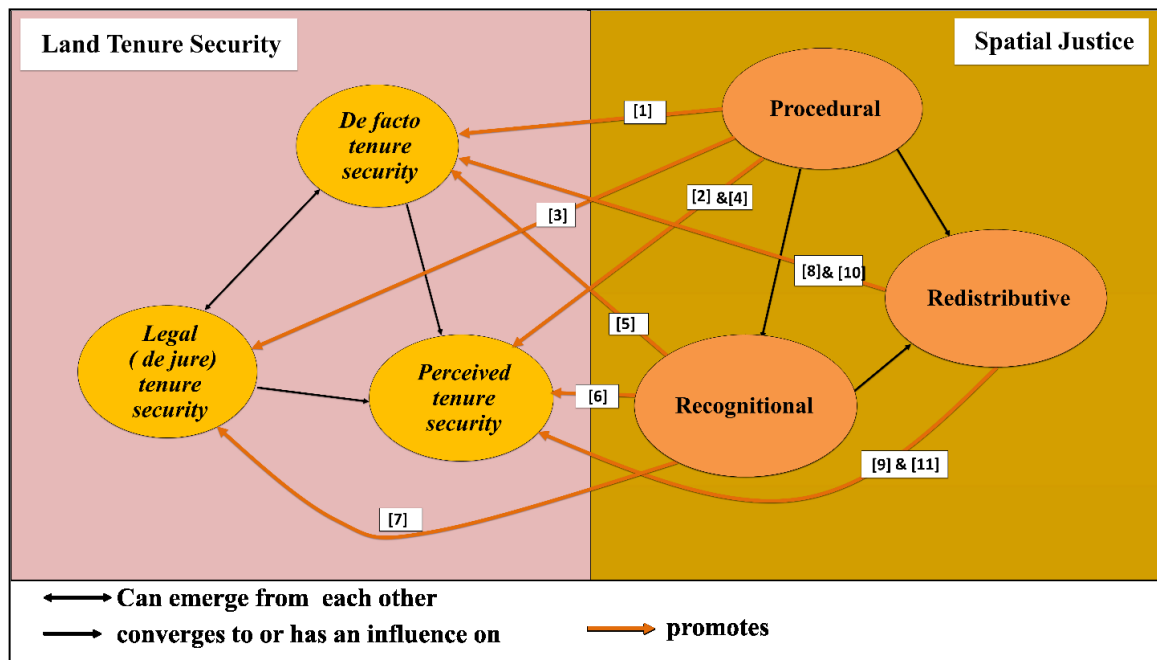
Connection to spatial justice		Implication of the urban (re)development framework and associated element of land tenure security			Related references
Forms of spatial justice	Description	De facto	Perceived	De jure	
Procedural justice	-The framework for urban (re)development advances the integration of favelas and their dwellers into the formal city. It affirms property rights for these people.	[1] The Favelas are politically and legally recognised as ZEIS. They are integrated into physical development plans. Land rights for their dwellers are politically and legally recognised as well.	[2] Conversion of the Favelas into ZEIS confirms the protection of their dwellers against eviction. This resulted in increased perceptions about the security of their land rights.	[3] Formal registration of the existing land rights alongside the implementation of the framework confirmed their legal recognition.	(Cities Alliance, 2010; ; de Souza, 2004; ; Fernandes, 2007; Rolnik, 2013).
	- The Favelas dwellers participate in the development of the city, their neighbourhoods and improvement of their houses.	*	[4] Participation enhanced their feeling of being urban dwellers and increased perceptions about recognition of their property rights.	*	
Recognitional justice	- The current framework for urban (re)development recognises all Favelas as parts of the city. - The rights to land for dwellers of these areas are recognised in both rules and practices of urban (re)development.	[5] The municipal authorities and planning agencies recognise rights to urban resources and land property for the ZEIS inhabitants and their rights to participate in processes of urban (re)development.	[6] Decreased risks of eviction for ZEIS dwellers and increased feeling about the recognition of their property rights.	[7] The current framework for urban (re)development recommends the formal registration of all property rights, held by the Favelas dwellers. The recognition of these rights in existing rules has been the factor for their registration.	(Friendly, 2013; Maia, 1995; Nuijten, Koster, & de Vries, 2012)
Redistributive justice	- Access to basic amenities in ZEIS is enhanced.	[8] The provision of urban amenities in ZEIS confirms the political recognition of these areas.	[9] Increased sentiment of belonging to the city and decreased feeling about eviction.	*	(Melo, 2010; Nuijten, 2013)
	- Relocation of squatters into decent housing and serviced sites.	[10] Squatters are relocated from unsuitable areas to serviced sites. They are granted rights to land and housing.	[11] The resettlement of squatters into the city confirmed their belonging to the city and resulted in increased perception about their rights to land and housing.	*	

[1], [2], ...: Indicator for the connection between the form of spatial justice and the corresponding element of land tenure security.

*: No indicator to the corresponding element of land tenure security was identified.

Table 2 shows the elements of land tenure security emerging from the pursuit of spatial justice alongside urban (re)development in Recife. The connections between the main forms of spatial justice and the three elements of land tenure security are further modelled in Figure 6 below and explained in the following paragraphs:

Figure 6: Framing inter-linkages between spatial justice and land tenure security



Developed based on Fraser and Honneth (2003), Nakamura (2016), Rawls (1999), van Gelder (2010) and conceptual modelling and meta-synthesis of the reviewed literature.

Figure 6 shows how different forms of spatial justice are connected to the three elements of land tenure security presented in Table 2. These connections are described as follows:

[1] and [2]: Inclusive urban (re)development approach has recognised rights to land for all urban dwellers: the current framework for urban (re)development was devised in a participatory manner, based the claim of procedural justice. It constitutes a backbone of inclusive urban (re)development schemes, through which political leaders recognise the Favelas as parts of the formal city and grant their dwellers the rights to use the urban space. This has enhanced their feelings about the ownership of their land resources, from which has emerged the de facto tenure security [1] (de Souza, 2004). The conversion of the Favelas into ZEIS has affirmed their integration into the formal urban (re)development processes, confirmed the protection of their inhabitants against the evictions, thus resulting in increased perceptions about the security of their tenure [2].

[3]: The regularisation of property rights within the ZEIS has increased legal recognition of individuals' property rights: the framework includes the guidelines for regularising property rights. These guidelines have been implemented in the fashion of procedural justice, through the collaboration between property owners and municipal authorities in recording land rights which had been informally held. The de jure tenure security has emerged from this action (Fernandes, 2010). The formalisation of these land rights has also been rendered by compliance with other federal laws. These laws include the Law N°10.931/2004 which introduced free property registration for the poor and low-income groups, the Law N°11.952/2009 which introduced the regulatory framework for tenure regularisation in urban areas, and the Law N° 11.977/2009

whose enforcement enabled the regularisation of property rights in the Favelas (Fernandes, 2010).

[4]: Participatory urban (re)development has enhanced land rights holding: According to Fernandes (2011) and Friendly (2013) the introduced participatory approach of urban (re)development resulted in devising urban (re)development options, which have enabled all dwellers of Favelas to improve their houses and remain in their neighbourhoods. This has resulted in increased feelings about their protection against eviction, from which the perceived tenure security has emerged.

[5], [6] and [7]: The urban (re)development framework has recognised and legitimised individuals' land rights: The framework inspired city authorities and urban planners to respect and enforce property rights (in the form of recognitional justice) for all ZEIS inhabitants. Compliance with this framework resulted in the political recognition of all tenure rights in ZEIS ([5]: the de facto tenure security) and the increased feeling about their protection of their inhabitants against eviction, from which the perceived tenure security[6] has emerged (Fernandes, 2011). This framework recognises the rights to land and housing for all dwellers of the Favelas. It also recommends their regularisation in the realm of recognitional justice. The regularisation of these rights has been a driver for the de jure tenure security [7] (de Souza, 2001).

[8] and [10]. Resource redistribution and neighbourhood improvement have confirmed the recognition of individuals' land rights: a tangible result from the implementation of the new framework for urban (re)development was the improvement of living conditions for ZEIS inhabitants, through the provision of basic infrastructure and services. As stated above, the provision of these infrastructure and service confirmed the political recognition of these areas as parts of the city and the rights of their inhabitants to urban space. The outcome has been the increased feelings of these inhabitants about their protection against eviction, from which both the de facto and the perceived tenure security have emerged (Cities Alliance, 2010; Habitat International Coalition (HIC), 2010).

[9] and [11]. The allocation of land resources to displaced people has granted them legitimate land rights: Alongside the pursuit of redistributive justice, urban (re)development in Recife allowed for the redistribution of land resources and housing through the resettlement of squatters in suitable and serviced sites. This process reflects the remediation to their eviction from high-risk areas, where they had been living, and the recognition of their rights to land, which has subsequently resulted in the de facto and the perceived tenure security (Nuijten, 2013). This effect is also admitted by Fainstein (2009) and Zhao (2016), who argue that the resettlement option is the common solution resulting from redistributive justice. It enables the improvement of the local community livelihoods, prevents their persistent displacement and thereby advances land tenure security.

In sum, the potential of spatial justice to land tenure security in Recife can be summarised as follows:

- The pursuit of procedural justice resulted in a new urban (re)development framework, which translates the political recognition of informal settlements (Favelas), and their integration into the formal city in the forms of the ZEIS. It has protected dwellers of these areas against eviction, from which the de facto and the perceived tenure security have emerged (Friendly, 2013).
- The regularisation of property rights in the ZEIS was also carried out in the fashion of both procedural and recognitional justice, since the current urban (re)development schemes

advocate for the registration of these rights for all dwellers of the Favelas. The processes of recording these rights has, therefore, resulted in the de jure tenure security. This has confirmed all property owners' rights to stay in their living areas (increased perceived tenure security) as pointed out by de Souza (2001), de Vries (2016b) and Rolnik (2014).

- Recognition and redistributive justice has also promoted the provision of basic urban amenities in the upgraded areas and spurred the convergence of the de facto to the perceived tenure security. In addition, the pursuit of redistributive justice has guided the resettlement of displaced people and resulted in the de facto and the perceived tenure security for these people. As presented in Table 2 and Figure 6, the de facto and the perceived tenure security have been very prominent in this urban (re)development process and have resulted from the pursuit of all forms of spatial justice.

The main ground for these outcomes is the pursuit of procedural justice, materialised by a participatory and collaborative urban (re)development approach. This has enhanced the recognition and respect of land rights of the property owners, who were not recognised by previous rules governing the management of Recife city.

2.4. Conclusion

The main contribution of this study was to demonstrate the potential of spatial justice (which was conceptualised as a spatial aspect of social justice) to land tenure security for the poor and low-income urban dwellers. The main argument is that pursuing this form of justice alongside the (re)development of the urban space results in increased recognition and respect of rights to land resources for all categories of urbanites. In this line, the study has firstly unpacked and connected the main forms of spatial justice, consisting of procedural, recognition and redistributive justice through a meta-synthesis of related literature. Secondly, after a review of the elements of land tenure security and their relationships, the potential of spatial justice to land tenure security has been scrutinised. This was basically based on the literature review of studies describing how the adoption and implementation of the urban (re)development framework, which is grounded on spatial justice claims, have enhanced the security of tenure for dwellers of the Favelas in the city of Recife.

Findings reveal that the pursuit of each form of spatial justice has advanced the de facto, the perceived and the de jure tenure security in different ways. This happened in two main stages: The first stage consisted of devising a new framework for urban (re)development in a participatory manner. In fact, city authorities, urban planners and local community in Recife designed new urban (re)development schemes, which recognise the social function of the land and integrate all urban dwellers into the city. This was done according to the aspirations of procedural justice, which seeks for the institutionalisation of inclusive urban (re)development rules and processes that permit all users of urban resources to use them and meet their needs. Designed urban (re)development schemes support the conversion of the Favelas into ZEIS currently regarded as parts of the formal city. These schemes also recommend the provision of basic amenities in these areas (ZEIS) and the formalisation of existing property rights. These envisioned actions were identified as catalysts for the three elements of tenure security. The second stage consisted of implementing these schemes. The pursuit of procedural justice alongside the physical delimitation and integration of the ZEIS into the urban fabric, and participation of their inhabitants in the improvement of their neighbourhoods and dwellings confirmed their protection against eviction. Both the de facto and the perceived tenure security have emerged from these actions. The legal recognition of rights to land for these ZEIS dwellers and the registration of their land rights resulted in the de jure tenure security. Pursuing

recognitional and redistributive justice has resulted in the provision of basic amenities in these ZEIS and the resettlement of squatters in decent houses. From all these two actions have also emerged the de facto and the de jure tenure security for both dwellers of the ZEIS and the resettled people. The perceived and the de facto tenure security are the main features of land tenure security that have emerged from the pursuit of the three forms of spatial justice alongside the urban (re)development in Recife. The de jure tenure security has also been enhanced through the implementation of the guidelines of the current urban (re)development framework, which call for the formalisation of land rights held under different tenure systems that exist in this city.

Generally, the inclusive and participatory urban (re)development, conceived in a bid to promote the social value of the land, is at the heart of the increased tenure security for the poor and low-income urban dwellers in Recife. Unlike the previous approach of urban (re)development processes ushered by technocratic planning, the current urban (re)development approach is distinctly normative from a spatial justice point of view. It consists of the new praxis of co-production of the urban space, through direct inclusion of these categories of urban dwellers in the design and implementation of the (re)development plans for their neighbourhoods, which has steered the general integration of these people into the formal city. The key driver for this integration is the increased recognition of their rights to land and housing in the designed plans and their implementation processes, from which the security of tenure has emerged. However, this inclusive urban (re)development approach, which has promoted land tenure security for the poor and low-income urban dwellers in Recife, did not come from the vacuum. In this chapter, we consider the role of the public claiming for the reinvigoration of the rights for all urban dwellers to the city. Through the support of civil society organisations and urban forums, this public plea has absolutely influenced the above-mentioned changes in the management of Recife city. This study concludes that the pursuit of spatial justice in urban space management, either instilled by popular claim or political decisions, can result in a shift from the exclusive to inclusive urban (re)development approach. This change in urban space management promotes the use of land resources for all people and hence becomes the driver for their security of tenure. The next chapter discusses in depth how this popular claim has resulted in the establishment of spatial justice in this same city of Recife.

Chapter 3: Exploring the connection between spatial justice and land tenure security: insights from inclusive urban (re)development schemes in Recife, Brazil³

Abstract

This study broadens the conceptualisation of spatial justice and establishes its connection to land tenure security for poor and low-income urban dwellers. With a meta-synthesis, content and narrative analysis of studies on spatial justice and land tenure security and the implementation of the inclusive urban (re)development schemes in Recife, Brazil, we derived four aspects of spatial justice: epistemological, ideological, axiological and material aspects. They have concomitantly advanced the perceived and de facto tenure security for poor and low-income dwellers in Recife. The axiological and material aspects of spatial justice are directly connected to these elements of land tenure security. The security of tenure has been promoted through the formal integration of all informal settlements (favelas) in the city and engagement of their dwellers in the urban (re)development processes. It has emanated from changes in the urban (re)development schemes, spurred by emancipatory movements claiming spatial justice in the urban space management. These changes resulted in inclusive and participatory urban (re)development processes recognising rights to land, housing and basic urban amenities for all favelas' dwellers. This study concludes that, like the traditional approaches embedded in social norms and political institutions including land registration processes that enforce the respect of individuals' property rights within any society, the pursuit of spatial justice can promote land tenure security for all landowners. This holds more specifically for the poor and historically marginalised groups whose land rights are hardly respected or enforced within these traditional systems, or may not be recorded during the contemporary processes of land rights formalisation.

Keywords: Spatial justice, land tenure security, urban space, poor and low-income urban dwellers, urban (re)development schemes, spatial development policy.

3.1. Introduction

Since the 2000s, pursuing spatial justice and promoting tenure security have been part of different development policies. In developing countries, some of these policies reiterate the needs for promoting inclusive urban development, which integrate all urban dwellers, especially poor and low-income dwellers in the urban space (Huchzermeyer, 2018). The claims of these policies are consonant with different urban (re)development guidelines, developed by the international organisations such as the United Nations agency for Human Settlements Program (UN-Habitat) and the World Bank. They propose different approaches for urban (re)development such as slum upgrading and participatory urban planning which can spur land tenure security if they are effectively implemented. In this sense, tenure security is comprehended as catalyst for integrating poor and low-income urban dwellers in the urban space (UN-Habitat, 2012). This integration is also consistent with the claim of spatial justice and constitutes a prerequisite for enhancing access to urban amenities for these categories of urban dwellers and improving their living conditions (United Nations Secretariat, 2016). However, in many cities, land tenure security may vanish and therefore the insecurity of tenure can escalate. Tenure insecurity can be attributed to exclusive processes of (re)organisation of the urban space and associated spatial injustices. These injustices affect poor and low-income groups through the spatial division of the urban space, which results in unfair (re)distribution of its resources or rights to use them

³ This chapter is based on paper under review process: Uwayezu, E. and de Vries, W.T., Exploring the connection between spatial justice and land tenure security: insights from inclusive urban (re)development schemes in Recife, Brazil; *GeoJournal*.

(Harvey, 2003; Marcuse, 2014). Spatial injustices are actually reflected in the deprivation of poor and low-income urban dwellers of the land and housing and their confinement into hypersegregated areas, deprived of basic urban infrastructure and services (Harvey, 2003; Soja, 2009). These people are deprived of their properties through the commodification of land resources and their concentration in the hands of middle and high-income urban dwellers and private investors (Uwayezu & de Vries, 2018). This becomes the hallmark between spatial injustices and land tenure insecurity (Kan, 2019). To decrease these trends of spatial injustices and incidental land tenure insecurity, political and municipal leaders have been attempting to promote spatial justice alongside the urban (re)development, through integration of all categories of urban dwellers in the city (Shen et al., 2011, pp. 123-124). Spatial justice is actually pursued through the embeddedness of social justice in the rules and processes related to the re-organisation of the urban space. The general aspiration is to protect all urbanites from the exclusion and enhance their access to urban resources (Dikeç, 2002). In this context, social justice is conceived in the form of equity which requires government actors to abide with the principles of equality of rights and opportunities for all urban dweller to have access to the basic urban resources and actively participate in its management. This can permit all urban dwellers to use these resources and meet their basic needs (Harvey, 1973, p. 101; Miller, 1999, pp. 181-183; Smith, 2000). Spatial justice becomes therefore an approach of achieving social justice from a critical spatial perspective, and a facet for adequate and inclusive urban development schemes (Soja, 2009). Its pursuit can result in increased recognition of all people's rights to urban resources such as land, basic amenities and services, their participation in urban (re)development processes, decreased spatial segregation and improvement in their welfare (Dikeç, 2001; Soja, 2010b, pp. 97-99).

In most literature, the claims of spatial justice alongside urban (re)development is discussed from the lens of the "Right to the City" (Lefebvre, 1968, 1991). This lens embraces two metrics: active community participation in urban (re)development and the appropriation of the urban space. The former seeks for the engagement of the urban dwellers in the management of the city, from rules making to their implementation. The latter implicitly stands for their rights to inhabit the city and use its resources (Lefebvre, 1968). The main claims of spatial justice also emerged from these metrics. They are epitomised in the integration of all categories of urban dwellers in the city and adoption of urban (re)development options permitting them to actively participate in the management of their neighbourhoods (Soja, 2011). In this view, although distinct, the claims of both spatial justice and the Right to the City are similar (Fainstein, 2014; Iveson, 2011). Therefore, in this chapter, both concepts of spatial justice and the Right to the City will be used interchangeably to mean the spatial aspect of justice which shields poor and low-income dwellers from socio-spatial exclusion. It eventually enhances their security of tenure alongside the processes of urban (re)development (Uwayezu & de Vries, 2018).

Building on these claims, this chapter connects the discourse of spatial justice to that of land tenure security. With regard to land tenure security, we prefer to focus on the perceived and the de facto land tenure security rather than on the de jure tenure security. There are good reasons for this choice. There are limitations associated with property registration, because landowners can still lose their property rights if they do not afford the cost of registration (Payne, 2001; Van Asperen & Zevenbergen, 2007). Even if they can afford registration, they can still be evicted as a consequence of a speculative real property market (Durand-Lasserve, 2006). We therefore explore under which conditions pursuing spatial justice can positively increase the perceived and the de facto land tenure security. Both are key drivers for integrating all urban dwellers, especially poor and low-income groups, in the city (Payne, 2004). Similarly, the pursuit of spatial justice promotes this integration. The claim of spatial justice includes also the promotion of the use value of the land (Harvey, 2009, pp. 154-155). Goonewardena et al. (2008, p. 265) and Lefebvre

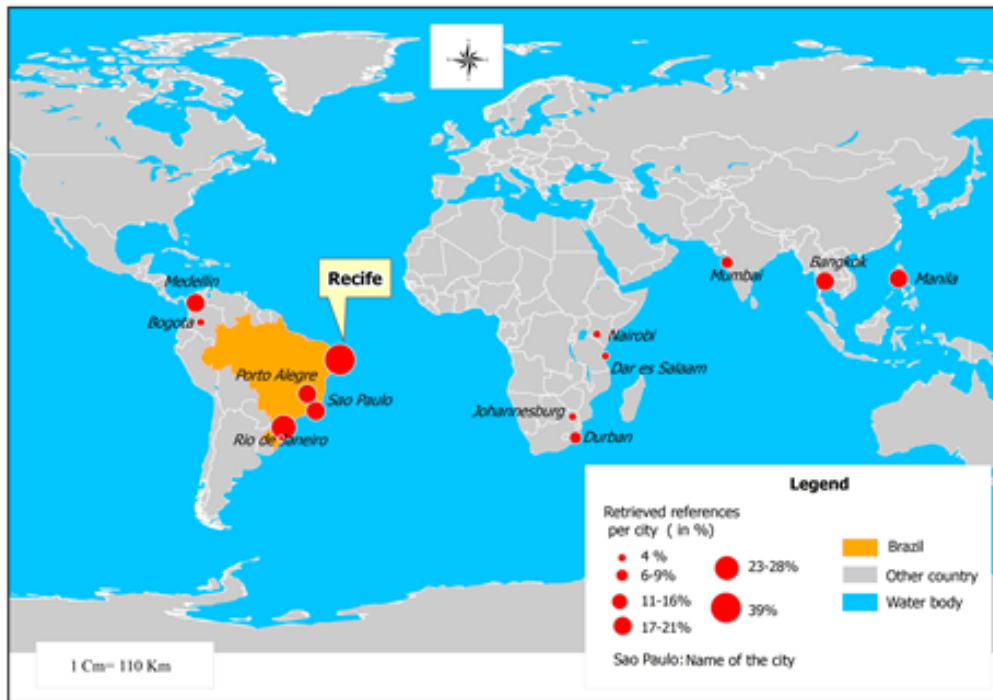
(1991, p. 339) posit that this value embodies the rights of poor and low-income urban dwellers to hold and occupy their lands and houses, so that they can access and use other urban resources. From spatial justice perspective, the consideration of the use value of the land within any processes of spatial management advances land tenure security (Uwayezu & de Vries, 2018). In the existing literature, land tenure security is conceptualised from the economic lens, which makes reference to the general process of land titling. It is also conceived from the social context, by relying on community cohesion and the lack of land conflicts (Simbizi et al., 2014). In addition, its conceptualisation is grounded on the good political environment, which permits political leaders to recognise rights to land and housing for the informal settlement dwellers, in reward for political loyalty (Isin & Nyers, 2014). However, as previously stated, the security of tenure has been largely threatened by urban (re)development schemes which do not recognise the rights to land and housing for all urban dwellers, especially poor and low-income groups (Average, 2019; UN-Habitat, 2011). Therefore, this chapter aims at demonstrating how changes in urban management, through adoption and implementation of urban (re)development schemes grounded on the claims of spatial justice can become the catalyst for land tenure security.

To achieve this, this study relies on both urban (re)development schemes and changes in spatial development which take place in the city of Recife, in Brazil. These schemes have been conceived in the realm of advancing spatial justice and promoting the use value of the land and housing for slum dwellers (Fernandes, 2007; Koster & Nuijten, 2012). We therefore explore how these schemes have been potential to land tenure security, by answering to the following research questions: What are the main aspects of spatial justice discussed in the existing literature? Which of these aspects can be identified in the current urban development schemes in Recife? How do they promote land tenure security for the poor and low-income urban dwellers in Recife? The study responds to the call of international organisations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), UN-Habitat, and the United Nations Secretariat which recognise the normative value of spatial justice to land tenure security. They encourage research on the implementation of the world charter on the Right to the City, whose pillars focus also on the promotion of the security of tenure (UN-Habitat, 2016; UNESCO & UN-Habitat, 2009; United Nations Secretariat, 2016). Though, studies that are explicitly focused have been conducted, they are still scarce or insufficient. The latest are centred on the urban renewal for housing development (Fainstein, 2009; Helleman & Wassenberg, 2004), the management of public space (Fainstein, 2009; Nicholls, 2001), and provision of public services (Kay, 2005). More contributions to the discussion around the theory of spatial justice has been spelled. In this respect, Marcuse (2010b) and Soja (2010) call for further studies on justice from a space lens to enrich the debate on space organisations and which contribute to scientific knowledge by suggesting more effective actions aimed at changing the world for the better. Recently, different land related organisations such as FAO and Un-Habitat inspired by ideology of the rights to the city have recognised the normative value of spatial justice as a catalyst to enhance tenure security for urban dwellers and development of inclusive cities (UN-Habitat, 2010). This study is therefore a contribution to the increasing calls for actions and strategies based on ideas of spatial justice in a bid to redress spatial injustices and tenure insecurity (UN-Habitat, 2016; United Nations Secretariat, 2016). In the next section, we discuss the research methodology. Thereafter, we present and discuss our findings and draw a general conclusion in the end.

3.2. Study area and methodology

The methodology for this study is based on the review of existing literature on the concepts of spatial justice, land tenure security, and urban (re)development. As stated in the previous section, the city of Recife was selected for this study. It is the capital city of Pernambuco, located in the Northeast of Brazil, on the shores of the Atlantic Ocean. It is among the cities in the global South whose urban (re)development processes had been largely decried to flourish spatial injustices until the 1980s (Koster, 2019). In order to redress these injustices, political leaders and municipal authorities in Recife have been implementing urban (re)development schemes grounded on the aspirations of spatial justice since the 2000s (Friendly, 2013). These schemes are meant to integrate all urban dwellers in the urban space and promote their access to basic urban resources. They have been highly discussed in the urban (re)development literature on the Global South as instances of urban (re)development framework that promote the use and social value of land for all urban dwellers, in the realm of spatial justice (Friendly, 2013; Rolnik, 2014). This framework's aim was very inspiring so that other cities in Brazil and neighbouring countries introduced similar urban management approaches (Cities Alliance, 2010; Koster, 2019; National Forum for Urban Reform & Habitat International Coalition-Latin America, 2015). In Figure 7, we show the number of related publications that we retrieved during the literature search and discuss these changes in the management of urban spaces in the Global South and whose key element is spatial justice.

Figure 7: Retrieved references on inclusive urban (re)development schemes meant to promote spatial justice



Data source: Preliminary literature review

As Figure 7 shows, Recife records the highest citations in the retrieved references on these changes in the urban (re)development. It was, therefore, selected for our case study. As for the tenure security, there exist numerous studies on Recife, (such as studies carried out by de Souza (2001, 2004), Fernandes (2011a), Payne (2001, 2002)), which discuss this issue from its holistic perspective and its relationship with land and housing development incentives, which follow the passage of the new urban (re)development schemes in this city. However, these studies do not establish the connection between the security of tenure and the emergence, implementation and outcomes of these urban (re)development schemes. Thus, this chapter complements these studies, with a specific focus on how, in praxis and from the perspective of spatial justice, land tenure security has emerged from these schemes.

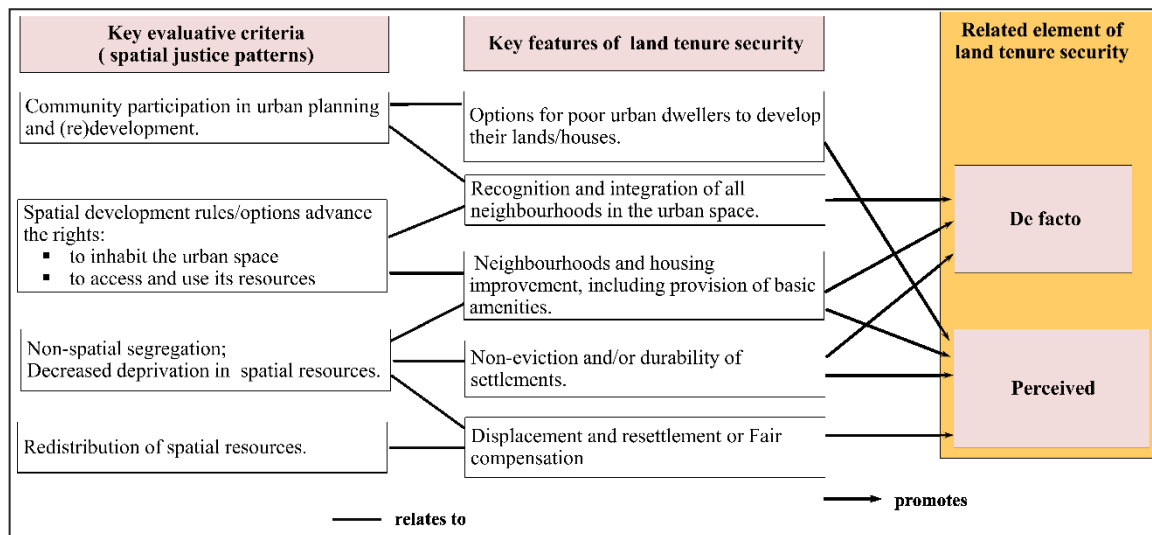
This research was conducted in three phases: preliminary desktop search, literature search and critical review. The research approach combines narrative analysis, meta-synthesis and abstraction modelling. The preliminary desktop search consisted of retrieving the existing publications within the grey literature on the three concepts of spatial justice, land tenure security and urban (re)development. Retrieved publications were skimmed to grasp the general meaning of these concepts, their contextual usages and inter-relationships. Thereafter, followed the formulation of the research questions and identification of the main topics consisting of the aspects of spatial justice and its relationship with land tenure security which are covered in this chapter. After identifying these topics, we selected the keywords used in the literature search. They include spatial, territorial and justice; Right to the City, equity or justice in urban (re)development and spatial planning; and land tenure security. The literature search retrieved various journal articles, scholar books and reports published on the topics related to urban (re)development and land tenure security. Others are edited books on spatial justice, the Right to the City and land tenure security. For the case study, we retrieved scientific papers and technical

reports which were produced by scholars and experts in urban (re)development, using empirical evidence, collected through the field surveys and observations. In total, 112 references, published from 1968 to date, were included in the review process. We selected them based on the preliminary review of 546 publications retrieved during the literature search. Their selection was based on the scrutiny of titles, a review of abstract, introduction, and conclusion. Initially, we were interested in references published from the 2000s. It is the time the question of spatial justice largely attracted the large academic audience (Fainstein, 2009; Lefebvre, 1996; Purcell, 2002). However, the preliminary review of the retrieved references on spatial justice and land tenure security revealed that some of them, which were published from the 1970s (and mainly from the 1990s) are significantly and frequently referred to in the recent literature. A subsequent search was therefore carried out, following a backward spider literature search, to retrieve them and include them in the review process.

After the literature search, a critical literature review based on the meta-synthesis approach was performed to derive findings. This was done through compiling, summarising, and synthesising arguments of spatial justice scholars (Walsh & Downe, 2005) into three specific themes: aspects of spatial justice, its claims, and the manner it is achieved. In the investigation of the potential of spatial justice to land tenure security, we relied on the narrative analysis and reciprocal syntheses (Noblit & Hare, 1999) of the 44 reviewed publications on this city. Among these publications, 18 relate to the discourse of spatial justice and changes in the urban management in Recife, 11 discuss the questions related to land tenure (in)security, while the remainder covers the topics related to spatial justice, the Right to the City, and land tenure security. We relied on them because they include published peer-reviewed papers, grounded on empirical qualitative and quantitative data collected in Recife, using the case study research design of the qualitative research approach (de Sousa, 1998; de Souza, 2001, 2004b; Fernandes, 2007, 2011a), the ethnographic method combining semi-structured in-depth interviews (de Vries, 2016b; Nuijten, 2013; Rolnik, 2014) and the edited reports, compiled from data collected by the international organisations such as the World Bank (2002, 2007), the UN-Habitat (2005, 2011), the National Forum for Urban Reform (2015), and the Global Platform for the Right to the City (2015) which document the implementation and outcomes of the new urban (re)development schemes in Recife.

During the literature review, the narrative analysis was combined with content analysis, to produce valid inferences derived from the retrieved literature in order to describe and quantify specific phenomena and establish relationships among them (Bengtsson, 2016; Downe-Wamboldt, 1992). Thus, it helped to establish connection between spatial justice patterns and features of land tenure security identified in Recife city, based on data compiled from this review. This connection was established based on criteria applied in evaluating the potential of spatial justice to land tenure security. These criteria include the increased consideration of the rights to land and housing for the poor urban dwellers, creation of urban (re)development options that permit these people to develop their lands or improve their dwellings, integration of marginalised areas and their inhabitants into the formal city, and their protection against eviction or displacement (Beyers, 2016; Chatterton, 2010; Fainstein, 2009). We used these criteria by combining the narrative analysis and meta-synthesis approach suggested by Noblit and Hare (1999, p. 111). Through this approach, we created the list of simple phrases, ideas and/or concepts and juxtaposed them in order to draw their relationships as Figure 8 shows.

Figure 8: Evaluation criteria of the connection between spatial justice and land tenure security



Developed based on Chatterton (2010), Fainstein (2014), Meng (2018), Noblit and Hare (1999), Payne (2002), UN-Habitat (2016), and United Nations Secretariat (2016).

In addition, we applied the abstraction modelling to establish the inter- and intra-connections between different aspects or elements of spatial justice and land tenure security (see Figure 10), through graphic representations, as described by Kotiadis and Robinson (2008).

3.3. Results and discussion

In this section, different conceptualisations of spatial justice in relation to the urban space management are presented and discussed firstly. These conceptualisations are distilled from the seminal works of the main proponents of spatial justice such as Dikeç (2009), Harvey (2009), Lefebvre (1996), Marcuse et al. (2009), Philippopoulos-Mihalopoulos (2011), Rawls (1999) and Soja et al. (2011). Secondly, the potential of spatial justice to land tenure security for the poor and low-income urban dwellers is explored and discussed using the experience of urban (re)development in Recife.

3.3.1. Main aspects of spatial justice

This chapter distinguishes four (4) aspects through which spatial justice is conceptualised, based on the meta-synthesis of the reviewed literature. They consist of the material aspect, conceived according to the tangible outcomes of urban (re)development programmes; the axiological aspect which relates to the underlying rules and processes whose implementation results in the material aspect; the ideological aspect standing for the emancipatory movements instilling the institutionalisation of these rules and processes (when they do not exist). It also denotes the epistemological aspect embracing the theoretical frames shedding light on how to develop and implement these rules and processes. These four aspects of spatial justice are discussed with focus on how the pursuit of spatial justice can counteract land resource deprivation and result in increased recognition of property rights for urban dwellers, and therefore advance their security of tenure.

3.3.1.1. Material aspect (physical manifestation of spatial justice)

This aspect of spatial justice refers to the tangible manifestation of justice in the physical space. It is the forefront claim of spatial justice (Lefebvre, 1996, p. 158). It has been conceived from a socio-spatial reasoning that requires a fair allocation of land resources or rights to use them, to all landowners or users within any geographical space (Dikeç, 2009; Soja, 2009). In the urban areas, spatial justice is materialised by the existence of diversified urban neighbourhoods and equality of access to other urban resources (Soja, 2009). Its unambiguous example is the organisation of the urban space into differentiated dwelling units, where diverse categories of urbanites inhabit and cohabit without spatial segregation (Goonewardena et al., 2008, p. 66). These dwellings can be produced through balanced social and spatial interactions between users of the urban space and government actors playing various roles in its management (Lefebvre, 1996, p. 101). The material aspect of spatial justice is not limited to the physical integration of all people in the city. It also embraces an arena for social and spatial practices, shaping the city and permitting its various dwellers to benefit from the outcomes of urban (re)development. It is therefore attained when no category of urban dwellers is excluded from the urban space and access to and/or use of its resources are not the privilege for some categories of these dwellers.

3.3.1.2. Axiological aspect

From an axiological point of view, spatial justice is a set of moral norms that should be observed in the management of any geographical space. This results in equity in access and/or use of spatial resources for all people (Soja, 2011). Actually, the axiological aspect stands for a set of rules and practices that are socially constructed and enforced to attain a fair allocation of urban resources or rights to use them (Marcuse, 2014). Embedded in the urban (re)development rules and its implementation processes, this aspect of spatial justice enhances the recognition and respect of individuals' rights to land and housing. It also promotes fair allocation of other material resources and social opportunities that are necessary for advancing the welfare of all urbanites (Lefebvre, 1996, pp. 102-103). Observing this aspect of spatial justice prevents property rights deprivation and tenure insecurity flourished by unjust spatial division of the urban space or discriminatory rules related to the use of land and other urban resources.

3.3.1.3. Ideological aspect (or spatial justice as slogan)

Spatial justice is conceptualised in an ideological sense. It designates a kind of emancipatory politics (Dikeç, 2001, p. 1788;1791) or a social movement and mobilisation synergies (Soja, 2009, p. 4) claiming for political actions for relinquishing all urban (re)development rules and practices resulting in land resource deprivation. This aspect of spatial justice inspires scholars, social and environmental activists to talk about space politically and/or politics spatially in order to confront the inequalities in the use or access of land resources. It can instil citizens' emancipation to claim for a fair distribution of these resources or resist against unlawful displacement from their properties (Chatterton, 2010). Inspired by this ideology, political leaders can adopt inclusive urban (re)development schemes that counteract spatial injustices flourished by the capitalist imperative of land deprivation that may turn into political struggles or fights (Dikeç, 2002). However, these leaders may not promote spatial justice from their good will per se (Lefebvre, 1996, pp. 236-237). Spatial justice can rather emanate from the public voices, claiming for the democratisation of the urban (re)development and restitution of rights to land and housing which have been for long denied to the urban dwellers, like those living in slums.

3.3.1.4. Epistemological aspect

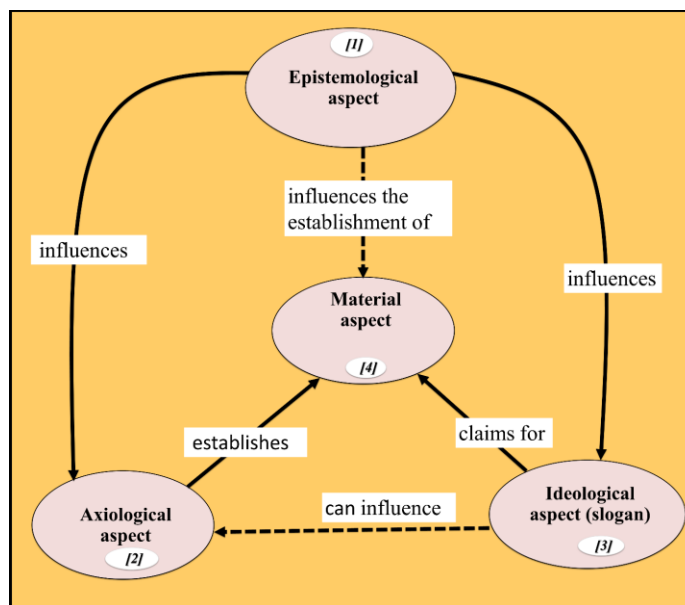
From an epistemological perspective, and by taking precedence to the Right to the City ideology, spatial justice is conceptualised as a kind of theory and academic debate (Dikeç, 2009; Marcuse, 2014). It is used in discussing problems relevant to the management of geographical spaces at different scales. In the urban areas, the epistemological aspect redresses deprivation in land and housing for poor, low-income and marginalised groups. They are people whose rights to these material resources are particularly undermined through the neoliberal urbanisation and interconnected gentrification processes (Anguelovski et al., 2019). On this account, advocates of spatial justice propose different logical frames including different forms and principles of spatial justice which can help in redressing spatial injustices (Philippopoulos-Mihalopoulos, 2011). If well applied, they result in the increased opportunities for poor and low-income urban dwellers to use their land or to have access to housing and other basic urban resources. Access and use of these resources is fundamental to the material aspect, because it confirms the relations between people and their properties. Therefore, land tenure security is directly connected to this material aspect of spatial justice (Uwayezu & de Vries, 2018). For tenure security to be enhanced, main forms and principles of spatial justice have to be embedded in the rules and processes (referred as to the axiological aspect, in this chapter) of urban (re)development (Beyers, 2016; Chatterton, 2010; Fainstein, 2009, 2014; Marcuse, 2014; Purcell, 2013). The main forms of spatial justice are procedural, recognitional and redistributive justice. They are applied in combination with some principles, consisting of community participation, equality of rights and opportunities, and compensation or reparation. We briefly discuss them as follows:

- i. Procedural justice is the main form of spatial justice entailing the appropriateness of rules and decision-making procedures in allocating land resources or rights to use them (Iveson, 2011). It endows an inclusive and participatory urban (re)development approach, based on collaboration between the local community and other involved actors. Through this collaboration, they can craft rules and devise land development options that meet basic needs of each category of landowners or users (Fainstein, 2014).
- ii. Meeting the aspirations of procedural justice involves the application of recognitional justice. This form of spatial justice demands for consideration of the use value of land and respect of land rights for poor and low-income people. It advances their inclusion in all processes of urban (re)development, through the increased observance of the principle of equality of rights (Fainstein, 2014; Purcell, 2013). Observing this principle while pursuing both procedural and recognitional justice counteracts all processes depriving poor and low-income urban dwellers of their properties (Uwayezu & de Vries, 2018).
- iii. Redistributive justice is a form of spatial justice appealing for the equality of opportunities in accessing land, housing and other urban resources. If pursued, actors in urban resources managements counteract the unfair socio-economic arrangements undermining the living conditions of poor and low-income urban dwellers (Fraser, 1995; Mattila, 2002). Pursuing redistributive justice opens up a range of options for promoting access to land and housing for these people (United Nations Secretariat, 2016). It can also help in arranging social and economic inequalities to their great benefits (Rawls, 1999).
- iv. Compensation or reparation is a spatial justice principle requiring a fair compensation or reparation measure for re-establishing individuals' properties rights, when they are infringed by different processes of urban (re)development (Barry, 1997; He & Sikor, 2015). Once actors in urban (re)development observe this principle, in combination with

recognitional and redistributive justice, they adopt a restorative approach to property deprivation. The affected people can therefore reconstitute their livelihoods.

The manifestation of the epistemological aspect of spatial justice in urban (re)development depends on how the involved actors pursue and abide by the above-mentioned forms and principles of spatial justice. If these actors effectively observe and apply these forms and principles of spatial justice, they promote the integration of all urban dwellers in the city. Thereupon, the security of tenure for poor and low-income dwellers can be enhanced. However, other aspects of spatial justice (axiological, ideological and material aspects) are not left out. Generally, all four aspects of spatial justice offer various approaches for curbing the deprivation of access to or use of urban resources for poor and low-income people (Fainstein, 2009, p. 4). They also promote land tenure security, through an increased sensitivity of urban (re) development schemes to these people’s rights to land and housing (Uwayezu & de Vries, 2018). As stated above, the security of tenure is manifested in the material aspect. This aspect is achieved through application of the above-mentioned forms and principles of spatial justice, if they are embodied in the epistemological aspect, through either the axiological or ideological aspects. This cycle, therefore, paves ways in which the material aspect is established or re-established, as Figure 9 shows.

Figure 9: Connections between different aspects of spatial justice



Data source: Meta-synthesis of the literature on spatial justice and conceptual modelling

Figure 9 displays the connection between the four aspects of spatial justice. The epistemological aspect [1] develops logical frames which shed lights on how to pursue spatial justice. When adopted by decision-makers, political leaders, and other actors in urban management, these logical frames can be incorporated in the urban (re)development schemes. These schemes actually correspond to the axiological aspect [2] of spatial justice. Their implementation result in the material aspect [4]. As stated above, if government actors in urban management do not establish urban development schemes which are spatially just (the axiological aspect), local community, civil society and other emancipatory movements can influence their establishment (the dash arrow in Figure 9) through the public plea or claim for changes in the urban space management. Thereafter, these claims become the drivers for the establishment of the material aspect [4]. This is echoed in Carpio et al. (2011, p. 5). They posit that when urban

(re)development schemes flourish spatial injustices, the ideological aspect [2] can instil citizen's movement which engages in the struggle against them and claims for the reinvigorated of spatial justice. This struggle opens the passage of new and inclusive urban (re)development schemes which promote equality of rights and opportunities in the access to land and housing for all urban dwellers. The result is the material aspect of spatial justice which is intrinsically realised through their spatial integration in the city. This spatial integration is the main driver for land tenure security for poor and low-income urban dwellers. In the next section, we explore how this happens using the experience of urban (re)development in Recife, Brazil.

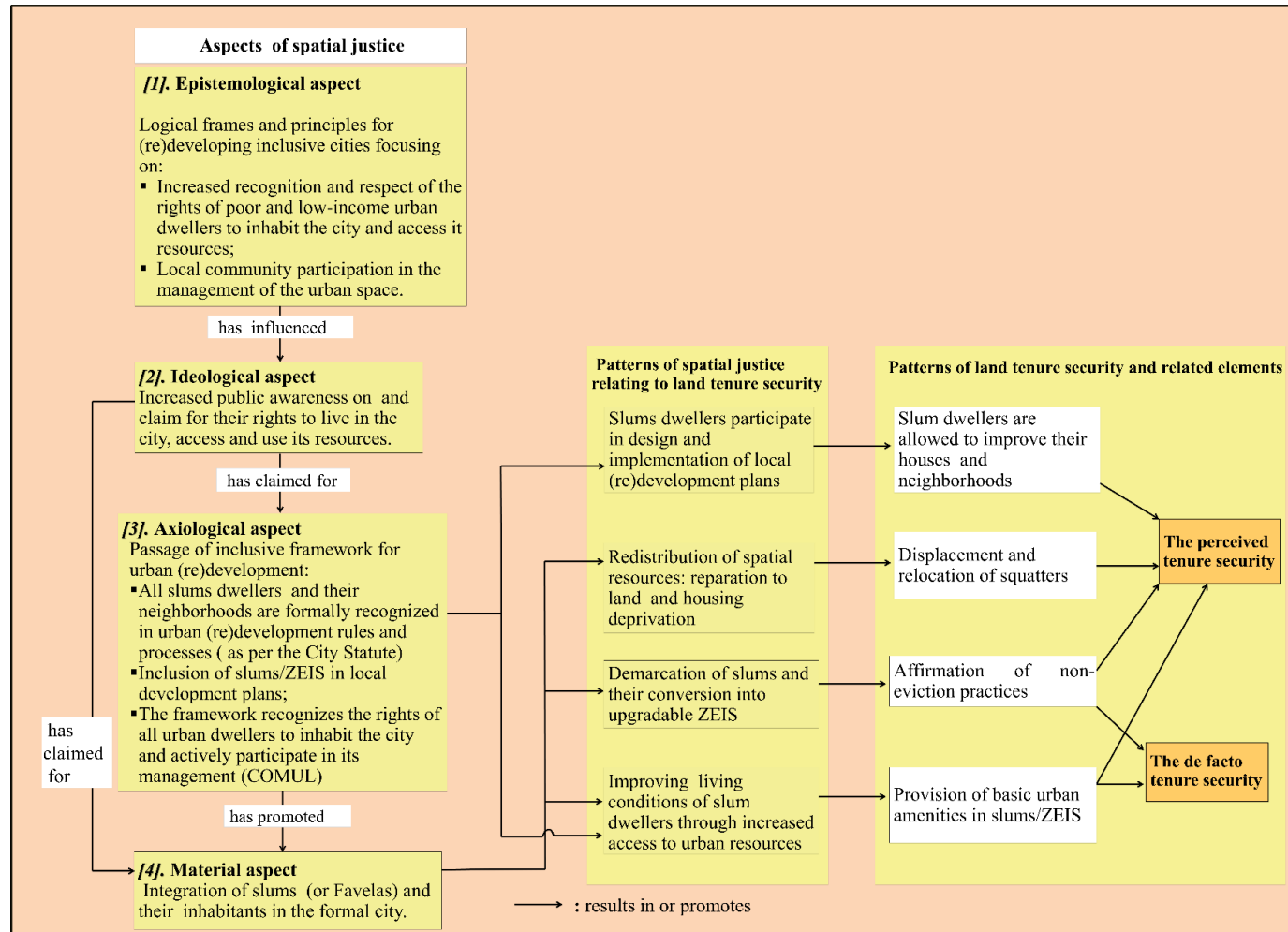
3.3.2. Potential of spatial justice to land tenure security: evidences from urban (re) development schemes in Recife

The promises of spatial justice grounded on its various aspects can serve as a new paradigm for promoting the security of tenure for all urban dwellers. Its potential to spur the security of tenure for poor and low-income inhabitants is explored from its embeddedness in rules and processes underlying the urban (re)development in Recife. From the 1940s, the spatial growth of this city was characterised by massive development of favelas. This was linked to the limited capacities of municipality to provide affordable and serviced residential land for all its inhabitants (Global Platform for the Right to the City, 2015; Nuijten, 2013). Poor and low-income people have therefore been developing their dwellings through informal land subdivisions outside of the planned areas and encroachment on public land, including the wetlands and coastlines (Monteiro & Carvalho, 2016). According to the Global Network on Energy for Sustainable Development (GNESD, 2013), 40 % of urban dwellers were living in favelas in 2000. Until the 1980s, these favelas were the segregated neighbourhoods, deprived of access to basic amenities and services (Koster & Nuijten, 2012). Concurrently, their inhabitants have been living under threats of eviction, perpetrated by the processes of converting favelas into rich and middle class residential neighbourhoods and the provision of basic urban infrastructure, which resulted in tenure insecurity. The literature discusses numerous related cases: Assies (1994, p. 122) mentions around 250,000 poor and low-income dwellers displaced from various urban neighbourhoods in Recife, from 1978 to 1981; da Silva and de Vries (2018) reported the displacement of 50 % of informal dwellers from Coque, a poor residential neighbourhood in the outskirts of Recife in the 1990s; The World Bank (2002, pp. 389-392) presents various attempts of evicting thousands of urban dwellers in the favelas of Bode, Borborema and Padre Jordano from the 1980s to the 1990s. Although these people confronted these evictions and resisted from their displacement, they were placed under insecure tenure until the emergence of the Brazilian urban reforms later in the 1980s, (Wolford, 2004; World Bank, 2002). These reforms were stirred up by the emancipatory urban reform movements comprising the Brazilian civil society, in collaboration with the "Fórum Nacional de Reforma Urbana" (National Urban Reform Forum or FNUR), composed of Brazilian scholars in urban planning and architecture, NGOs, religious groups and political organisations. They were decrying the neoliberal approach of urban management and called for changes in the related rules and processes (Cities Alliance, 2010; Global Platform for the Right to the City, 2015).

These urban reform movements converged into a form of special urban revolution which became a counterpoint to exclusionary urban (re)development regulations. Introduced by a technocratic and elitist urban planning, these regulations did not recognise the rights to land and housing for the favelas' dwellers (Holston, 2008), from which their insecurity of tenure flourished (Friendly, 2013). Their claims for developing inclusive cities emerged from the public consciousness about the general theory of spatial justice and the ideology of the Right to the City (Freitas, 2017), appealing for new urban (re)development schemes which grant rights to land, housing, and basic urban amenities for all urban dwellers (Rolnik, 2013). In the 1990s, these

social and popular rallying cries successfully influenced the institutionalisation of the democratic urban (re)development framework. The main pillar of this framework is the active participation of the local community in the urban space management (Friendly, 2013). Later in 2001, the passage of the City Statute legally confirmed this participation and rights of all urban dwellers to access and use urban resources. The City Statute is a federal law, advancing an inclusive urban (re)development that integrates all urban dwellers in the city, in accordance with spatial justice claim (Fernandes, 2011a; Freitas, 2017). This integration was driven by the increased consideration of the use value of the land in the new urban (re)development schemes. These schemes affirm land ownership for poor and low-income urban dwellers and provide them with opportunities to participate in the planning and (re)development of their neighbourhoods (Cities Alliance, 2010; Wampler, 2004). In Recife, the pioneering experiences of this new approach of urban (re)development consisted of upgrading favelas through their conversion into the ZEIS (“Zonas Especiais de Interesse Social” or Special Zone of Social Interest”). Public funds have been allocated in the development of these zones in order to promote access to basic urban amenities and services for their dwellers. At the same time, property owners have been granted the rights to improve their dwellings (Coy et al., 2018). One of the outcomes expected from these changes in urban (re)development is the security of tenure for the property owners in these ZEIS (de Souza, 2004b; Rolnik, 2013). In the next paragraphs, we present findings on how this has been possible. These findings are supported by Figure 10 below and discussed in the subsequent texts.

Figure 10: Potential of spatial justice to land tenure security in Recife



Developed based on Dikeç (2009), Harvey (2009), Lefebvre (1996), Nakamura (2016), Philippopoulos-Mihalopoulos (2011), Rawls (1999) Reerink and van Gelder (2010), van Gelder (2010) and conceptual modelling and meta-synthesis of the reviewed literature.

Figure 10 shows the connections between the four aspects of spatial justice identified in the current urban (re)development schemes in Recife and how they have complementarily promoted two elements of land tenure security: the perceived and the de facto tenure security. The connection between these aspects of spatial justice and land tenure security was established based on evaluative criteria presented in section 3.2 (Figure 8) and the narrative and meta-synthesis and content analysis of the reviewed literature. The manner the pursuit of spatial justice has resulted in the security of tenure for poor and low-income urban dwellers is discussed as follows:

[1]. As previously mentioned, the starting point was the emergence of the urban reform movements' ideas and proposals for developing non-exclusive city. This relates to the epistemological aspect of spatial justice which is the main driver for changes in rules and processes of urban (re)development in Recife. This aspect of spatial justice surged in the 1970s, following the publications of these proposals for new approaches of urban (re)development which integrates all categories of urban dwellers. These proposals were elaborated by the urban reform movements, whose main objective was to confront the social-spatial marginalisation that has been flourishing urban inequalities and deprivation of poor and low-income urban dwellers from access and use of land (UN-Habitat, 2005). This objective was inspired by the ideas of spatial justice theorists, such as Lefebvre (1968) who advocates for breaking the existing structures of capitalist urban management and establishment of participatory and inclusive approach of urban space development, which respects the basic rights of every urbanite. By the same token, these urban reform movements in Recife claimed for spatial justice in the urban governance, consisting of a participatory and inclusive urban (re)development approach that recognises the rights to land and housing, and basic urban infrastructure and services for all urban dwellers (UN-Habitat, 2005). In the view of Purcell (2013, p. 568), tenure security is embedded in this spatial justice claim, since the aspirations of developing inclusive city and promoting access to urban amenities and services for all people cannot be attained if their rights to hold their properties (land and dwellings) are not recognised and enforced.

[2]. From these calls for change in urban (re)development, which embrace the epistemological aspect of spatial justice, emerged the ideological aspect that consisted of public appeal reiterating the passage of new urban (re)development regulations which promote the integration of all urban inhabitants in the city and respect their properties rights. In fact, from 1980, the above-mentioned urban reform movements' proposals for new approach of urban (re)development culminated into public awareness on the equality of rights for all people to inhabit the city and access its basic resources. This incited different categories of urban dwellers to join these urban reform movements in the emancipation for promoting inclusive cities. They claimed for the integration of poor and low-income people in the city, the recognition of their rights to land and housing and the provision of basic urban amenities in all urban neighbourhoods (Fernandes, 2011a; Rolnik, 2013). Some of the spatial justice scholars find this public appeal as one way of struggles which confront all forms of spatial injustices depriving some categories of urban dwellers of their rights to the basic urban resources

(Lefebvre, 1996, p. 195). They contend that it is also one of the practical approaches to introduce the legal pluralism within the existing centralised system and to break it into a democratic and centralised system of urban management (Fainstein, 2014; Lefebvre, 1991, p. 382), which became the reality in the city of Recife, since the end of the 2000s.

[3]. In Recife city, the democratisation of the urban management started in 2001, when the federal government and municipal leaders adopted the new urban (re)development schemes in regard to the above-mentioned public claim (Global Platform for the Right to the City, 2015). These schemes articulate the provisions of the City Statute previously passed out and endorsed by the central government. These provisions include the establishment of a democratic management of the urban space, based on new urban policies established through urban councils and community meetings whose inputs are therein incorporated. The members of the national urban forum which are the main instigators of the City Statute and changes in urban management policies are also members of the city councils (UN-Habitat, 2005, p. 40). These schemes, established through community consultation stand for the axiological aspect of spatial justice, which actually opened up the room for the democratisation of the urban space management. They recognise the rights of all urban dwellers to live in the city and integrate their respective neighbourhoods in all processes of urban (re)development (Fernandes, 2011a; Friendly, 2013). Following this democratisation processes in urban (re)development, decision makers and municipal authorities started to collaborate with urban dwellers in making decisions regarding the use of urban space, designing and implementing the related plans. The literature on these changes in the management of Recife city finds this collaborative urban planning and development as the core substratum for the security of tenure for poor and low-income people. As Rolnik (2014) argues, the designed plans consisted of protecting the local community against eviction since they were aligned with the needs for their integration in the city and improving their neighbourhoods.

[4]. The tangible outcome deriving from the implementation of these schemes is the integration of favelas in the formal city, which is connected to the material aspect of spatial justice in Figure 10. This aspect arises from the recognition of favelas by the current urban (re)development schemes and their integration in the formal city, in the form of ZEIS. This integration has been coupled with the provision of the basic urban amenities (water, electricity, waste management systems, roads and transport services, education and health facilities) in order to improve the living conditions of inhabitants of these areas (Fernandes, 2011b). Land tenure security for slums dwellers has therefore been affirmed by this integration, as discussed in the next paragraphs.

Along this cycle of changes in the (re)development of Recife, the axiological and material aspects of spatial justice have been the ultimate drivers for land tenure security. Table 3 shows the connections between these aspects, forms and principles of spatial justice discussed in section 3.1 and the emerging elements of land tenure security.

Table 3: Elements of land tenure security emerging from inclusive urban (re)development schemes in Recife

Aspect of spatial justice	Related form or principle of spatial justice	Drivers for land tenure security	Related elements of land tenure security	References
Axiological aspect	Procedural justice: - Rules and processes of urban (re)development are inclusive and crafted in a participatory manner.	- Designed local spatial development plan are aligned with needs for improving favelas; - Favelas' dwellers are allowed to improve their dwellings.	The perceived tenure security - Perceptions on the acceptance of their dwellings in the city.	(de Souza, 2001, 2004a, 2004b; Fernandes, 2011b; Lall et al., 2009; Lincoln Institute, 2000; Rolnik, 2014; Wampler, 2004)
	Recognitional and redistributive justice; equality of rights and opportunities: - Rules and processes for urban (re)development promote the access to basic urban amenities for favelas' dwellers. -Non-discrimination in the allocation of urban amenities.	- Provision of basic urban amenities in favelas	The de facto and the Perceived tenure security - Recognition of favelas (in urban (re)development plans) as parts of the city.	(Coy et al., 2018; Fernandes, 2011b; Global Platform for the Right to the City, 2015; GNESD, 2013; UN-Habitat, 2005; Wampler, 2004)
Material aspect	Recognitional justice: - The implementation practices of the urban (re)development rules and processes recognise favelas as parts of the formal city.	- Physical demarcation of favelas and their conversion into upgradable ZEIS.	The de facto tenure security - Actual affirmation of non-clearance of the favelas.	(Cities Alliance, 2010; Coy et al., 2018; de Souza, 2001, 2004b; de Vries, 2016b; Fernández de Córdova et al., 2016).
	Recognitional and redistributive justice: - Recognition of the rights to urban resources for the poor urban dwellers and remedy to resources deprivation.	- Resettlement of squatters into serviced sites.	The perceived tenure security - Perceptions on non-eviction risks in the new settlements.	(de Vries, 2016a, 2016b; Donaghy, 2013; Nuijten, 2013; World Bank, 2007)

Table 3 shows that the passage of the inclusive urban (re)development schemes (reflected in the axiological aspect of spatial justice) is the most immediate driver for land tenure security in Recife. These schemes opened up new directions of urban (re)development through which favelas' dwellers actively participate in making decisions related to the (re)development of their neighbourhoods. As Fainstein (2009) and Fraser (2001) argue, participation of the users of spatial resources is an important condition for recognising their rights to these resources and a mechanism to preclude resource deprivation through redistributive justice. Furthermore, Fainstein (2009), Soja (2009), and Fraser (2001) posit that recognition, which spurs redistribution, cannot be effectively attained if the local community is not fully engaged in urban management. As indicated in Figure 10, this claim of spatial justice was pursued in the management of Recife city, through the participation of favelas' dwellers in the design and implementation of local development plans. The community participation, which embraces procedural justice (as indicated in Figure 10 and Table 3) was enhanced through the creation of urban regularisation commission named COMUL (Comissões de Urbanização e Legalização or the Urbanization and Legalization Commission) comprising municipality technical staff, professionals from the local NGOs, local government authorities, and lawyers to prepare and implement the local urban upgrading plans (Lincoln Institute, 2000). The designed plans are aligned with the needs for improving the physical conditions of their neighbourhoods and dwellings, through the combination of recognitional and redistributive justice (as indicated in Table 3). These forms of spatial justice attend to the recognition and respect of basic rights of all members of the society and equal distribution of material resources and other social opportunities to promote their welfare (Lefebvre, 1996).

The local community engagement in urban management has been extended to participatory budgeting consisting of defining priorities and objectives related to this upgrading process and ensuring that none of the poor urban neighbourhoods receives greater resources than others or is left out (Donaghy, 2013; World Bank, 2007). From the perspective of spatial justice, participatory budgeting approach is consistent with its recognitional and redistributive forms which appeal for balancing resources allocation based on the needs of each neighbourhoods and their inhabitants (World Bank, 2007, p. 37). In Recife city, this process involves the local community mobilisation and partnerships with government agencies and private sector in rising funds required for the development of the planned infrastructure and services (World Bank, 2002, p. 389). Yet, the local community has been collaborating with the NGOs, civil society, and volunteers and implemented various projects related to the provision of these infrastructure and services (Assies, 1994; da Silva & de Vries, 2018; Inter-American Development Bank, 2016; World Bank, 2002).

This enclosure of community participation has been enhanced overtime: the number of participants increased from 30,000 people in 1996 to 69,500 people in 2003 in different neighbourhoods of Recife (World Bank, 2007, p. 34), and reached 80,000 participants in 2008 (Donaghy, 2013, p. 126). The participatory urban (re)development approach adopted in this city has also had other benefits on the individuals' land rights and tenure security. The local community has been able to collaborate with the municipality and the civil society in

identifying families whose properties are affected by the implementation of the planned activities so that they could ensure that these families are resettled (Donaghy, 2013; UN-Habitat, 2005; World Bank, 2007). This affirmed the conviction of municipal leaders to abide by the spatial justice claim for the promotion of the urban space co-production approach, which permits these urban dwellers to express their needs, take part in the management of their respective living spaces and prevent resources deprivation among them (Fainstein, 2014; Lefebvre, 1991; Rawls, 1999). In describing this inclusive urban management approach, de Souza de Sousa (1998) and Payne (2001), state that participatory planning has culminated in increased feelings of poor and low-income dwellers (favelas' inhabitants) on their inclusion in the city and become the flavour for land tenure security.

At this stage of urban planning, the emergence of security of tenure was connected to the compliance with the City Statute by the municipality leaders and urban planners. This legal document recommends the recognition and respect of the rights of the informal settlers to their houses and land, when designing and implementing the local (re)development plan (UN-Habitat, 2005, p. 39), in which the axiological aspect is embedded as Figure 9 shows. This concurs with de Souza (2001, 2004b) and Fernandes (2011a) who contend that the legal recognition of informal settlers' property rights in the process of planning has been a driver for the perceived tenure security. By the same token, Friendly (2013), highlights the role of the City Statute in promoting equality in access to material resources, since it grants the informal urban dwellers the rights to basic urban amenities alongside the implementation of these local development plans. All these promises exhibit different aspects of spatial justice, reflected in the increased recognition of the favelas as part of the city, which flows to redistributive justice (Fraser, 1995), materialised by the provision of basic urban amenities (which are parts of material aspect of spatial justice) in these poor urban neighbourhoods. The connection between this material aspect of spatial justice and land tenure security was established by making reference to Payne (2001, 2002) and de Souza (2001, 2004b) who argued that the political recognition of favelas as part of the city and the provision of basic urban amenities to their dwellers has been the factor for the de facto tenure security. As illustrated in Figure 10 and Table 3, this form of tenure security has been practically promoted through the conversion of favelas into the ZEIS, which received much political attention and attracted various financial resources in the realm of improving the living conditions of dwellers of these zones. This concurs with the arguments of spatial justice scholars such as Soja (2010a) and Lefebvre (1991) who contend that changes in legal and spatial structures through various urban funding schemes can result in decreased inequalities and increased integration of all urban dwellers in the city, and therefore become approaches for establishing the material aspect of spatial justice.

Actually, these ZEIS created in the pursuit of the material aspect of spatial justice, in combination with recognitional justice (Coy et al., 2018), confirmed the integration of favelas and their inhabitants in the urban fabric (Kainara Lira dos & Norma, 2015). Therefore, they become another driver for both the perceived and the de facto tenure security. Putting it forward, Fernandes (2011b), the Lincoln Institute (2000), and the UN-Habitat (2005, pp. 42-43) maintained that the state and local government created these ZEIS in a bid to protect their

dwellers against the eviction that could be driven by the speculative private investments. In the actual meaning of tenure security, denoting the protection of property owners against forced displacement, Fernandes (2011a) posits that these ZEIS constitute an incontrovertible driver for both the de facto and the perceived tenure security, which counteract the existing processes of forced eviction. When describing how the ZEIS resulted in increased perceived tenure security, de Souza (2001, 2004b) contends that it is associated with local community feelings that they would not be evicted from the consolidated and upgraded neighbourhoods. The similar proxy of perceived tenure security is reported by da Silva and de Vries (2018), based on household surveys during which the local community in the Comunidade do Pina expressed their feelings about decreased risks of eviction, as a result of neighbourhood upgrading. As noted by the World Bank (2002, pp. 383-385), these perceptions about decreased risks of evictions have increasingly emerged into community incentive to improve their dwellings. It is worth noting that housing improvement in poor and low-income neighbourhoods is connected to the increasing feelings about the security of tenure, since their dwellers perceive little likelihood of eviction (Payne, 2002; van Gelder, 2010).

As shown in Figure 10, these elements of tenure security (the perceived and the de facto) emerging from the creation of the ZEIS also bear with the other tenet of the material aspect of spatial justice that consisted of re-establishing the rights to land and housing for the displaced informal dwellers through their resettlement in other areas. Their resettlement (as a form of reparation to material resource deprivation) followed the demolition of their dwellings because they were located in the environmental preservation zones or areas designed for the provision of basic infrastructure such as transportation and drainage networks (de Vries, 2016a, 2016b; Nuijten, 2013; World Bank, 2007). As reported by Klink and Denaldi (2016) and Koster (2019), the resettlement of these people deems some features of redistributive justice through restitution of their rights to housing and access to basic urban amenities in the new settlement. In reporting stories compiled through their interviews with the urban dwellers relocated during this process, Koster (2019), Nuijten (2013), maintained that their resettlement is acclaimed to promote the perceived tenure security in connection of positive feelings about the permanency of their settlements. Similar feelings are attached to the perceived tenure security by de Souza (2004a) in his surveys about the outcomes of these resettlements, undertaken during the implementation of the ZEIS programmes. Though, this displacement-resettlement process is prevalent in the land tenure literature and deemed as potential driver for the perceived tenure security (Payne, 2004; UN-Habitat, 2008; van Gelder, 2010), they are also features of spatial justice, with respect to its redistributive aspect as shown in Figure 10. These processes affirm the connection between spatial justice and the perceived tenure security, more specifically through the re-establishment of individuals' rights to land, in the pursuit of the material aspect of spatial justice, enabled by its recognitional and distributive forms (Fraser, 1995; Rawls, 1999).

Generally, the passage of inclusive urban (re)development schemes, adopted and implemented through local community participation approach, is the main avenue through which the security of tenure for poor and low-income dwellers in Recife has been advanced. These

schemes also provide comprehensive guidelines for the regularisation of land rights through land titling, from which *de jure* tenure security for the dwellers of the upgraded slums has emerged (Fernandes, 2007; Friendly, 2013; Macedo, 2008). However, this element of land tenure security is out of the scope of this chapter as mentioned in the introduction. The connection of spatial justice to land tenure security has uniquely been ascertained from the perspective of socio-spatial integration of all urban dwellers in the urban space.

3.4. Conclusion

Contrary to the general submission of participatory and communicative planning scholars who expect political leaders or urban planners to be the key actors in promoting spatial justice in the urban space management (Alexander, 2002; Booher, 2004; Campbell & Marshall, 1999; Campbell & Marshall, 2006), this chapter provides substance to the arguments of notable scholars of spatial justice such as Harvey (2008, 2009), Lefebvre (1991, 1996), Rawls (1999), Soja (2009, 2010b) who contend that establishing spatial justice alongside the management of any urban space does not generally come from the good will of these actors (as mentioned in section 3.1.4). As submitted by the later, spatial justice generally emanates from the emancipatory movements or community struggles for establishing inclusive rules and processes of urban (re)development that recognise all people rights to basic urban resources and prevent resources deprivation for the least advantaged people in the society. This chapter relied on the experience of changes in urban management in Recife city to offer practical narrative about the relevance of these theoretical arguments, with a specific focus on land tenure security. Therefore, it contributes to the academic knowledge in two ways: linking the theory of spatial justice with the practical experiences and demonstrating the connection between spatial justice and land tenure security.

First, this chapter has discussed spatial justice in its various aspects: epistemological (1), axiological (2), ideological (3) and material grounding (4) which have been complementarily applied in the sake of changes in the urban (re)development which promote the integration of all categories of urban dwellers. Based on the inter-connections between these aspects of spatial justice, established in section 3.1 (and Figure 9) of this chapter, we have demonstrated how changes in the management of Recife city have been pursued and become drivers for land tenure security. The epistemological aspect of spatial justice, consisting of scholars' ideas and logical frames on how to craft inclusive urban (re)development schemes is at the forefront of these changes. It inspired the urban reform movements to develop propositions and claim for changes in the rules and processes related to urban space management by decrying the existing system of urban management which was oppressing and exclusionary. As stated in this chapter, these movements and the local community engaged the struggles, which relate to the ideological aspect of spatial justice, to claim for the establishment of inclusive urban management rules, crafted and implemented in a participatory manner. Following these claims or emancipations, political leaders and municipal authorities passed out the inclusive urban (re)development schemes which exhibit the axiological aspect of spatial justice. At the

forefront is the City Statute, adopted in 2001, which became the legal binding, instilling all municipal leaders to make changes in the urban management. These changes include the formal recognition of the rights to land and housing for all dwellers of favelas, which have been recognised by this law as parts of the city, through their conversion into the ZEIS. These ZEIS actually reflect the material aspect of spatial justice, which affirms the formal integration of their dwellers in Recife city. This City Statute also entitles dwellers of these ZEIS the rights to participate in the management of the urban space, and thus introduces a participatory approach of urban planning and (re)development. The participation of these people in the processes of urban planning resulted in the design of local (re)development plans which are aligned with their needs. From the perspective of spatial justice, whose aspirations include the active engagement of the urban dwellers in the management of their city, from rules making to their implementation, in order to prevent socio-spatial segregation and deprivation of access to basic urban resources, the participatory approach of urban (re)development has been a key element in attaining this aspiration. In Recife city, all dwellers of ZEIS have been involved in the planning processes and implementation of the local plans, meant to promote their access to basic urban amenities and improve their dwellings. These plans include also the relocation options for people displaced through the implementation of these plans. Access to these basic urban amenities and relocation of the displaced people constitute another feature of this material aspect of spatial justice in this case study.

Second, this chapter has established the connection between these aspects of spatial justice and land tenure security, namely the perceived and the facto tenure security elements. The existing literature acknowledges the legal recognition of poor and low-income urban dwellers' land rights which prevents their eviction, the provision of basic urban infrastructure and services in their neighbourhoods, their relocation if they are forcibly displaced alongside the implementation of urban development projects, and their involvement in the urban planning and (re)development processes, among the factors that tandemly advance these elements of tenure security (Payne, 2001, 2002; UN-Habitat, 2008, 2011; van Gelder, 2010; Williamson et al., 2010). Yet, these factors have been identified from the current rules and processes of urban (re)development in Recife, which resulted from the struggle for establishing spatial justice in the management of this city. The chapter has therefore proved that these elements of security can originate from the processes of urban (re)development grounded on spatial justice claim. The perceived and the de facto tenure security has firstly emerged from the institutionalisation of new urban (re)development rules, comprising the City Statute which guarantees the rights to land for all dwellers of the favelas and the local development plans, which demarcate these favelas in the forms of ZEIS and entitle their dwellers the legal protection against eviction. Simply put, both the City Statute and the local development plans (connected to the axiological aspect of spatial justice) grant this legal protection for ZEIS dwellers, from which have both the perceived and the facto tenure security emerged. Other main driver for the perceived and the de facto tenure security is the creation of these ZEIS and the provision of basic urban amenities into these areas and the resettlement of people displaced through the implementation of the local development plans, which is directly connected to material aspect of spatial justice. This spatial justice aspect has been a key element that confirms the

integration of the ZEIS dwellers and the resettled people into the urban fabric and promotes their access to basic urban amenities. Though, the axiological and material aspects of spatial justice are directly connected to land tenure security as parts of the outcomes of changes in the urban management in Recife, the epistemological and ideological aspects cannot be dissociated from this security of tenure, since they are the building stones for these axiological and material aspects.

Based on these highlights, this study concludes that changes in the urban management (from the exclusive to inclusive urban (re)development schemes) which are grounded on claims of spatial justice promote the security of tenure for poor and low-income urban dwellers. In this case of Recife city, the public, through the urban reform movements and the local community emancipation, is the main actor for these changes. However, this study does not confirm that the experiences of Recife city, more specifically the emancipatory approach, is the unique way to pursue spatial justice in the urban (re)development. Promoting spatial justice and attaining its aspirations can depend on the existing systems of urban management and the strategies that the involved actors and urban dwellers may choose. Therefore, evaluating these trends within any city requires a study which can be context-specific focused. It is also worth noting that spatial justice claim covers different domains of human life within any geographic space. Therefore, this chapter suggests other studies, applying the framework of spatial justice, that can assess other aspects of urban (re)development which are not discussed therein. Some of them may consist of exploring spatial justice trends in the provision of basic urban amenities and services in the ZEIS created alongside urban (re)development in Recife city. Other can consist of developing the analytical framework for the assessment of trends of spatial justice and land tenure security alongside the urban (re)development processes in cities of developing countries. This need is addressed in the next chapter.

Chapter 4: Indicators for measuring spatial justice and land tenure security for poor and low-income urban dwellers⁴

Abstract

There exist various indicators that measure land tenure security for urbanites. Most of those indicators measure the degree to which land titling promotes the security of tenure. Based on the reviewed literature, it is admitted that land titling is not a panacea to land tenure security. Measuring the degree of land tenure security should not rely only on the legalisation of landownership. This chapter applies a meta-analysis and conceptual modelling to connect spatial justice and land tenure security. It discusses the potential of inclusive urban development grounded on the claim that spatial justice enhances land tenure security. A comprehensive framework of indicators which can measure the degree of land tenure security from a spatial justice lens is thereafter derived. The meta-analysis and conceptual modelling were coupled with the research synthesis to perform an in-depth review and qualitative content analysis of the literature on concepts of spatial justice, land tenure security, and urban (re)development processes. This study proposes 60 indicators which measure the degree of spatial justice and land tenure security along a continuum of spatial justice and land tenure security. These indicators provide a more holistic approach for measuring land tenure security from a spatial justice lens than the separated sets of existing indicators.

Keywords: urban (re)development; poor and low-income groups; urban dwellers; spatial justice; land tenure security

4.1. Introduction

Urban redevelopment and regeneration are spatial development processes that consist of revitalising or reorganising cities that are declining or have been developed without compliance to modern principles of spatial planning in order to create new and futuristic cities (Pritchett, 2003; Zheng, Shen, & Wang, 2014). The main features of urban (re)development and regeneration include the clearance and/or upgrading of slums and declining areas, housing renewal, and the development of new structures, including public amenities (Zheng, Shen, Song, Sun, & Hong, 2016; Zheng et al., 2014). Other actions consist of extending urbanised areas into urban fringes through the development of new zoning rules and the conversion of agriculture lands into other types of land use, such as residential and commercial. When those processes are undertaken following a neoliberalisation paradigm they result in spatial injustices. These injustices perpetrate land tenure insecurity for some categories of urbanites, such as the poor and the low-income groups, under different systems of land tenure. Those people are excluded from the city and deprived of the opportunities to use their real properties through unfair compensation or forced sale that leads to the concentration of land resources into the hands of rich people (Harvey, 2008; UNESCO & Un-Habitat, 2006). Any attempt to mitigate such land tenure insecurity can promote spatial justice, which is a crucial opponent of just urban development (Gutwald, Leßmann, Masson, & Rauschmayer, 2014).

⁴ This chapter is based on a published paper: Uwayezu, E. and de Vries, W.T., Indicators for Measuring Spatial Justice and Land Tenure Security for Poor and Low-Income Urban Dwellers, *Land* 2018, 7(3), 84; <https://doi.org/10.3390/land7030084>

The concept of spatial justice originates from the conceptualisation of social justice into space. Spatial justice is referred as to “justice into the physical space” to denote a just distribution of spatial resources within and across geographical spaces ranging from dwelling units, villages, cities, regions, nation-states, and continents to the whole globe (Gutwald et al., 2014; Soja, 2010). The connection between social justice and space is largely debated in the seminal work “Social Justice and the City” of Harvey (1973) who distilled that connection within rules, processes, and outcomes of urban organisation and development. From a social justice discourse, spatial justice entails the respect of fundamental human rights for all people within a society. It also entails the promotion of inclusive spatial development in order to reduce economic inequalities and social polarisation which is driven by the neoliberalisation of urban development (Soja, 2009). The pursuit of spatial justice can be attained if the organisation of space and allocation of its resources abide to the principles of equity and respect of human rights (Pirie, 1983; Smith, 1994, 2000; Soja, 2010). However, spatial justice is not a substitute for social justice (Soja, 2010). It is a form of justice which is based on compliance with the principles of social justice in the allocation of spatial resources. It also includes the development and implementation of spatial development rules that provide all categories of people with the options or opportunities to use those resources (Fainstein, 2009, 2014; Ferrari, 2012; Soja, 2009; Tonon, 2016). Within the context of land management, Lall, Freire, Yuen, Rajack, and Helluin (2009) argue that social justice has to be entrenched into societal rules so that the rights of all categories of citizens to own or use land resources can be granted. This argument is inscribed in the framework of promoting the Right to the City which is the analogous⁵ conceptualisation of spatial justice across the city (Fainstein, 2014; Iveson, 2011; Lefebvre, 1968; Soja, 2010). The Right to the City encompasses two main metrics: participation and appropriation. Participation embraces the active involvement of all urban dwellers in making decisions and implementing strategies that contribute to the development of urban space. Appropriation includes the actual right of urbanites to access, occupy, habit, and use the urban space so that they can pursue their livelihoods and actually participate in the production of the urban space (Lefebvre, 1968, 1991). A common aspect to those metrics is the equality of opportunities for all people to access or use spatial resources, including the land (Chatterton, 2010; Harvey, 1992; Njoh, 2013). It also includes the respect and protection of rights to land and housing for all people, regardless of their social and economic status (United Nations Secretariat, 2016).

The emphasis is put on redressing the exclusion and advancing the inclusion of poor and low-income groups in the processes of spatial development (Nel, 2016; Picard, Buss, Seybolt, & Lelei, 2015). In other words, spatial justice claims for the respect and protection of the rights of those people to land (Harvey, 2003; Purcell, 2003). This increases the tenure security for the owners or the users of the land under any system of land tenure. This is very crucial for all people, including the poor and low-income groups, to improve their livelihoods (Caldieron, 2013; de Souza, 2001). They can, therefore, be protected against arbitrary eviction from their homes and working places (UN-Habitat, 2008, 2011). The existing literature distinguishes three types of land tenure security: legal (or *de jure*), *de facto*, and perceived security (Simbizi, Bennett, & Zevenbergen, 2014; Van Asperen & Zevenbergen, 2007; van Gelder, 2009). The relations between those three types of land tenure security are discussed and established in further sections of this chapter. In the contemporary literature, there are several indicators that measure *de jure* and *perceived* tenure security (Deininger, Selod, & Burns, 2012; Simbizi, 2016). The development of these indicators relies on a conviction that effective land administration systems and land titling are catalysts to land tenure security. However, having a landownership title is not necessarily a panacea for tenure security (Njoh, 2013). In most of the world’s cities,

⁵ This chapter discusses spatial justice in a similar way as the Right to the city.

land tenure insecurity still prevails. It affects the land rights of the owners or users of land resources when those rights are not respected in the framework of reorganisation and development of the urban space. In the current urban development agenda, the United Nations Secretariat (2016), the UNESCO, and Un-Habitat (2009) stress the need for pursuing spatial justice in all aspects of urban (re)development in order to prevent all forms of spatial injustices that can escalate resources deprivation or fuel land tenure insecurity (Dikeç, 2009; Marcuse, 2010). They urge urban authorities and planners to protect the rights of all urban dwellers to land resources and housing regardless of their tenure systems. Following the world charter on the Right to the City (Oomen, Davis, & Grigolo, 2016), most of the world's countries have been implementing a global agenda for human rights in the city since 2012.

The envisioned goals include the promotion of access to decent housing and the protection of people's rights to land (Committee on Social Inclusion, 2012). There are numerous instances where political leaders, decision-makers, and urban planners have been attempting those actions, such as in Latina America (Edésio, 2007; Fernandes, 2007), Europe, Asia, and Africa (Beysers, 2016; Chapman, 2015; Galuszka, 2014; National Forum for Urban Reform (FNRU) & Habitat International Coalition-Latin America 2015; Puketapu-Dentice, Connelly, & Thompson-Fawcett, 2017; van den Nouwelant, Davison, Gurran, Pinnegar, & Randolph, 2015; Vilar & Cartes, 2016). These actions are embedded in the promotion of the Right to the City (United Nations Secretariat, 2016). However, they can be complex and undertaken within an arena of interactions between people and space which either reinforces certain deliberate actions or hides others. In this line, the global agenda to the development of inclusive cities calls for a continuous evaluation of progress in the promotion of the Right to the City. The existing evaluation framework focuses on the promotion of access to urban amenities and sustainable development from an environment perspective (Committee on Social Inclusion, 2012). There are no specific frameworks for the evaluation of this progress with a focus on the promotion of land tenure security. It is worth noting that such security is the basic condition for urbanites to enjoy the benefits that accrue from sustainable urban development (UN-Habitat, 2008). There is therefore a need for developing a comprehensive and holistic set of measurement tools or indicators that can evaluate if contemporary urban (re)development programmes are responsive to the claims of spatial justice.

In view of that need, the main aim of this chapter is to develop spatial justice indicators that can be applied to evaluate if urban (re)development approaches and options deliver spatial justice and promote land tenure security especially for poor and low-income urban dwellers. The concern for land tenure security for those categories of people is pertinent. The poor are most affected by the vicious effects of spatial injustices which displace them from their land properties (Marcuse, 2010; Soja, 2010). The proposed spatial justice indicators can be useful for scholars, urban planners, decision-makers, and various organisations interested in urban (re)development. Those include the United Nations and Un-Habitat, who are interested in monitoring the progress towards the development of inclusive cities and the promotion of land tenure security from a Right to the City lens (UN-Habitat, 2010; United Nations Secretariat, 2016). As the security of tenure is of paramount importance for the access to or use of other urban resources (Ferrari, 2012; UN-Habitat, 2008), the contribution of this chapter is to develop indicators that address access, ownership, and use of land and related assets, including the basic urban amenities. Prior to the development of those indicators, it is worth distilling different forms of spatial justice from contemporary approaches to and options for urban (re)development as it is relevant to link them to those indicators. Our research questions are therefore formulated as follows: Which urban (re)development approaches and options aim to deliver spatial justice and promote land tenure security? How do they deliver spatial justice and tenure security in practice? Which indicators measure spatial justice and land tenure security in the course of urban (re)development? After the research methodology, the chapter discusses

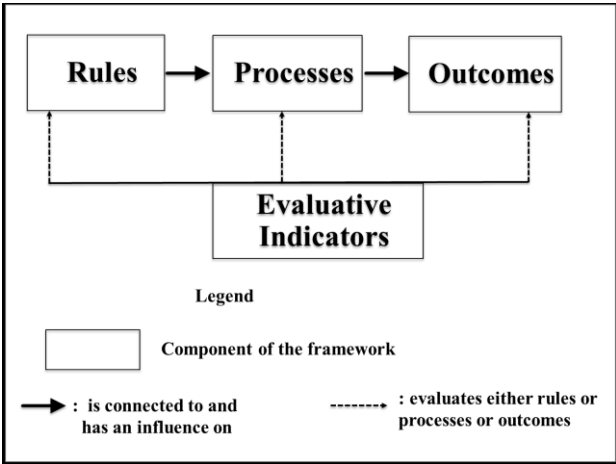
the theoretical foundations of spatial justice, its relationship with land tenure security, and the relevance of the development of indicators that measure spatial justice and land tenure security. Thereafter, it discusses the relationships among spatial justice and urban (re)development approaches and options and presents indicators that measure spatial justice and land tenure security in an integrated and practical manner. These steps lead to a general conclusion.

4.2. Research methodology

The concepts of spatial justice and injustice, urban development and redevelopment, and land tenure security and insecurity are inter-connected through a set of key themes and concepts. Those are largely discussed by the proponents of social or spatial justice and spatial planning (Alexander, 2002; Fainstein, 2009; Harvey, 1992, 2003; Lefebvre, 1968; Rawls, 1999; Smith, 2000; Soja, 2009). Those themes and concepts include spatial and social justice, equity, urban (re)development or regeneration, urban and spatial planning, inclusive urban development, and land tenure security. They were used to query and select literature from the Web of Science Citation Index. Subsequently, the literature search was categorised focusing on: the conceptualisation of spatial justice, its theoretical foundation, the forms and principles of spatial justice, the connection between spatial justice, urban (re)development, and land tenure security, and indicators for land tenure security. The meta-synthesis of the selected and categorised literature helped to identify variables of interest and their relationships. This research method provides an understanding of the concepts and the connections among them to develop their explanatory frameworks and formulate a conclusion (Cruzes & Dybå, 2011; Walsh & Downe, 2005). The conceptual modelling through graphical modelling consisted of identifying and describing the relationships between those concepts and themes and the connections between their sub-components (Kotiadis & Robinson, 2008).

In order to develop indicators measuring both spatial justice and land tenure security, this study relied on the theoretical framework of spatial justice. Within that framework, three dimensions are identified: rules, processes, and outcomes (Ferrari, 2012; Harvey, 1973; Lefebvre, 1968; Marcuse, 2010; Soja, 2009; Young, 1990). An evaluation of spatial justice and land tenure security can therefore be carried out at each of those three dimensions using the relevant indicators as per Figure 11.

Figure 11: Framework for measuring spatial justice and land tenure security



Developed based on Fainstein, 2009; Fraser, 1995; Harvey, 2003; Iveson, 2011; Lefebvre, 1991; Ostrom, 2011; Soja, 2009; and Young, 1990.

According to the above framework, the starting point for the evaluation of spatial justice and land tenure security is the rules. This is because seeking spatial justice and land tenure security presupposes the institutionalisation of rules which provide all people with equal opportunities to access and or use spatial resources (Campbell & Marshall, 2006; Fraser, 2001). It is from this equality of opportunities that one can derive the security of property rights (Chatterton, 2010; Njoh, 2013). Rules include formal policies, laws, constitutions, and government directives and informal social norms, codes of conduct, conventions, and political decisions (North, 1990; Ostrom, 2005) that affect the management of the urban space. The subsequent dimensions and variables constitute the processes. They consist of designing and implementing plans and activities that pertain to the management of space through active participation and collaboration among users of spatial resources, decision-makers, and planners (Watkins, 2005). Finally, the outcomes are evaluated through the analysis of the results of the dialectical processes of the production and re-organisation of the urban space. The outcomes cover the aspects of peoples' relations to space. They include the access to spatial resources, their ownership, their uses, and the inhabitancy of this space (Lefebvre, 1991; Watkins, 2005). The relationship between the three dimensions is reflected by the arrows, which stipulate that rules provide the guidelines for the processes from which the outcomes derive. According to the theoretical framework of spatial justice, just rules lead to just processes, which in return lead to just outcomes. Therefore, there are solid arrows that link rules to processes and processes to the outcomes.

As the framework reads, rules are the independent variables while processes are intermediate (both dependent and independent) variables. On one hand, processes are dependent variables because they derive from the interpretation and implementation of the rules by the agencies and actors who put those rules into action. On the other hand, the processes become independent variables as they are the determinants of the outcomes which are the dependent variables. This constitutes the ideal and generic model of the framework. There can be cases of spatial injustices at the level of rules or processes, which can result into either justice or injustice. This can depend on the behaviour of actors who are involved in the management of spatial resources and the way they interpret and implement the related rules and processes. Therefore, it is worthwhile to evaluate the trends of spatial justice in each of the three dimensions and evaluative indicators will be developed at each of those dimensions. The dashed lines show that all indicators are applied at each of the three dimensions. Rather, there are three sets of evaluative indicators which are in one box. From that box, one set of indicators is linked to one of the three dimensions under evaluation (rules, processes, and outcomes).

The development of evaluative indicators follows a deductive research approach. It is guided by a systematic review of existing indicators that measure land tenure security. The review aimed at distilling the connection between land tenure security and spatial justice and other related concepts, such as inclusive urban (re)development, community participation, respect and recognition of fundamental human rights, and equity in the allocation of spatial resources. These patterns were distilled from the works of Barry (1997), Elkin, McLaren, and Hillman (1991), Gilbert (2006), Haughton (1999), Jabareen (2008), McCall and Dunn (2012), Mega (2010), Michael, Noor, and Figueroa (2014), Michael, Noor, and Figueroa 2014, Rahman (2016), Roberts (2003), the United Nations Secretariat (2016), Un-Habitat (2009b), and the United Nations (2007). All these are sought to be the ingredients to land tenure security. The evaluative indicators were therefore developed based on these patterns and at three scales: the macro, meso, and micro levels. These levels are absolutely observed for the development of indicators that evaluate any development program (Hales, 2010; O.E.C.D, 2010; Simbizi, 2016). The macro level relates to a high level, such as the regional or national scale. The meso

level refers to the province, district, or other low level while the micro level relates to the household or individual scale. These levels can be aggregated at other hierarchies depending on the geographical scale of the study (Haie & Keller, 2012; Peters & Pierre, 2006; Wang & Polillo, 2016). For this reason, the indicators will be aggregated at the scales of the city: macro (3), urban neighbourhood: meso (2), and household: micro (1). This means that any of indicators which is proposed can measure spatial justice and land tenure security at one or more levels among the three depending on the scale of the aspect under evaluation. Through direct and skype meetings we shared and discussed the developed indicators with experts and researchers in the fields of urban planning and development, urban geography, land administration and land management, and civil engineering to seek for their opinions on the relevance of these indicators and their validation. Since the topic relates to urban (re)development in developing countries and one of our study aims was to apply the developed indicators in the assessment of urban (re)development processes in Kigali City, we targeted respondents from this city and extended our audience from other African cities that have been under-going similar urban (re)development processes. We received positive feedbacks from three experts and five researchers from Kigali (Rwanda), Nairobi (Kenya), Port Harcourt (Nigeria), and Nkumasi (Ghana). As spatial justice and land tenure security are the concerns, this chapter discusses first the theoretical foundation of these concepts and their relationships in the next section. Thereafter, it will establish their connections to different approaches and processes of urban (re)development.

4.3. Theoretical background

4.3.1. A brief review of the theoretical framework of spatial justice

Spatial justice is the first virtue of social and political institutions and resources management rules that should be responsive to all individuals' needs (Philippopoulos-Mihalopoulos, 2011; Rawls, 1999). In urban areas, spatial justice can be achieved through urban (re)development rules, processes, or options that are meant to meet the basic needs of all urban dwellers regardless of their living areas. These needs include, amongst others, equal, non-discriminatory, and unbiased access to decent housing and basic infrastructures and services which are inseparable from the access to land resources (Nunan & Devas, 2014). These needs are also embedded in the philosophical and political framework of the concept of the Right to the City. This concept stands for the principle that all urbanites have a basic right to live in the city of their heritage or choice. They also have the right to contribute to the development of their city. Those rights should not be prioritised based on socio-economic status of each category of people. A city is spatially just if in all its parts individuals' rights, including land rights, are upheld (Fernandes, 2007; Lefebvre, 1968; Purcell, 2014; UNESCO & Un-Habitat, 2009; United Nations Secretariat, 2016).

One of the required conditions for that end is the security of tenure, which allows all urbanites to inhabit the city and access its resources. It is in this vein that the concept of land tenure security from a spatial justice lens can be decoded. Land tenure security derives from a good environment enabled by spatial development rules and processes which are grounded on social-political institutions that recognise and respect individuals' rights to land (UN-Habitat, 2008). Similarly, advocates of spatial justice argue that if a geographical space is to be justly managed, the rights of all people to own and use spatial resources, including land rights, should be recognised and protected (Lefebvre, 1991; Rawls, 1999; United Nations Secretariat, 2016). Before discussing how current urban development programmes are responsive to that concern, it is worthwhile to identify different forms of spatial justice and establish their connections to land tenure security.

4.3.2. Relating spatial justice to land tenure security

Contemporary literature distinguishes four forms of spatial justice: procedural, recognitional, redistributive, and intra- and inter-generational justices. Procedural justice focuses on the justness of the rules and processes governing the management of spatial resources which have to be crafted and implemented in a participatory manner to permit all users or owners to access or use those resources to meet their basic needs (Burke & Leben, 2007; Rawls, 1999; Young, 1990). Recognitional justice reflects the principle of a fair allocation of spatial resources to all people, especially the creation of opportunities for people who suffer from resources deprivation to access and/or use spatial resources (Fraser & Honneth, 2003). This form of spatial justice embraces two aspects, a metric and a rule (Rawls, 1999). The metric aspect encompasses types of resources and capabilities to use them. The rule aspect requires compliance with the principles of equality and equity while allocating those resources or devising the options to use them (Gutwald et al., 2014). Redistributive justice seeks a fair distribution of spatial resources to all users, including the poor and disadvantaged groups, or equal opportunities to use their properties relative to their needs (Young, 1990). Intra-generational justice strives for a fair distribution of and access to resources for all people of the same generation, with more focus on the needs of the least advantaged in the society. Inter-generational justice demands a fair distribution of spatial resources to allow all people of the present and future generations to use those resources in order to meet their basic needs (Elkin et al., 1991). This form of justice focuses on general aspects of peoples' needs for developing a prosperous society through good institutions that enable resources' users to pursue their survival and to bequeath a share of those resources to future generations.

The three forms of spatial justice portray patterns that can promote land tenure security for all people, including the poor and low-income urbanites. Procedural justice boosts land tenure security through the institutionalisation of land management rules and processes which are crafted and implemented in participatory manner. Participation provides the opportunities for voicing, hearing, and recognising all people's needs. This allows the local community to adopt strategies that preserve its rights over land resources for their livelihoods (Fainstein, 2014; Fraser, 2001; Rawls, 1999). However, when spatial development programmes infringe upon those land rights, the pursuit of procedural justice in combination with recognition and redistribution permits the design and implementation of rules and strategies for fair compensation to affected people so that they can continue their lives (Asiama, Lengoiboni, & van der Molen, 2017; Padilla, 2002; Rawls, 1999; Tagliarino, Bununu, Micheal, De Maria, & Olusanmi, 2018). In a nutshell, recognition justice promotes land tenure security through the respect and protection of all people's right to land resources through inclusive and participatory management of land resources. Redistributive justice promotes the allocation of land resources or rights to use them to all people equally. The combination of these two forms of spatial justice can promote access to land for poor people and others who are deprived of access to land resources through land redistribution strategies (Fraser, 1995) and other processes of spatial organisation, such as the relocation of squatters or slum dwellers to serviced sites. These strategies and processes enhance land tenure security through strengthening people's relations to land. Inter- and intra-generational justice claims a perpetual respect of people's rights to land resources within the framework of human rights and which considers access to land as a precondition for the survival of all users of land resources (Picard et al., 2015). The pursuit of that form of spatial justice can enhance the security of tenure as it can permit all people, including poor, low-income, and marginalised groups to access and/or use land resources on a long-term or continuous basis. Having discussed the connection between spatial justice and land tenure security, the next section provides the framework for the development of their evaluative indicators.

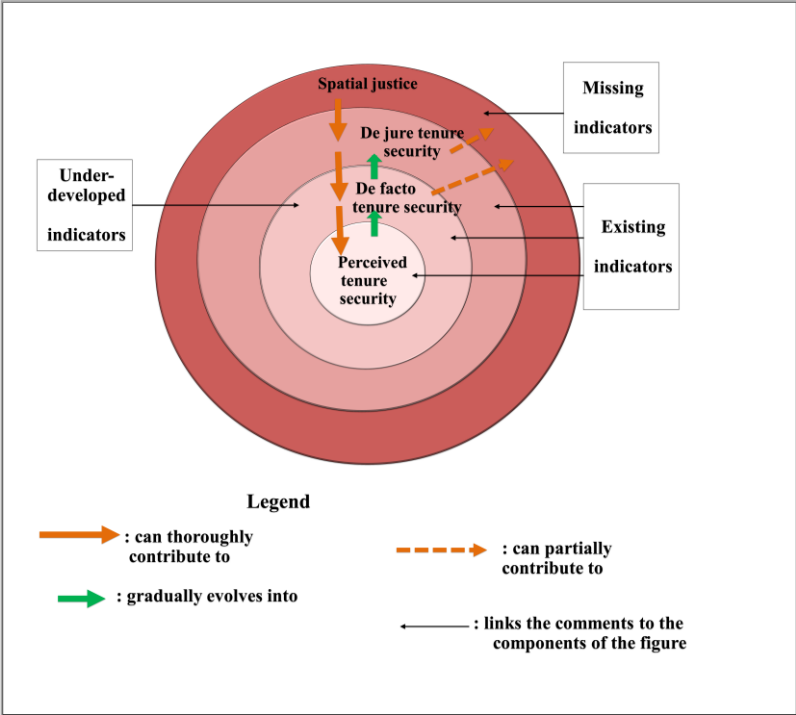
4.3.3. Towards developing indicators which measure the trends in spatial justice and land tenure security

Existing indicators which measure land tenure security in urban areas address the questions related to the effectiveness of land administration systems in countries where those systems are operational and or have started to record individuals' rights to land. Those indicators evaluate contemporary trends in the promotion of land tenure security focusing mostly on perceived and de jure tenure security. The existing indicators include those developed by experts and different international organisations that have attempted to monitor land tenure security based on both systems of land administration and global land governance, such as Un-Habitat and Global Land Tool Network (GLTN) (UN-Habitat & GLTN, 2017) and the World Bank group (Deininger et al., 2012). They cover all the three elements of land tenure security, but focus mostly on the legal aspect of landownership. The World Bank developed indicators that focus only on de jure tenure security, which derives from the legalisation of land rights and affordability of land administration systems (World Bank, 2008). The Un-Habitat and the United Nations developed indicators that measure land tenure security in urban areas based on the perceived security (Un-Habitat, 2009a; United Nations, 2003). There exist other indicators that are centred on the perceived security and are driven by the legalisation of land rights and the effectiveness of land administration systems and their reforms (Burns, Grant, Nettle, Brits, & Dalrymple, 2006; IFAD., 2009; Simbizi, 2016). This chapter proposes indicators that measure land tenure security beyond de jure tenure without excluding de facto tenure, which is the basis for the recognition of all forms of land tenure. In Figure 12, the relationships among the three elements of tenure security, which are perceived, *de facto*, and legal tenure security, and spatial justice are established. These are based on the way land tenure security can be conceptualised following the meta-analysis of the connection between spatial justice and land tenure security and the existing relations between the three elements of land tenure security (Nakamura, 2016; Reerink & van Gelder, 2010).

Based on Figure 12, the development of indicators that measure spatial justice follows its conceptualisation with consideration to the existing indicators and the connection to the three elements of tenure security, which are discussed in the reviewed literature (Durand-Lasserre & Selod, 2007; Van Asperen & Zevenbergen, 2007; van Gelder, 2007; Williamson et al., 2010). Perceived security relates to individuals' perceptions on the likelihoods of eviction or loss of their property rights, especially within informal or customary tenure systems. This form of tenure security can also be depicted from the de facto or de jure tenure security or spatial justice lens based on the perceptions of people on the effectiveness of legal and political institutions to recognise and protect their rights to land. Perceived tenure security is therefore placed at the core of Figure 12. De facto tenure security derives from perceived tenure security and does not necessarily derive from the possession of the ownership documents. It rises from the political and legal framework of spatial organisations. This framework includes spatial planning rules, building codes, and constitutional laws that politically recognise landowners' rights to land and protect them against evictions (Williamson et al., 2010). This recognition evolves into de jure tenure security through the establishment of formal land administration systems that record individuals' rights to land (Van Asperen & Zevenbergen, 2007). Figure 12 demonstrates how the improvement in one of those elements promotes the status of the other (the green arrow which goes up) and how the established tenure security (de facto or de jure) can boost spatial justice based on the effectiveness of land tenure systems. This is illustrated by a dashed arrow, which shows that land tenure systems can contribute to some elements of spatial justice, especially the equality in access to or use of land and related assets, but not all spatial resources. The figure shows that spatial justice is above the three elements of land tenure security. Spatial justice can spur the security of tenure even where there is no established

de jure tenure security, though an increased de facto tenure security can thereafter evolve into de jure tenure security (Kipfer, Goonewardena, Milgrom, & Schmid, 2008; Meng, 2018). This is evidenced for instance by the processes of slum upgrading. The process can confer de facto security through a legal recognition of slums as components of the urban neighbourhoods (OSCE & ODIHR, 2006; OSCE., 2012; Pojani, 2013; UN-Habitat, 2012; Vuksanović-Macura, 2012). This recognition leads to de jure tenure security through the formalisation of the landownership within those slums (Geoffrey Payne, Durand-Lasserve, & Rakodi, 2009). In other words, spatial justice can boost the three elements of tenure security separately or gradually (left arrow in inverted direction).

Figure 12: Scale of land tenure security and relation to evaluative indicators



Developed based on (Durand-Lasserve & Selod, 2007; Nakamura, 2016; Reerink & van Gelder, 2010; Van Asperen & Zevenbergen, 2007; van Gelder, 2007).

The aspirations of spatial justice are met through increased recognition and respect of individual differences within any society (Lefebvre, 1991; Young, 1990). This is emphasised by Dikeç (2001), who broadened the scope of the Right to the City by incorporating the right to differences. As diversity is concerned, Chatterton (2010) argues that seeking spatial justice involves building inclusive cities that integrate diverse categories of their inhabitants. One way to promote land tenure security from the standpoint of individual differences is to protect rights to land resources for all people whatever their systems of land tenure (UNESCO & Un-Habitat, 2006; United Nations Secretariat, 2015). Land tenure is, therefore, defined as a system that regulates the relationships between people and the land (FAO, 2002). Such system can be grounded on the formal or informal political and administrative or religious institutions within any society. These institutions define the ways in which individuals or groups of people acquire or access land, the rights they hold, and the manner those rights can be transferred to other users (Deininger, 2003; Deininger, Jin, & al., 2006; Simbizi et al., 2014). They also determine the duration of those rights and conditions which are bounded to those rights (Abdulai, 2006). There can exist different forms of land tenure systems, such as legal or statutory, customary,

religious, or non-formal tenures (Bruce & Migot-Adholla, 1994). A statutory or formal tenure is based on documented landownership. It is governed by the written law, while a customary land tenure system is governed by (un)written traditional norms. A religious tenure system is a system which is based on religious law, such as Islam or Hindu. A non-formal tenure system is a situation where the land owners can use land without having acquired it through a statutory, customary, or religious system. It is frequent in peri-urban areas where squatters can occupy state land and develop informal settlements. Land tenure is often defined based on property regimes, which are determined according to the types of landownership or use rights. Those include a private property regime under which the ownership of land may consist of freehold or leasehold. Others include a communal property regime where the community enjoys some rights over land parcel which is shared by the community. There is also an open-access regime that provides all people with the access to land resources and a state property regime where the land is held by public organisations that control and/or develop it (FAO, 2002).

Within developing cities, land rights, which can be held under any of the above defined land tenure and property regimes, can be jeopardised through spatial injustices. These injustices displace dwellers in low-income and poor urban neighbourhoods or outskirts under urbanisation and therefore result in land tenure insecurity (Fainstein, 2009; Harvey, 2008; UN-Habitat, 2011; Villaça, 2011). The implementation of urban development schemes that are based on spatial justice can therefore boost land tenure security for owners or users of land resources (Fainstein, 2014; Harvey, 2008; Soja, 2010). As mentioned above, we intend to develop indicators that focus on de facto land tenure security that upholds and spurs other elements of tenure security (de jure and perceived) and spatial justice as illustrated in Figure 12. As de facto tenure security derives from inclusive and effective spatial development rules (Williamson et al., 2010), we posit that it can therefore promote other forms of tenure security. Before the presentation of the developed indicators, we grasp (in Table 4) the focus of the existing land tenure indicators and highlight the focus of those ones which are proposed as a supplement to those which already exist.

Table 4: The central focus of the existing and proposed land tenure security indicators

Main Focus and Scope of Existing Indicators for Land Tenure Security				Main Focus and Scope of Proposed Indicators		
Main Focus and Scope of Existing and Proposed Indicators for Land Tenure Security		Global Land Governance	Land Administration Systems and Their Reforms	Land Tenure in Urban Areas	Similar Focus as Spatial Justice	Comments and Specific Focus for Spatial Justice
Main driver for land tenure security	Accessible land administration and registration services: cost and time	Yes	Yes	Yes	No	Spatial justice demands the respect of all people's rights to land resources, whatever the type of land tenures, informal and formal, and evaluates the degree to which those rights are recognised and protected.
Main type of tenure which is evaluated	de jure	Yes	Yes	No	No	Spatial justice focuses on de facto tenure security which is the least evaluated and to which spatial justice is connected. Spatial justice can advance de facto tenure security for people whose property rights are infringed through spatial injustices even in the areas where de jure tenure exists.
	de facto	Yes	No	No	Yes	
	perceived	Yes	Yes	Yes	No	
Main evaluated aspect	Long duration of property ownership	Yes	Yes	Yes	Yes	Spatial justice requires the non-violation of rights over the whole period (short or long) of property ownership and long-lasting property ownership where it is possible.
	Risks or experiences of eviction	Yes	Yes	Yes	No	Spatial justice evaluates the perceived likelihood of resettlement or relocation not only in slums but in other urban neighbourhoods under (re)development.
	Great number of or bundle of held land rights	Yes	Yes	Yes	Yes	Spatial justice evaluates the respect for all types of held property rights.
	Equalities of opportunities to use land	Yes	Yes	Yes	Yes	Spatial justice evaluates the presence of rules and options for all property owners to use their lands.
	Policies for land redistribution	Yes	No	No	Yes	Spatial justice prioritises the poor and deprived groups in the allocation of spatial resources, including land.
	Effective planning and management of public land	Yes	Yes	No	No	Spatial justice demands active participation of the community in planning, including the adoption of spatial development schemes that may affect private land rights.
	Enforcement of individual or community property rights	Yes	Yes	Yes	Yes	Spatial justice demands respect for and protection of land rights under all property regimes.
Recognition of informal tenure	Yes	Yes	Yes	Yes		
Main evaluated aspect	Land-use and development plans that integrate all neighbourhoods, including	Yes	No	Yes	Yes	Beyond the integration of rights for the owners or users of land into spatial planning processes, spatial justice requires the participation of those groups in those processes.

Main Focus and Scope of Existing Indicators for Land Tenure Security				Main Focus and Scope of Proposed Indicators	
Main Focus and Scope of Existing and Proposed Indicators for Land Tenure Security	Global Land Governance	Land Administration Systems and Their Reforms	Land Tenure in Urban Areas	Similar Focus as Spatial Justice	Comments and Specific Focus for Spatial Justice
slums or informal settlements, into spatial development.					
Dispute resolution and conflict management among landowners	Yes	Yes	Yes	No	Spatial justice focuses more on conflicts that break out between agencies that implement spatial development rules and the owners or users of land resources.
Access to well-functioning formal land markets	Yes	Yes	No	Yes	Spatial justice places more emphasis on fair real property compensation and access to other similar properties when spatial development requires the expropriation of those properties.
Non-discrimination and gender equality in access to land-related services	Yes	Yes	Yes	Yes	Beyond the demand for gender balance, spatial justice claims for equality of opportunities to access and use land resources for all people.
Prevention of forced eviction and promotion of fair property compensation	Yes	No	Yes	Yes	Protection against eviction and fair real property compensation are among the main claims of spatial justice for the promotion of land tenure security.
Promotion of access to adequate housing, basic amenities, and services	No	No	Yes	Yes	Equal access to land and housing is the precondition for access to other urban facilities.
Promotion of equal access to credit	Yes	Yes	Yes	Yes	Beyond this claim, spatial justice demands equal opportunities to use land for meeting all basic needs of landowners.
Aligning land management rules and processes to local community capacity	Yes	No	No	Yes	Beyond this claim, spatial justice demands specific options for poor and low-income groups to use their land resources.

Source: Burns et al., 2006; Deininger et al., 2012; IFAD., 2009; Simbizi, 2016; Un-Habitat, 2009a; UN-Habitat & GLTN, 2017; United Nations, 2003; and World Bank, 2008.

Table 4 demonstrates the main focus of the existing indicators that are largely used to measure land tenure security and the scope of the indicators that are developed through this study. The new indicators relate to and complement the existing indicators. Spatial justice inputs derive from its central focus, which is equity in rules and processes related to spatial development and its direct connection to de facto tenure security. De facto tenure security can promote de jure security and informs perceived tenure security, while spatial justice subsumes all those elements of tenure security as demonstrated in Figure 12. The evaluation of spatial justice has to be based on urban development approaches and options from which the trends of tenure security can be distilled. The next section therefore presents the results of the literature review on different approaches to and options for urban (re)development and their relations to land tenure security. It is followed by the presentation of the proposed evaluative indicators.

4.4. Results and discussion

4.4.1. Framing spatial justice and land tenure security in terms of a just spatial planning process

Spatial planning encompasses the technical and political processes concerned with the guidance and control of the use of the land, the provision of infrastructures and services, and the development of adequate settlements (Serag El Din, Shalaby, Farouh, & Elariane, 2013). Linking this to the aim of this study, the concern is about justice in spatial planning. Justice in spatial planning processes is consistent with the theories of justice and common property resources that state that the virtue of justice is to provide all individuals with opportunities to use societal resources for meeting their own needs (Ostrom, 1990, 2011; Rawls, 1999). The claimed justice relates to the ethical perspectives that shed light on good and right actions that affect spatial resources and the interests of their users. This is, therefore, connected to spatial justice claims (Campbell & Marshall, 2006), namely equal access to urban resources and/or opportunities to use them for all urbanites. The connection between those claims and the needs for land tenure security requires urban planners and designers and decision-makers to play a central role in promoting land tenure security (Carr, 2012). They have to institutionalise a collaborative framework among civil society, the local community, and the public and private sectors and find a consensus on effective spatial planning and actions for the development of inclusive cities (Healey, 1992; Rocco, 2013). This collaborative planning approach is echoed in communicative planning theory. This theory recommends the establishment of democratic and participatory resources management that integrates all people into urban development processes (Booher, 2004; Innes & Booher, 1999). In a similar vein, Alexander (2002) and Fainstein (2009) advocate for urban (re)development which is grounded on inclusive, collaborative, and communicative planning. Such an approach is developed through shifting from a Public–Private Partnership (PPP) to a decentralised and discursive Public–Private–Community Partnership.

The partnership and communicative planning approach is a key driver for spatial justice. Such an approach helps to craft fair urban development rules that are implemented in a democratic manner and supports governance imperatives of equity and respect for all people's rights. In land management, this approach empowers all people, including poor and low-income communities, as they are provided with equal opportunities to use and control their land resources (Healey, 1996; McCall, 2003; McCall & Dunn, 2012). These opportunities to use individuals' lands are grounded on procedural, recognition, and redistributive justice, which remedies inequalities in resources allocation or capabilities to use them (Fainstein, 2009; Fraser & Honneth, 2003; Young, 1990). The recognition of the rights of all people to access and/or use spatial resources, especially for poor, vulnerable, and economically weak groups, is

fundamental to inter- and intra-generational justice. It also promotes the development of an inclusive city (Campbell & Marshall, 2006; Yenneti, Day, & Golubchikov, 2016). This integrated urban development approach takes into account the socio-economic conditions of poor and low-income groups. It provides them with opportunities to use their lands (Parnell & Pieterse, 2010) and that results in increased land tenure security (Fainstein, 2009; Zhao, 2016).

4.4.2. Integrating spatial justice into urban redevelopment processes

Within any process of urban (re)development, the claim for land tenure security from a spatial justice lens encompasses a fair allocation of land resources and the adoption of strategies through which all users or owners of those resources can access or use those resources to meet their needs (Nakamura, 2016; Stein, et al., 2005). They should be given opportunities to live in the city and use its resources. They also have to be protected from eviction (Van den Nouwelant, et al., 2015). This requires the participation of all categories of urban dwellers in urban planning and the (re)development of the areas they live in. Having discussed the discourse of participatory planning and its role in promoting spatial justice and land tenure security in the above section, the next paragraph reviews different urban (re)development processes that are likely to promote spatial justice and land tenure security. The most important reviewed processes include slum upgrading, affordable housing development, mixed-housing development, and sites and services schemes. The processes also comprise incremental housing development, urban regeneration and housing renewal, resettlement or relocation, community land trusts (CLTs), condominium housing, and urban villages. The relationships between those processes and spatial justice and land tenure security are discussed in Table 4. The Table also includes the used references.

Slum upgrading consists of improving the quality of life in poor and low-income urban neighbourhoods through the provision of basic infrastructures and services. The development of affordable housing consists of developing affordable houses that are sold or rented at low prices. This helps poor and low-income groups mitigate the problems of non-access to shelter. Mixed housing development is the process of designing and developing variegated housing standards and typologies that accommodate various categories of people based on household sizes and differences in incomes, ages, or household status, etc. Sites and services schemes stand for the process of subdividing public land or land acquired through public funds into buildable lots. Those lots are improved through the provision of basic infrastructures and services. Thereafter, they are allocated to poor and low-income people at low prices for self-housing development. Incremental housing consists of developing low-cost housing for poor and low-income households gradually. Developed houses are improved over time through the provision of the basic amenities and infrastructures in collaboration with the government, private investors, and Non-Governmental Organisations (NGOs). Urban regeneration and housing renewal consists of improving the physical, social, economic, and ecological aspects of old urban neighbourhoods. The process involves also the revitalisation of individual or community properties, including dwelling units. This gives the local community options to renovate their existing buildings or demolish them in order to develop new ones. Resettlement or relocation of squatters or slum dwellers consists of relocating those people into serviced sites or supporting them in the development of decent houses in those sites. The process can include fair compensation for lost properties and the disturbance caused by displacement. Community land trusts (CLTs) are groups of households that, through mutual support and empowerment of poor and low-income households, develop their lands according to spatial planning schemes. The process includes the development of decent housing and the preservation of environmentally sensitive areas and farming land for people whose income

depends on agriculture. Condominium housing consists of developing residential shared buildings on a single parcel or track of land with mixed property regimes where separate housing units are held individually. Urban villages are developed at urban outskirts. They are sustained by a strong local community partnership and government support for the development of self-contained residential neighbourhoods with access to basic facilities. A joint venture for land/housing development consists of developing land for residential or other use through an agreement between the landowners and developers. These actors share developed structures and other benefits that accrue from such cooperation. All these discussed approaches and processes of urban (re)development show different patterns which connect them to spatial justice and land tenure security. That connection is established in Table 5 below.

Table 5: Connecting spatial justice to selected urban (re)development approaches and processes

No.	Approach or Process	Connection to Spatial Justice				Tenets of Tenure Security	Indicative References
		Procedural	Recognition	Redistributive	Inter- and Intra-generational justice		
1	Collaborative planning	Participation of and collaboration with all categories of people in spatial planning permits the integration of their needs and rights into urban development programmes.	Rights and needs to access or use land resources for all people; specifically, poor groups, vulnerable groups, and low-income groups are recognised.	Promotion of access to land resources or other urban amenities for all people, including poor, vulnerable, and low-income groups.	Integration of all people, including poor, vulnerable, and low-income groups, into urban areas and promotion of the use of land resources for their livelihoods.	Recognition, respect, and protection of all people's rights to land resources.	(H. Campbell & Marshall, 2006; Healey, 1996; Innes & Booher, 1999; McCall & Dunn, 2012)
2	Slum upgrading	Participation of slum dwellers in the transformation of their living places enhance their land rights.	Reallocation of spatial resources and elimination of inequalities in access to basic infrastructures and services for deprived areas.		Decreasing spatial inequalities and strengthening people's relations to their neighbourhoods.	Decreased risks of forced eviction and integration of slum dwellers into in the city.	(Gilbert, 2006; Minnery et al., 2013; Purcell, 2002; Stanley, 2009; Wilson Center & USAID, 2013)
3	Affordable housing development	Inclusion into a zoning scheme of affordable units for poor and low-income groups.	Responding to housing needs for poor and low-income groups.	Elimination of inequalities in access to housing.	Remedy to housing deprivation improves the living conditions of poor and low-income people.	Integration of poor and low-income groups into the urban fabric.	(Calavita & Mallach, 2010; Whitehead, 2007; Williams, 2000)
4	Mixed housing development	Housing development aligned with financial capacity of all urban households.	Addressing needs for housing for all people, including poor and low-income groups.	Promotion of access to houses for all people and elimination of inequalities in housing.	Promotion of access to housing for all categories of people.	Integration of a mix of all people into the urban fabric based on their differentiated socio-economic conditions.	(Armstrong, 2003; Glass, Woldoff, & Morrison, 2014; Iveson, 2011; Kontokosta, 2014; Norris, 2006; Purcell, 2013)
5	Sites and services schemes	Local community participation in the selection of residential sites, which are developed through a	Promotion of access to decent housing for all people who are	Allocation of land plots for the development of	Integration of poor and low-income groups into the city and	Decreased risk of marginalisation and integration of	(Abdul-Aziz & Jahn Kassim, 2011; Abu-

No.	Approach or Process	Connection to Spatial Justice				Tenets of Tenure Security	Indicative References
		Procedural	Recognition	Redistributive	Inter- and Intra-generational justice		
		public-private and local community partnership.	deprived of resources.	affordable housing for poor and low-income groups.	opportunities to pursue their livelihoods.	poor and low-income groups into the city.	Lughod & Hay, 2013; Hamid & Mohamed Elhassan, 2014; Mullins & Moore, 2018)
6	Incremental housing development	Strategies and opportunities for urban dwellers to develop their dwelling units over time.	Promotion of access to housing for poor and low-income people.	Promotion of access to housing for poor and low-income groups.	Integration of poor and low-income people into the city and opportunities to improve their livelihoods.	Decreased risks of forced eviction for poor and low-income groups.	(Amoako & Frimpong Boamah, 2017; Hamid & Mohamed Elhassan, 2014; Wilson Center & USAID, 2013)
7	Urban regeneration and housing renewal	Inclusive urban renewal schemes provide the local community with opportunities to meet their housing needs.	Empowerment of poor and low-income people in renovating their dwellings.	Promotion of access to good-quality facilities, services, and housing.	Improving housing conditions for all people and their offspring.	Integration of revitalised areas and their inhabitants into the modern city.	(Garner, 1996; McIntyre & McKee, 2012; Trono, Zerbi, & Castronuovo, 2017).
8	Resettlement or relocation of squatters or slum dwellers	Government collaboration with squatters or slum dwellers from planning to the development of new dwelling units.	Recognition of rights to land and decent housing for poor urban dwellers.	Land redistribution and promotion of access to decent housing.	Creation of a good living environment for the affected groups and their offspring and the opportunity to pursue their development.	Remediation to forced eviction	(Todes, 2008; UN-Habitat, 2006, 2009b; UNHCHR, 1996; Wilson Center & USAID, 2013)
9	Community land trusts (CLTs)	Decentralisation of spatial planning and land management processes through the citizenship engagement. Integration of self-help housing strategies into urban development schemes.	Recognition of individual rights to land and housing.	Government support through the provision of basic amenities or the allocation of land to be developed.	Promotion of a social mix and prevention of social segregation. Potential land for agriculture can be preserved to sustain the livelihood of farmers.	Strengthening people's relations to their land.	(Davis, 2010; Engelsman, Rowe, & Southern, 2016; Gray, 2008; Moore & McKee, 2012; Mullins &

No.	Approach or Process	Connection to Spatial Justice				Tenets of Tenure Security	Indicative References
		Procedural	Recognition	Redistributive	Inter- and Intra-generational justice		
							Moore, 2018; Paterson & Dunn, 2009; West, 2011)
10	Condominium housing	The process is grounded on community census and a public-private partnership in the development of social mixed housing development.	Promotion of access to decent and affordable housing for poor, low-, and middle-income groups	Development of affordable and decent housing for poor, low-, and middle-income groups.	Promotion of durable homeownership for poor and low-income groups.	Recognition and protection of property rights for owners of land.	(Aznar, 2016; Mittal, 2014; Webb & Webber, 2017)
11	Urban Villages	Decentralised land use planning and development permits the local community and authorities to collaborate in the development of their neighbourhoods.	Promotion of access to decent housing for poor and low-income groups.	Boosting the provision of affordable housing through government support in the acquisition of land or provision of basic facilities.	Sustaining a long-term livelihood and social cohesion within a mixed community.	Promoting the stability of an urban neighbourhood and people's relations to their land.	(Hao, Sliuzas, & Geertman, 2011; Li, Lin, Li, & Wu, 2014; Lim, Hassan, Ghaffarianhose ini, & Daud, 2017)
12	Joint ventures for land/housing development	Promotion of the partnership between landowners themselves or landowners and private land developers or government for housing development.	Recognition of landowner's rights to land and the needs to comply with land development rules.	Promotion of access to housing for landowners who cannot develop the land at their own financial resources.	Opportunities for landowners to meet their housing needs through partnership or in collaboration with property developers.	Prevention of forced sale and promotion of group land ownership.	(Adams, Disberry, Hutchison, & Munjoma, 2001; Guy & Henneberry, 2000; Stokes, 1987; Wilson & Leech, 1987)

Table 5 summarises the connections between different urban (re)development approaches and processes and different forms of spatial justice and their implications for land tenure security. The main patterns of spatial justice that can be deconstructed from those approaches and processes are inclusive urban development rules and options. Those rules and options have to be developed and implemented in a participatory and communicative manner as an arena for the spatial integration of all users of urban resources into the urban fabric. This arena advances the recognition and respect of all people's rights to urban space, including access to housing, land, and basic urban facilities. A cross analysis of the connection between these urban development options and spatial justice was also carried out based on a qualitative content analysis of 83 references among 188 retrieved publications. The results show that among the forms of spatial justice that can be distilled from urban development processes, procedural and recognition justices are at the forefront, while redistributive and inter- and intra-generational justices are less prominent. This finding correlates with the theoretical perspectives of justice which are discussed by Fraser (2001), Fraser and Honneth (2003), Lefebvre (1968), Rawls (1999), and Young (1990). Those scholars posit that the procedural and recognition forms of justice are above the other forms of justice. Those two forms of spatial justice originate from inclusive societal norms and resources management rules that are required for an effective recognition of resource users' rights and a fair redistribution of those resources. Spatial justice scholars further recommend that the active participation of all users of spatial resources be the core component of procedural and recognition justice. Active participation has to be envisioned from the development of spatial development rules to their implementation in order to come up with fair outcomes (Kizos, et al, 2018).

The data that are compiled into Appendix 3 helped to identify the prominent approaches and processes of urban (re)development that are likely to promote spatial justice and land tenure security. Those approaches and processes embrace participatory and collaborative urban planning, slum upgrading, and affordable housing development. They also include mixed housing development, sites and services schemes, incremental housing development, urban regeneration, and relocation of squatters or slum dwellers into serviced sites. In order to evaluate if those approaches and processes deliver on the promise of spatial justice, a series of indicators for such evaluation is provided in the next section.

4.4.3. Indicators for the evaluation of spatial justice and land tenure security

Given the connection between spatial justice and land tenure security as presented in Table 5, the next step is to derive a framework of indicators which measures trends between the two aspects within any processes of urban (re)development. The development of these indicators follows the recommendations related to the formulation of an evaluation framework or measurement indicators for any development programme, such as those formulated by the Organisation for Economic Co-operation and Development (OECD). This organisation recommends the use of simple measures which are defined as parameters that can be tracked over time in order to provide information on trends in the condition of a phenomenon or achievement of a development programme (Visvaldis, Ainhua, Ralfs, 2003). Those measures provide a sign or a signal that something exists or is true and shows the presence or state of a situation or condition (Hales, 2010). From the general claim of spatial justice to the question of land tenure security, the desired indicators embrace three aspects. These aspects include the development and implementation of urban development rules that are inclusive, the promotion of the participation of all people in the management of the city, and the adoption of urban development options which provide those people with opportunities to access or use their land resources, including access to housing and basic amenities (Rawls, 1999). In this way, seven features of spatial justice and land tenure security have been identified as the common

patterns of urban development approaches and options. Those features are associated with the proposed indicators and include:

1. Citizen engagement in urban (re)development programmes;
2. Equality of opportunities to use or develop their land resources;
3. Recognition and protection of their rights to land resources;
4. Promotion of access to land and/or housing for poor and low-income groups;
5. Fair compensation when any urban (re)development programme infringes on the rights of property owners;
6. Decreased spatial inequalities and promotion of access to urban amenities and services for all people; and
7. Integration of all urban dwellers and their neighbourhoods into the urban (re)development processes and a decreased risk of eviction.

The above seven features represent the order of importance with regard to their connection to the forms of spatial justice, namely procedural, recognition, and redistribution justice (Rawls, 1999; Young, 1990; Fraser, 1995). For example, citizen engagement in urban (re)development programmes is highly connected to procedural justice, whereas the equality of opportunities to use or develop their land resources and recognition and protection of their rights to land resources are highly connected to recognition and redistributive justice and relatively connected to procedural justice. The study therefore proposes indicators that situate those seven features into urban (re)development rules, processes, and outcomes. Further, the connection of the proposed indicators to different forms of spatial justice is established on an ordinal scale with four levels. These levels range from very high (for indicators that relate to procedural justice), high (for indicators that relate to recognition justice), and moderate (for indicators that relate to redistributive justice) to low (for indicators that relate to intra- and inter-generational justice). The choice of this scale and classification approach is informed by the cause–effect relationships that exist among the four forms of spatial justice. These relationships are largely discussed by the scholars of justice and spatial justice. These scholars place procedural justice at the forefront because it is a key driver for recognition and distributive justice (Fainstein, 2009; Young, 1990; Fraser, and Honneth, 2003; Schlosberg, 2009; Rawls, 1971). The two forms of spatial justice promote access to spatial resources, social inclusion, economic growth, and good quality of life for all users of those resources (Albino, et.al, 2015) and from them inter- and intra-generational justice is decoded (Jabareen, 2008; Magel, 2015; Hay, 1995). That categorisation implies that if the evaluation of the urban (re)development approaches and processes reveals good scores on the aspects that relate to a highly ranked form of spatial justice (such as procedural and recognition justice), one can expect a very good trend of spatial justice and land tenure security. However, the reverse case will imply low trends or little likelihood of spatial justice and land tenure security. Table 6 presents the developed indicators, their connection to spatial justice, and the existing indicators that measure land tenure security. The degree to which the aspects under evaluation can promote spatial justice and land tenure security is also indicated.

In Table 6, sixty (60) indicators which measure spatial justice and land tenure security are proposed. These cater for different aspects of urban (re)development. Those aspects include zoning rules and spatial planning processes, the acquisition of land through expropriation for the implementation of different urban (re)development programmes, affordable housing development, slum upgrading, relocation of squatters and slum dwellers, and provision of and access to urban amenities. Among the developed indicators, 23 relate to the aspects of urban (re)development that can spur a very high level of spatial justice. Another 18 indicators relate to aspects that can boost spatial justice at a high level. The remaining 11 and 8 indicators relate to the aspects that can promote spatial justice at the moderate and low levels, respectively. If any urban (re)development follows those aspects which are highly contributing to the

promotion of spatial justice, one can expect an increased land tenure security. The developed indicators are also linked to different concepts which are discussed in different sections or paragraphs of this chapter. However, Appendix 2 provides a succinct description of some of the concepts that need to be clarified because they are not largely explained in this chapter.

Table 6: Evaluative indicators for spatial justice and land tenure security

No	Developed indicator	Level of spatial justice and land tenure security the indicator leads to	Scale for evaluation	Supplement to the existing indicators that measure tenure security
				Yes/No
Indicators that evaluate the rules				
1	Presence of zoning rules that are designed in a participatory manner	Very high	2, 3	Yes
2	Presence of legal or policy provisions for the provision of basic facilities and services ⁶ in all urban neighbourhoods	High	3	No
3	Presence of specific legal or policy provisions for the provision of basic facilities and services in poor and low-income urban neighbourhoods	High	2	No
4	Presence of laws and policies for the development of affordable housing within the urban development schemes	High	2, 3	No
5	Percentage of specific zoning rules that promote the development of housing for poor groups	High	3	No
6	Presence of zoning rules that promote mixed housing development	High	2, 3	Yes
7	Presence of specific rules for the allocation of land or housing to poor and low-income groups	High	1, 2	No
8	Presence of laws and policies for the informal settlement upgrading	High	2, 3	Yes
9	Presence of laws and policies granting rights to land and housing for squatters or slum dwellers	High	2, 3	Yes
10	Presence of legal provisions for the resolution of conflicts resulting from urban development	Very high	1	No
11	Presence of legal provisions on the purposes of property expropriation and compensation at fair prices	High	2, 3	Yes
12	Presence of legal provisions for the expropriation and compensation for property owners in all forms of land tenure	Very high	3	Yes
13	Presence of legal provisions that justify the intervention of government institutions in the expropriation of private property	Very high	3	Yes
14	Presence of legal provisions that determine the time span during which compensation for the expropriated property has to be paid	Very high	3	No
15	Presence of legal provisions for the collaboration and negotiation between property owners and expropriating agencies during the expropriation processes	Very high	2, 3	Yes

⁶ This refers to water, electricity, education (nursery, primary, secondary), health centres, sanitation, and transportation, which are considered to be the main amenities for which access should be enhanced to promote socio-economic development for all people. During the evaluation, each of those elements will be assessed separately from others.

No	Developed indicator	Level of spatial justice and land tenure security the indicator leads to	Scale for evaluation	Supplement to the existing indicators that measure tenure security
				Yes/No
16	Presence of legal provisions for expropriated property owners to claim against unfair compensation (option and value)	High	3	No
17	Presence of legal provisions for the allocation of affordable housing units to poor and low-income groups within the housing development schemes	Very high	1, 2	No
Indicators that evaluate the processes				
18	Percentage of households who participate in the development of zoning rules and land use plans	Very high	2, 3	Yes
19	Percentage ⁷ of poor and low-income groups who participate the development of zoning rules and land use plans	Very High	2	Yes
20	Presence of spatial plans for the provision of basic facilities and services in all urban neighbourhoods	Moderate	2, 3	No
21	Presence of specific local development plans for the provision of basic facilities and services in poor and low-income urban neighbourhoods	High	2	No
22	Presence of budget lines for the provision of basic facilities and services in all urban neighbourhoods	Moderate	2, 3	No
23	Presence of specific budget lines for the provision of basic facilities and services in poor and low-income urban neighbourhoods	High	2	No
24	Area ratio of residential land allocated to poor and low-income groups	Moderate	2, 3	Yes
25	Presence of a budget line for the development of affordable housing within the urban development funds	Moderate	3	No
26	Presence of a budget line for the development of housing for poor and vulnerable groups within the urban development funds	Moderate	3	No
27	Presence of physical plans that promote the development of mixed housing	Moderate	2	No
28	Percentage of informal settlements planned for upgrading	High	3	Yes
29	Percentage of households who participate in the planning for the informal upgrade of settlements	Very high	2, 3	Yes
30	Presence of specific zoning rules that promote the development of housing for poor and low-income groups	Very high	1, 2	No
31	Percentage of affordable housing units that are planned for poor and low-income groups within the housing stock	High	3	No

⁷ This can be assessed based on the distribution in the percentages of participants to the planning process, with respect to their income categories (like in Rwanda: categories: 1, 2, 3, and 4).

No	Developed indicator	Level of spatial justice and land tenure security the indicator leads to	Scale for evaluation	Supplement to the existing indicators that measure tenure security
				Yes/No
32	Percentage of slum dwellers who perceive a likelihood of relocation to serviced sites	High	2	Yes
33	Percentage of slum areas that are planned for clearance with relocation or compensation plans	Very high	2, 3	Yes
34	Percentage of slum dwellers who participate in the planning for their relocation	Very high	2, 3	Yes
35	Percentage of property owners who participate ⁸ in property valuation during the expropriation process	Very high	2, 3	Yes
36	Presence of accessible institutions resolving disputes arising from urban development programmes	Very high	2, 3	No
37	Presence of expropriation operations undertaken by government agencies for public interests	Very high	2, 3	Yes
38	Percentage of properties owners who can access institutions handling disputes arising from expropriation	High	2, 3	No
39	Percentage of properties owners who can access institutions handling disputes arising from urban development programmes	High	2, 3	No
40	Percentage of households affected by land conflicts resulting from an expropriation process	Low	1, 2	Yes
41	Percentage of households affected by land conflicts resulting from an urban development programme	Low	1, 2	No
42	Number of working days taken to resolve a land conflict resulting from an expropriation process	Low	1	Yes
43	Number of working days taken to resolve a land conflict resulting from an urban development programme	Low	1	No
Indicators that evaluate the outcomes				
44	Percentage of households who can develop their lands according to zoning rules	Very high	2, 3	Yes
45	Percentage of households who have access to basic facilities and services ⁹	Low	3	Yes
46	Percentage of households in poor and low-income neighbourhoods who have access to	Moderate	2	Yes

⁸ Identification of property details (including their measurement) and interactions with the property valuers on the whole process (including information about the used reference prices)

⁹ During the evaluation, we consider the percentage of households who have water, electricity within their premises, the distance to school (nursery, primary, secondary), health, sanitation, and transportation services, and the distance to public tap and power grid for households whose dwelling units are not connected to those amenities. The measurement of the distance will be based on international recommended indicators or country disaggregated indicators based on national development goals and indicators that are used to evaluate progress in those aspects.

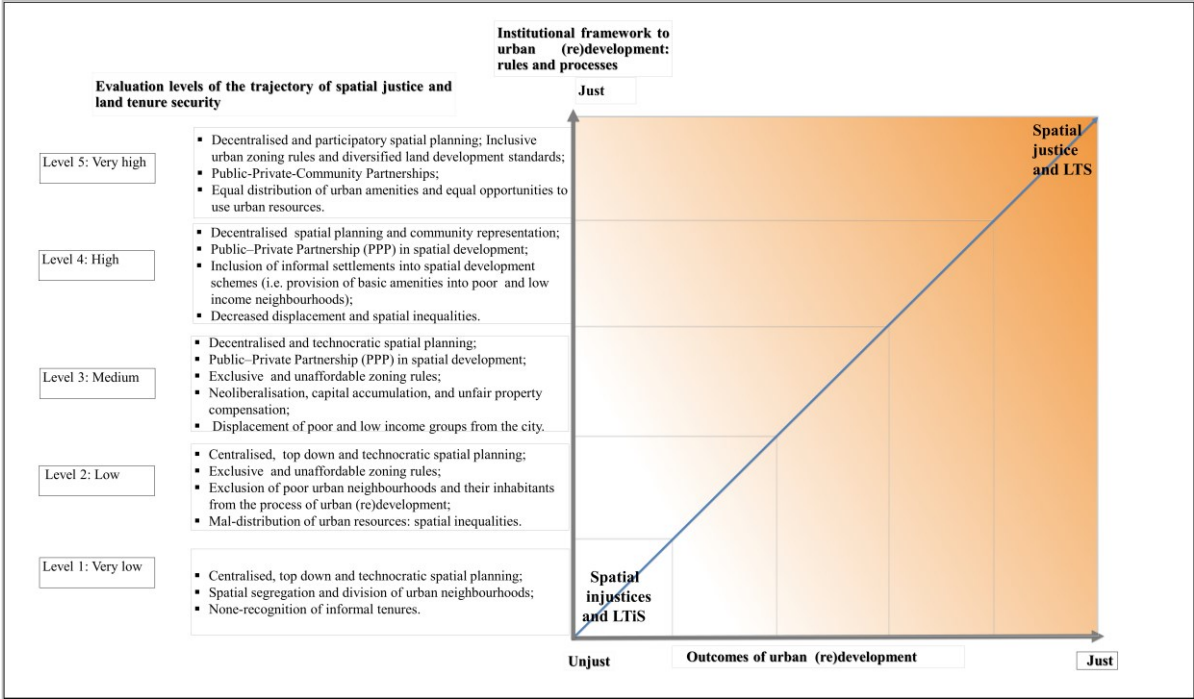
No	Developed indicator	Level of spatial justice and land tenure security the indicator leads to	Scale for evaluation	Supplement to the existing indicators that measure tenure security
				Yes/No
	basic facilities and services			
47	Proportion of affordable housing units to each income group within the housing development schemes	High	3	No
48	Percentage of monthly household income allocated to housing (rent or purchase)	Moderate	3	No
49	Percentage of serviced land plots which are allocated to poor and low-income groups for housing development	Moderate	3	No
50	Percentage of housing units which are affordable to poor and low-income groups within social housing stock	Moderate	3	No
51	Percentage of upgraded informal settlements relative to their total number in an urban area	Moderate	3	Yes
52	Percentage of slum (informal settlement) dwellers relocated into serviced sites	Low	2	Yes
53	Percentage of slum (informal settlement) dwellers who are satisfied with the relocation processes	Very high	2	No
54	Percentage of property owners who are satisfied ¹⁰ with the expropriation process	Very high	1, 2	Yes
55	Percentage of property owners whose properties are expropriated at market value	Very high	1, 2	Yes
56	Percentage of expropriated people who can acquire other similar properties at the open market	Low	1,2	Yes
57	Area ratio of the private land expropriated for public interest which is put in use within three years ¹¹	Low	2, 3	Yes
58	Percentage of expropriated people whose compensation has been paid within the time span as defined by the related legal framework.	Very high	2, 3	No
59	Percentage of households who are satisfied with the resolution of conflicts resulting from expropriation	Very high	1, 2	Yes
60	Percentage of households who are satisfied with the resolution of conflicts resulting from urban development programmes	Very high	1, 2	No

¹⁰ Satisfaction can be assessed based on some criteria such as: Increased access to basic amenities and services, minimization of displacement distance, employment opportunities or access to income generating activities

¹¹ This indicator is based on the good governance criteria suggested by the World Bank (Deininger, *et. Al.* 2012)

As Table 6 reads, measuring spatial justice and land tenure security can be carried out at different levels: city (3), urban neighbourhood (2), or household (1). This can depend on the fact that the rules, processes, or outcomes of the urban (re)development affect the dwellers of the whole city, a specific neighbourhood, or some individuals, respectively, at one, two, or all three levels at the same time. In this case, spatial justice and land tenure security can be measured either at one level or more than one level at the same time. The measurement can be performed in different ways. One option is to apply a quantitative metric through the use of a numerical scale that assesses the performance or achievement of a programme and the accountability within the implementation of that programme (Hales, 2010). In this case, the evaluation will be based on the percentage of households who are satisfied with urban (re)development programmes. One can carry out the assessment based on the percentages of urban dwellers who participate in or benefit from different programmes of urban development, including access to urban amenities and housing. It is also possible to apply an ordinal scale based on the level of satisfaction of the users of spatial resources on the processes related to urban (re)development and their outcomes. In this case, one can adopt the use of a Likert scale with five levels, ranging from a very low level of satisfaction to a very high level of satisfaction. The data for this evaluation can be collected through a household survey, interviews, a review of available reports on socio-economic and urban development, and aspects related to land management (including land acquisition, land allocation, and land rights). The evaluation can therefore combine the two types of scales or can apply one of them according to Figure 13 below.

Figure 13: The continuum of spatial justice and land tenure security



Developed based on (Alexander, 2002; H. Campbell & Marshall, 2006; Fainstein, 2009, 2014; Fraser & Honneth, 2003; Harvey, 2008; Healey, 1996; Innes & Booher, 1999; Marcuse, 2010; Rocco, 2013; Soja, 2010).

Figure 13 proposes a linear and heuristic model for a continuum of spatial justice and land tenure security. It comprises three axes: the institutional framework for urban (re)development,

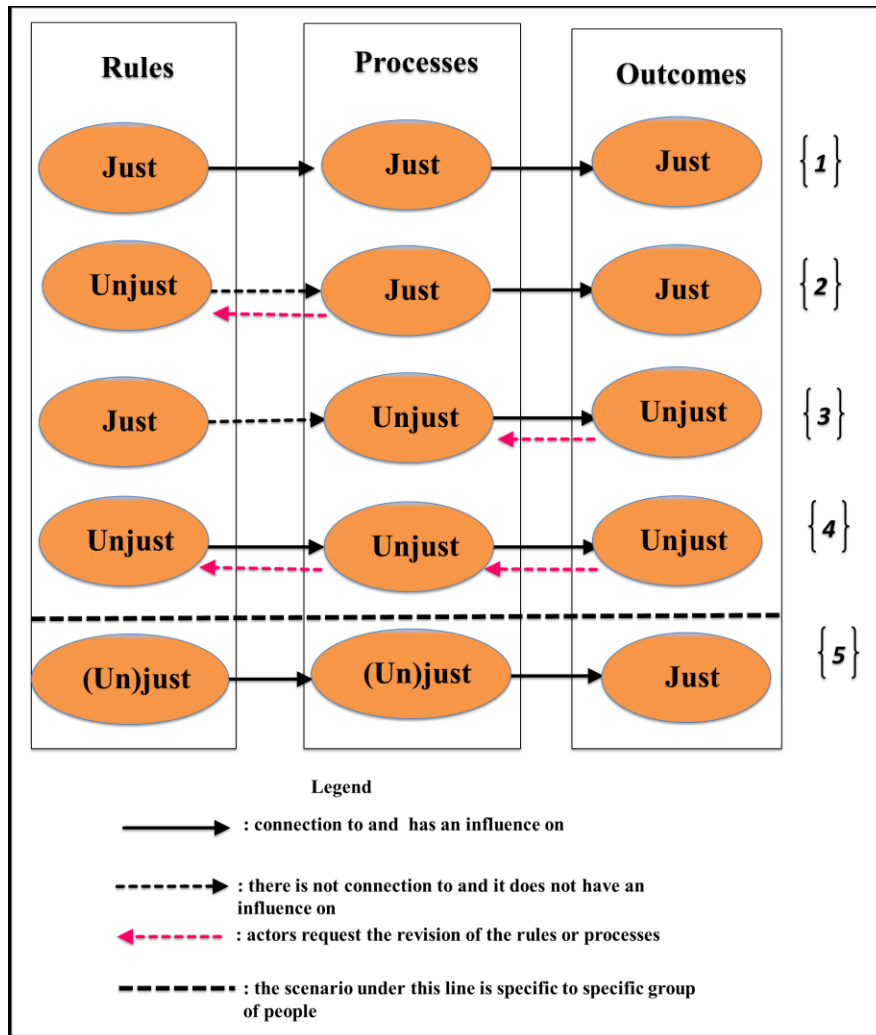
the outcomes, and a line segment with five levels showing the progress made towards the promotion of spatial justice and land tenure security (LTS). The development of the model follows the ethical perspectives of three theories: the theory of justice, the theory of common property resources, and the theory of collaborative and communicative planning that demand a shift from exclusive to inclusive spatial development (Beebeejaun, 2017; Heather. Campbell & Marshall, 1999; Fainstein, 2009; Iveson, 2011; Lusugga Kironde, 1995; McCall & Dunn, 2012; Rocco, 2013; Soja, 2010). By applying the above evaluation model, the assessment of the trends in spatial justice and land tenure security can reveal different levels of performance. There can be a high level of performance, with very good trends towards spatial justice and land tenure security (Hales, 2010) or a very low level of performance, with trends of spatial injustices and land tenure insecurity (LTiS). Between the two edges, there can be other variations depending on the degree of commitment of different actors who participate in spatial management to pursue spatial justice within any programme pertaining to urban (re)development. The assessment can therefore reveal the following trends:

- **Very high level of spatial justice and land tenure security (level 5):** between 80 % and 100 % of scores. There are very good trends of spatial justice that lead to a high level of land tenure security through decentralised, participatory, and communicative planning. The local community participates in the development of the urban space and this promotes access to urban facilities for all dwellers and their integration into the urban fabric.
- **High level of spatial justice and land tenure security (level 4):** between 60 % and 80 % of scores. There are good trends of spatial justice towards the inclusion of disadvantaged areas into the urban development process. The process is decentralised, but with limited participation of the local community whose representatives participate in the management of the city in collaboration with public and private institutions.
- **Medium level of spatial justice and land tenure security (level 3):** between 40 % and 60 % of scores. Users of spatial resources perceive some attempt to promote spatial justice and improve land tenure security. Though the urban development is decentralised, it is driven by the Public–Private partnership. Unaffordable zoning rules which are developed through that partnership do not promote either the use of land resources for all people or access to other spatial resources in all urban neighbourhoods. Therefore, it can result in the loss of individuals’ property rights through forced sale or unfair compensation.
- **Low level of spatial justice and land tenure security (level 2):** between 20 % and 40 % of scores. Users of spatial resources perceive little attempt to promote spatial justice and improve land tenure security. Most of the urban dwellers, such as the poor and low-income groups, are deprived of access to urban resources at the privilege of rich and middle classes.
- **Very low level of spatial justice and land tenure security (level 1):** with less than 20 % of scores. Users of spatial resources perceive high trends of spatial injustices together with associated risks for land tenure insecurity. This is driven by urban development rules and processes that exclude dwellers of informal settlements, poor people, and low-income groups from the processes of spatial organisations and force them to leave the city.

It is worth noting that the decentralisation of urban development is not necessarily meant to promote spatial justice. Spatial injustices can be produced within any spatial development process, centralised or decentralised. This can be determined by endogenous or exogenous factors that affect the behaviour of political leaders and decision-makers who overwhelmingly guide and control the management of spatial resources (Soja, 2010). Good outcomes of urban (re)development and trends of spatial justice result from conformance to just rules and

processes by all actors who take part in the management of spatial resources. From the different properties of rules, processes, and the behaviour of actors in spatial resources management (Fainstein, 2009; Ostrom, 2011; Rawls, 1999; Young, 1990), there can be five instances of outcomes of urban (re)development, which can be just or unjust as it is illustrated by Figure 14 below.

Figure 14: The matrix of the three dimensions of spatial justice



Developed based on (Dikeç, 2001; Harvey, 1973; Lefebvre, 1991; Purcell, 2002; Rawls, 1999; Smith, 1994; Soja, 2009; Young, 1990).

Figure 14 shows that:

{1}: When both rules and processes are just, the outcomes are just. Actors in resources management maintain rules and processes to achieve the desired outcomes. In this case, there is a direct connection (solid dark arrow) to show a direct influence between just rules, just processes, and just outcomes.

{2}: If rules are unjust (a dashed dark arrow shows that there is no direct influence between rules and processes), the actors may adopt a different behaviour and design just processes that lead to the just outcomes they aspire to achieve (solid dark arrow connects processes and outcomes to show a direct influence). Those actors will henceforth have to revise the rules (a dashed red arrow connects the processes to rules) to maintain the adopted processes and desired outcomes.

{3}: If rules are just but the actors adopt unjust processes, the outcomes are unjust (a dashed dark arrow shows that there is no direct connection between rules and processes, but a solid dark arrow connects unjust processes and unjust outcomes to show a direct influence). The actors have to revise the processes to come up with desired just outcomes (a dashed red arrow connects the outcomes to processes to show the required revision).

{4}: If both rules and processes are unjust, the outcomes are automatically unjust. In this case, the matrix shows that there is a direct connection (solid dark arrow) between unjust rules, unjust processes, and unjust outcomes. There will be, therefore, a need for the revision of rules and processes in order to redress the unjust outcomes that previous unjust rules and processes could lead to (a dashed red arrow connects the unjust outcomes to unjust processes and unjust rules to show the required revisions).

{5}: Both rules and processes can be unjust for most of the users of spatial resources and just for some categories of people, such as the poor and others who have been deprived of the access to or use of those resources. In this case, (un)just rules and (un)just processes are directly connected by a solid dark arrow to show a direct influence. This results in inequalities that do not benefit all people (Rawls, 1971). Instead, they lead to just outcomes (solid dark arrow between (un)just processes and just outcomes) for the target groups. This happens in specific or exceptional circumstances. An example can be spatial injustices that are intended to restore justice through the principles of positive discrimination for some people, such as poor, vulnerable, and marginalised groups who suffer from the historical injustices that have deprived them from access or opportunities to use spatial resources (Barry, 1997; Rawls, 1999).

The first row in Figure 14 shows the desired outcome of spatial (re)development grounded on just rules and just processes. Such an outcome can therefore spur land tenure security for all categories of urban dwellers. The last row shows an instance which is not necessarily pertinent to poor, vulnerable, and marginalised groups for whom the arrangement promotes spatial justice and access to or use of spatial resources. Yet, those categories of urban dwellers contain the majority of people for whom proponents of spatial justice advocate when they claim for a fair allocation of spatial resources and the institutionalisation of spatial management rules and processes. The access to or use of spatial resources for those people can be advanced through the pursuit of spatial justice in the first instance of Figure 14.

4.5. Conclusion

This chapter analyses the approaches used to measure and monitor land tenure security. It reveals that these approaches are based only on the promises of formalised land rights. They do not consider the security of land tenure that may derive from effective spatial (re)development rules and processes. The chapter also grasps how different approaches and processes of urban (re)development that are grounded on the promises of spatial justice can spur land tenure security. In that way, a synthesis on the main forms of spatial justice and their relationship to land tenure security is provided. Among the forms of spatial justice that spur the security of tenure, procedural, recognition, and redistributive justice are at the forefront. They promote equality of opportunities for all people (including the urban poor and low-income groups) to have access to or use land resources. This is achieved through the participation of all categories of urban dwellers in the design and implementation of rules, processes, and plans that guide the (re)development of the urban space. Those rules, processes, and plans have to be aligned with the needs of all urban dwellers, including those who are

deprived of spatial resources. Participatory and collaborative urban planning constitutes the main urban (re)development approach that most highly promotes spatial justice and land tenure security.

The chapter discusses also the main urban (re)development processes that have potential to promote spatial justice and land tenure security. These include slum upgrading, the development of affordable or mixed housing, incremental housing development, urban regeneration, and the relocation of squatters or slum dwellers to serviced sites. To assess whether these approaches and processes promote spatial justice and land tenure security, the chapter proposes a holistic set of 60 evaluative indicators. Among them, 30 are connected to and supplement the existing indicators that measure land tenure security. Others extend the existing indicators and evaluate the hidden and dynamic trends of spatial justice in the course of urban (re)development. As urban (re)development can be achieved through the implementation of different actions and programmes, the developed indicators relate to those various actions and programmes that one can encounter. The evaluation can therefore focus on one or more actions and programmes. There are 18 indicators that evaluate the participation of all urban dwellers in crafting rules guiding the development of their cities and the promotion of access to housing and urban amenities for poor and vulnerable groups. The other 12 indicators are linked to the relocation and resettlement of poor and low-income groups into suitable residential areas. Spatial justice recognises the inevitable urban (re)development programmes that may infringe on the rights to private properties of some urban dwellers, such as in the case of real property expropriation. The framework therefore includes a series of indicators (16) that assess whether those actions are carried out in a just way (i.e. a way that leads to fair compensation).

Generally, all proposed indicators are specific to land tenure security from a spatial justice lens for which there is no existing framework for evaluation. The evaluation of land tenure security using those indicators can be performed at different stages of urban (re)development. The evaluation can give an insight into the aspects that relate to the protection of the rights to land for all people, especially poor and low-income urban dwellers. The users of those indicators can include decision-makers, municipality authorities, urban planners, and different organisations who intend to measure trends of spatial justice and land tenure security in the course of any urban (re)development programme. The results of the evaluation can be used to recommend aspects for improvement in the management of urban space in order to boost land tenure security in cities. However, this chapter does not provide an evaluation test of the framework using a specific case study. Instead, it shows that it is possible to create a holistic framework of indicators that addresses multiple themes. The extent to which, the conditions under which, and the kinds of cases for which the framework can be used practically will be the aim of a subsequent publication.

Chapter 5: Expropriation of real property in Kigali City: scoping the patterns of spatial justice¹²

Abstract

The key question in this article is the extent to which current real property expropriation practices in Kigali City promote spatial justice. Current studies focus on the ambiguous manner in which real property valuation had been regulated by the expropriation law of 2007, leading to unfair compensation and various conflicts between expropriating agencies and expropriated people. Following its amendment in 2015, the law currently provides clearer procedures for valuation and fair compensation, based on the market prices. Using indicators that measure spatial justice, this study evaluates if the current expropriation processes result in spatial justice, consisting of procedural, recognitional and redistributive justice. These indicators are described using three dimensions of spatial justice: rules, processes and outcomes. Data were collected through household surveys, focus group discussions, stakeholders' interviews and observations in four urban neighbourhoods where expropriation has taken place in Kigali City. Interpretative and statistical analysis of the data reveals some patterns of procedural, recognitional and redistributive justice in the rules dimension. There is no indication of any pattern for other dimensions. This relates to limited budgets of expropriating agencies which insufficiently follow the law. The consequence is the decreased redistributive justice in the compensation and the increase in the displacement effect of expropriation. Although, counter-valuations result in fair compensation, there is limited evidence for good trends of spatial justice in the whole process of expropriation.

Keywords: Kigali City; real property; expropriation; valuation; just compensation; spatial justice

5.1. Introduction

Kigali, the capital city of Rwanda, has experienced rapid population growth over the last 20 years, with a growth rate of around 4.0 % per year. Its population is expected to reach 4 million by 2040 (Ministry of Finance and Economic Planning & National Institute of Statistics of Rwanda, 2014). However, such population growth has not been coupled with the provision of basic amenities, services and housing (Manirakiza, 2012) and has therefore resulted in uncontrolled spatial development (World Bank Group, 2017), proliferation of informal settlements and environmental degradation (Rwanda Environment Management Authority, 2013). In 2014, informal settlements occupied 65.8 % of the built-up residential area, hosting 79 % of urban dwellers (Ministry of Finance and Economic Planning & National Institute of Statistics of Rwanda, 2014). In 2007, the Government of Rwanda adopted a master plan providing the legal framework for sustainable and orderly development of Kigali City (Ministry of Infrastructure, 2015b). The implementation of that master plan significantly affects living conditions of inhabitants in informal settlements. Current urban development schemes consist of upgrading or converting these settlements into modern residential apartments, while people

¹² This Chapter is based on a published paper: Uwayezu, E. and de Vries, W.T., Expropriation of Real Property in Kigali City: Scoping the Patterns of Spatial Justice, *Land* 2019, 8(2), 23; <https://doi.org/10.3390/land7030084>

living in high risk zones are being relocated to serviced sites (Ministry of Infrastructure, 2015a). Other actions consist of developing socio-economic infrastructure in different urban neighbourhoods (City of Kigali, 2013). These actions have been framed by the government's vision to modernise the country, creating modern and dynamic cities which are more attractive and economically prosperous (Goodfellow & Smith, 2013; Manirakiza & Ansoms, 2014). Nevertheless, their implementation affects negatively the livelihoods of real property owners because they involve processes of expropriation of their real properties (Goodfellow, 2014). This chapter discusses expropriation by making reference to the power of government agencies¹³ to interfere in individual real property rights and acquire their properties in order to serve public purposes or social benefits (Government of Rwanda, 2015). It refers similarly to government power of eminent domain, compulsory purchase or acquisition of private real property for public interest (Tagliarino et al., 2018). The expropriation involves compensation for the acquired properties which can be paid in monetary form or in any other form based on mutual agreement between the expropriating agency and property owners (Government of Rwanda, 2015; Hoops et al., 2015).

Until 2015, the expropriation law passed in 2007 guided expropriation processes in Rwanda. Its implementation was decried by existing studies to result in unfair compensation which is largely paid in monetary value and dissatisfaction of the expropriated property owners with the paid compensation (Rose et al., 2016). The unfair compensation and dissatisfaction with the compensation have also resulted in various conflicts between expropriating agencies and property owners (Goodfellow, 2014; Legal Aid Forum, 2015). Those studies focus on the implementation of the expropriation law of 2007, which was amended in 2015. They do not discuss in depth different factors which are behind the payment of the unfair compensation and property owners' dissatisfaction. The amended law provides clear procedures which have to be followed by actors in the expropriation in order to determine fair or just compensation value which should be paid to expropriated people. Just compensation value is the value of the expropriated property which is determined at market price (Tagliarino et al., 2018). Procedures that may lead to just compensation and which are stated in the current Rwandan expropriation law include the use of updated reference prices, which are determined on the basis of the market prices, for the real properties affected by expropriation and the counter-assessment of the proposed compensation value in the case expropriated people are not satisfied with it (Government of Rwanda, 2015). This study therefore explores whether the current expropriation law ameliorates the status quo in the expropriation processes and compensation alongside its implementation in Kigali City. Just compensation is a significant indicator of justice in the implementation of spatial development programmes which affect private property rights (He & Sikor, 2015; Uwayezu & de Vries, 2018). Within the global context of expropriation, different aspects regarding just compensation are highlighted. They include compliance to national and international norms regarding compulsory acquisition of private property, which implies the rule of law and transparent valuation processes, participation of affected people and their negotiation on fair compensation option and value with expropriating agencies (Food and Agriculture Organization of the United Nations, 2012; Hoops et al., 2015; Hoops et al., 2018; World Bank, 2015). Those aspects reflect different patterns of spatial justice, consisting of procedural, recognitional and redistributive. Proponents of the right to just compensation include Nozick (1974) and Rawls (1999) who claim for fair compensation when individuals' property rights are infringed through expropriation. Just compensation helps those affected access other material resources and pursue their livelihoods (Fainstein, 2009; Gutwald et al., 2014; Rawls, 1999). These arguments spell out various patterns of spatial justice required for expropriation to result in just

¹³ This will be referring to Kigali City and its constituent districts in this study

compensation. In this fashion, this chapter aims to investigate if there are features of spatial justice in the current Rwandan expropriation law and its implementation processes in Kigali City and whether they result in just compensation. The pursuit of this main research aim is guided by the following research questions:

1. To which degrees are the law, processes and outcomes of expropriation in Kigali City in line with patterns of spatial justice?
2. Is compensation always determined at market value?
3. How satisfied are expropriated people with the received compensation?
4. Does the paid compensation allow expropriated people to acquire other assets and to pursue their livelihoods in the same city?

In next sections, the chapter discusses the research framework and methods. Thereafter, findings are presented and discussed. The chapter concludes with areas for improvement in both law and expropriation practices in order to ameliorate the status quo of property owners, affected by expropriation.

5.2. Conceptual framework

This study uses an analytical framework of spatial justice, which is broadly referred to the spatial aspects related to social justice (Soja, 2009). This framework is used to derive insights on how different rules and processes pertaining to the use of spatial resources can promote equal opportunities for all categories of people in both access and use of those resources and/or how benefits that accrue from their use are allocated among different users (Uwayezu & de Vries, 2018). It is grounded in two theoretical foundations of social justice: deontologism and consequentialism. Deontologism emphasises the role of good rules and processes in advancing justice alongside the management of societal resources and their allocation among different users. Consequentialism claims for equity in the outcomes those rules and processes lead to (Ferrari, 2012). In these ethos, the applied framework comprises of a series of indicators connected to three dimensions of spatial justice, namely rules, processes and outcomes and its three forms consisting of procedural, recognitional and redistributive (Uwayezu & de Vries, 2018).

As far as expropriation is concerned, assessment of the rules dimension focuses on appropriateness of the expropriation law with regard to procedures actors follow in calculating compensation and involvement of property owners. Direct involvement of property owners is highlighted by Watkins (2005) who posits that legal provisions on how all actors in the expropriation interact and bargain on the compensation are important in evaluating whether the applied law promotes spatial justice. For the processes dimension, assessment centres on compliance with the law and how property owners actually participate (Fraser, 2001; Young, 1990). The outcome dimension relates to appropriateness and redistributive aspects of the compensation (Fraser & Honneth, 2003) that should facilitate access to other material resources (Watkins, 2005). As for the patterns of spatial justice, procedural justice relates to fairness of rules and adequacy of each step of the decision-making process while implementing rules (Lawrence et al., 1997). It requires observing just legal principles underling expropriation, collaboration and negotiation among participating actors in order to reach just compensation (Burke & Leben, 2007; Stern, 2017). Recognitional justice seeks compliance to just law (Lefebvre, 1991) and respect of rights of affected people in order to attain just compensation (Deininger et al., 2010). Redistributive justice consists of remedial schemes, considering the circumstances of the expropriation and recognising the needs of those affected, providing them with just compensation to help reconstitute their livelihoods such as access to housing

and basic socio-economic amenities (Stern, 2017). Appropriate compensation is often determined using market prices (Hoops et al., 2015; Knetsch & Borchering, 1979). Building on these insights, assessment of the expropriation in Kigali City was carried out using a series of indicators measuring spatial justice, with regard to main aspects pertaining to just compensation. These aspects include the relevance of Kigali City and its constituent districts in undertaking expropriation, negotiation with property owners on compensation and their participation in valuation, compensation at market prices and its potential remedy to property deprivation. Table 7, below, lists indicators used for this assessment.

Table 7: Matrix for measuring spatial justice alongside the expropriation of the real property in Kigali City

Forms of spatial justice under evaluation ¹⁴	Evaluative aspect	Measurement indicators and related dimension of spatial justice			Related research question			
		Rules	Processes	Outcomes	Q 1	Q 2	Q 3	Q 4
Procedural	Expropriation is carried out for public interest	- Presence of legal provisions defining the public interest as rationale for government agencies to undertake expropriation.	- Government agencies execute expropriation solely for public interest.	- Percentage of expropriated people whose properties were expropriated by government agencies for public interest.	√			
	Neutrality in the valuation	- Presence of legal provisions for calculating compensation value by independent valuer.	- Compensation value is calculated by independent valuer.	- Percentage of expropriated people consenting to the independency of valuer who calculated their compensations.	√			
Procedural, recognitional and redistributive	Negotiation on compensation and participation in valuation	- Presence of legal provisions for negotiating compensation option between expropriating agency and property owners.	- Consensus on the compensation option is reached between expropriating agency and property owners prior to valuation.	- Percentage of expropriated people who negotiated compensation with expropriating agency.	√			
		- Presence of legal provisions for negotiating the compensation value between expropriating agency and property owners.	- Property owners actively participate in valuation process and negotiate on compensation value.	- Percentage of expropriated people who actively participated in the valuation process and negotiated compensation value.	√			
	Compensation	- Presence of legal	- Compensation is	- Percentage of expropriated people	√	√		

¹⁴ Some aspects under evaluation relate to one or more forms of spatial justice. Those forms of spatial justice are therefore presented individually or in combination.

Forms of spatial justice under evaluation ¹⁴	Evaluative aspect	Measurement indicators and related dimension of spatial justice			Related research question			
		Rules	Processes	Outcomes	Q 1	Q 2	Q 3	Q 4
	at market prices	provisions on compensation at market prices.	calculated at market prices.	whose compensation has been calculated at market prices.				
Procedural and redistributive	Satisfaction with compensation	- Presence of legal provisions on the processes of appealing against non-satisfactory expropriation process.	- Presence of accessible appealing system for handling claims on the non-satisfactory compensation value or option.	- Percentage of the expropriated people who are satisfied with compensation at first valuation process. - Percentage of expropriated people who accessed appealing system and claimed against dissatisfactory compensation. - Percentage of expropriated people who are satisfied with compensation after appealing.	√		√	
Redistributive	Access to new properties using compensation		- Use of compensation to access other properties in the close neighbourhoods.	- Percentage of expropriated people who afford other properties, using received compensation.				√

Adapted from Uwayezu and de Vries (2018)

The assessment indicators are connected to different forms of spatial justice, applied individually or in combination. Procedural justice is required for an effective recognitional and redistributive justice to take place (Fraser, 1995), while a combination of all three forms advances just outcomes (Fraser & Honneth, 2003). The assessment applies two measurement approaches which are commonly used in assessing the effectiveness of systems of land management (de Vries & Chigbu, 2017; Deininger et al., 2012). At the dimensions of rules and processes, a Likert scale with five levels, ranging from 'very unjust or dissatisfied' (1) to 'very just or satisfied' (5), is used to evaluate whether the expropriation law promotes fair compensation (see appendix 4). This is based on interpretation of the law by property owners and actors participating in expropriation and their experiences of the law's implementation. Participation of property owners, compliance with the law, compensation at market value and access to other properties are evaluated on the basis of percentages of property owners who are satisfied. Five levels of assessment, from less than 20 % to between 80 % and 100 %, were defined. Average scores for each of the assessed forms and dimensions of spatial justice are used in order to draw conclusion on trends of spatial justice in expropriation in Kigali City. Five levels of trends are determined as follows:

1. Very unjust trends: less than 1 score or less than 20 %
2. Unjust trends: between 1 and less than 2 scores or between 20 % and less than 40 %
3. Relatively unjust/just trends: between 2 and less than 3 scores or between 40 % and less than 60 %
4. Just trends: between 3 and less than 4 scores or between 60 % and less than 80 %
5. Very just trends: between 4 and 5 or between 80 % and 100 %

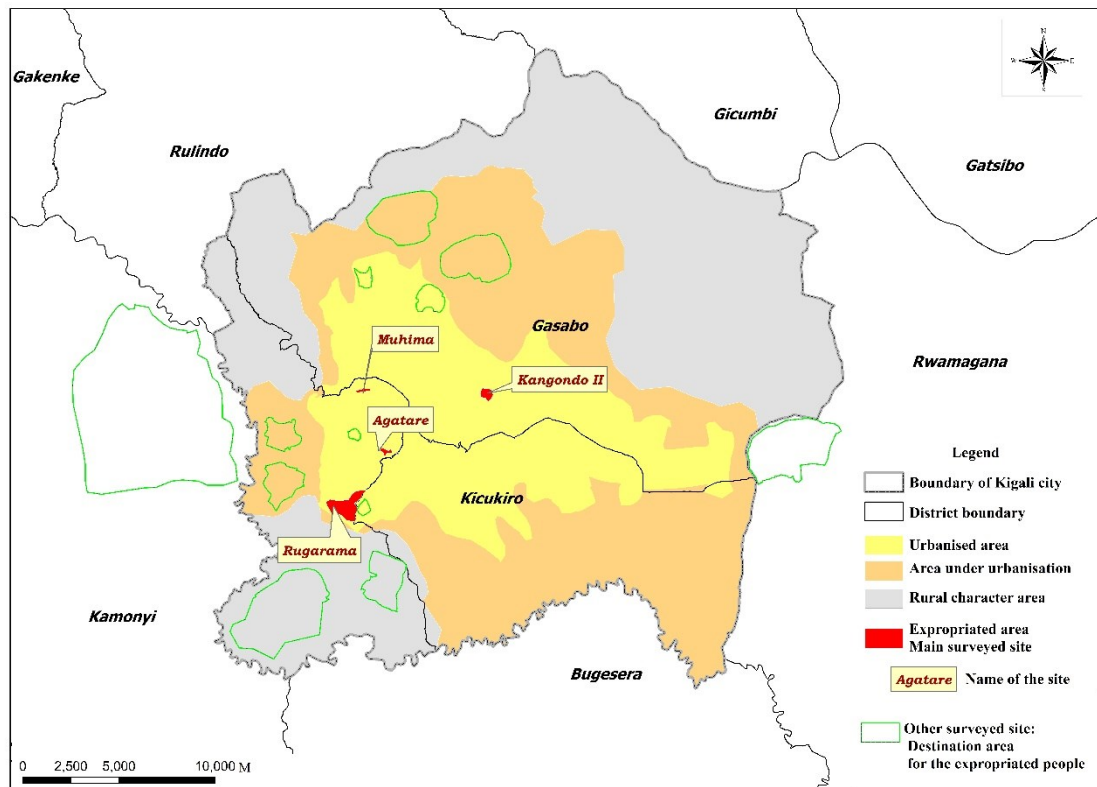
This evaluation approach is anchored in the matrix of spatial justice in which both just rules and processes result in just outcomes or where rules are unjust but processes are just, the outcomes can be just as well (Uwayezu & de Vries, 2018). Alternatively, trends of unjust rules or processes lead to unjust outcomes. In that case, either revision of rules or processes or both is required in order to promote just compensation. The next section presents sources of data for this study and methods that have been applied.

5.3. Data sources and methods

5.3.1. Study areas and sampling

Kigali City is divided into three administrative districts consisting of Gasabo, Kicukiro and Nyarugenge. The boundary of Kigali City coincides with the boundaries of its constituent districts. It comprises of three main spatial patterns (see the appendix 5): the urbanised, the area under urbanisation and the urban fringe. The study was carried out from January to March, 2018, in four sites, consisting of *Rugarama*, *Agatare*, *Muhima* and *Kangondo II* (see Figure 15 and appendix 6), located in the urbanised area where expropriation has recently been carried out.

Figure 15: Surveyed sites



Data source: Field work; NISR and CGIS-UR (NISR & CGIS-UR, 2012)

Both random and purposive sampling were applied in selecting participants to household survey and interviews. Households were selected to participate in the survey using updated cadastral data acquired from the national land registry. In each site, the number of recorded land plots was retrieved. One household was associated with a land plot in order to determine the sample of property owners to participate in the survey. The number of property owners who participated in the survey was selected using the following sampling formula, which is applied in the finite population (Krishnaswamy et al., 2006) as follows:

$$n = \frac{z^2 * p(1 - p)/e^2}{1 + (z^2 * p(1 - p))/z^2 * N} \quad (1)$$

Where:

Z = is the value assigned for the confidence level of 95%, with 1.96 as a confidence level score;

p = the desired proportion for the sample size n, which is 0.5; e = the marginal error (10% in this study);

N = population size (for the whole study area).

The total sample size comprised of 197 respondents, selected among 535 households in four selected sites (see appendix 6). The expropriated people in *Rugarama* and *Muhima* have resettled in other neighbourhoods. Using the information collected from their former neighbours regarding their current residential areas, these people were tracked, using a snowballing approach in order to include them in the survey. In *Rugarama*, expropriation was carried out before the amendment of the current expropriation law. This site was included in the study because its inhabitants could provide data that helped to explore patterns of spatial justice in

valuation processes and compensation before and after the passage of the current expropriation law.

5.3.2. Data collection

5.3.2.1. Primary data

Primary data for this study were collected through a household survey which was organised for the heads of households. They mainly include men who are the first contact persons on different issues regarding the households, according to the Rwandan culture. In the absence of men, women participated in the survey. They include unmarried women and widows who are heads of households and registered as property owners. The survey questionnaire covered aspects pertaining to perceptions of expropriated people on the effectiveness of the expropriation law and its potential to promote just compensation. These aspects were included in the evaluation matrix, presented in Table 7. Primary data were also collected through 37 semi-structured interviews organised for different staff working in public and private organisations. Interviewees included decision-makers at district level, members of the district and sector councils, staff at ministry and authority in charge of infrastructure and housing development, researchers at the Institute of Policy Analysis and Research (IPAR-Rwanda), the Rwanda Governance Board (RGB) and the University of Rwanda (UR). Staff of the ministry of justice and the office of the Ombudsman, property valuers, local government leaders, urban planners and land managers participated also in interviews. These informants were selected because they participate either in planning and implementing different activities related to expropriation or carry out research on the implementation of rules related to land management in Rwanda and issues of good governance. Interviews covered various topics including the effectiveness of the expropriation law to promote just compensation, planning and implementation processes of the expropriation, collaboration between actors in expropriation, calculation of compensation value and the management of related conflicts. Focus group discussions (FGD) were organised in each of the surveyed site, with heads of households and local leaders for validating data collected from the household survey and collecting additional data on the implementation of the expropriation law. Field observations were also organised in order to collect data on characteristics of properties which are being expropriated or being developed in the resettlement areas for the expropriated people, the availability of the basic amenities in those areas and the ongoing urban (re)development projects in the areas where the expropriation was carried out.

5.3.2.2. Secondary data

Secondary data on expropriation processes were collected from various documents and media records. Those documents include the expropriation law, research papers and reports on expropriation, reference lists for real property prices established by the Institute of Real Property Valuers of Rwanda (IRPVR) and districts, for determination of the compensation value. Others are compensation rolls, valuation and counter-valuation reports held either by the expropriated people or real property valuers. Data on recent land prices were used to assess the degree to which reference prices for calculating the compensation are consistent with market prices. They were extracted from land transaction proofs held by land managers and property owners. Media resources include video and online newspapers articles on expropriation processes and compensation option.

5.3.3. Data analysis

Data analysis included the transcription of recorded information through interviews and household surveys. Transcripts were organised into seven themes, including the purpose of expropriation; collaboration between the expropriating agencies, real property valuers and property owners; independence of the valuers; calculation of compensation value; compensation satisfaction; appeal processes; and use of compensation in accessing other properties. Validation of and consistency check between all collected data were performed using triangulation approach (Torrance, 2012). As the evaluation uses the measurement scale with five levels, the recorded scores and other quantitative data were organised in table format using excel. SPSS was used to perform descriptive and inferential statistics. Excel was used to generate graphical illustrations. Spatial statistics and map algebra tools of ArcGIS helped in producing qualitative maps on mobility of the expropriated people and their access to basic amenities. The next section presents and discusses results.

5.4. Results and discussion

Results are presented and discussed in the same flow as the structure of the evaluation framework.

5.4.1. Patterns of spatial justice in the law and processes of expropriation and compensation

Table 8 presents general trends of spatial justice in the expropriation in Kigali City, based on the assessed aspects, in connection to related form(s) and dimension of spatial justice. Generally, good trends of spatial justice are observed in the current expropriation law. However, such trends are not observed in the implementation processes of the law and its outcomes. Discussion of these trends centres on recorded score for each of the assessed aspects.

Table 8: Trends of spatial justice within the expropriation law, its implementation practices and outcomes

Forms of Spatial Justice	Evaluated Aspect	Period of Expropriation	Mean Score ^b		Sig*. (2-tailed)	Score on Outcomes and Comments	
			Rules	Processes		Score in % ^a	Comments
Procedural justice	Expropriation for public interest	Before 2015	2.95	1.16	.001	0 %	People whose properties were expropriated for public interest
		After 2015	3.19	2.46	.001	51 %	
	Neutrality in calculating the compensation	Before 2015	4.82	1.50	.001	14 %	People whose compensation value was calculated by an independent valuer
		After 2015	4.25	2.39	.001	24 %	
Procedural, recognitional and redistributive	Negotiation on compensation option	Before 2015	2.63	1.16	.001	0 %	People who negotiated compensation option
		After 2015	2.33	1.54	.001	0 %	
	Participation in valuation	Before 2015	2.57	1.21	.001	0 %	People who participated in calculating the compensation
		After 2015	2.30	1.51	.001	0 %	
	Valuation and compensation at market prices	Before 2015	4.93	1.41	.001	18 %	People whose compensation was calculated at market prices (First valuation)
		After 2015	4.91	1.74	.001	14 %	
	Satisfaction with compensation	Before 2015	-	-	-	18 %	People who are satisfied with compensation at first valuation
			-	-	-	39 %	People who are satisfied with compensation after counter-valuation (good trends through increase in the level of satisfaction)
		After 2015	-	-	-	14 %	People who are satisfied with the compensation at first valuation
			-	-	-	48 %	People who are satisfied with the compensation after counter-valuation (good trends through increase in the level of satisfaction)
Redistributive	Access to other properties using the compensation	Before 2015	-	-	-	8 %	People who afford other properties in the close neighbourhoods
		After 2015	-	-	-	9 %	

*: The significance levels of differences between scores at rules and processes dimensions are checked using T-Test at $P \leq 0.01$

a: The evaluation is based on percentages of property owners who participated in the action or expressed their satisfaction about its outcome.

b: Good trends of spatial justice are identified in the expropriation law (more than average score as the maximum is 5) but they are deficient in its implementation processes (very low scores)

Data source: Household survey and interviews; Land transaction reports and compensation reference prices list, 2017–2018(Institute of real property valuers in Rwanda, 2018).

In Table 8, the effectiveness of the expropriation law, related processes and outcomes were generally evaluated by putting emphasis on the rationale for the expropriation and drivers for just compensation. Driving factors for just compensation include participation of property owners in expropriation and negotiation on compensation option/value, valuation by the independent valuer, appeal process and compensation at market value. Features of spatial justice pertaining to these aspects and related scores are discussed below.

5.4.1.1. Procedural justice and compliance dilemma

In this sub-section, procedural justice centres on the effectiveness of the expropriation law in condoning intervention of Kigali City and its constituent districts in carrying out expropriation for public interest and their neutrality in calculating compensation. Average scores for the two aspects are 3.8 and 3.7 out of 5 in the law, 1.3 and 2.4 out of 5 in the processes, for expropriation carried out before and after 2015. Those scores reveal good trends of procedural justice in relation to the law and its deficiency in the processes. Result is a low level of satisfaction on the outcomes. Driving factors can be interpreted from the lens of involuntary non-compliance (Börzel et al., 2012), especially when public agencies lack necessary capacity to comply with the law and therefore implement it inefficiently.

5.4.1.1.1. The fallacy of public interest

The expropriation law (Government of Rwanda, 2015) grants government agencies the power of eminent domain and to intervene in expropriation for different activities aimed at developing public amenities. However, and unlike the previous law, the current law, in article 7, classifies activities pertaining to the implementation of master-plans among issues in public interest. Article 7 has been misinterpreted by public agencies which initiate expropriation for all kinds of projects aimed at implementing master-plans (Goodfellow, 2014). In other words, the power of eminent domain has not just been used in the public interest but also in terms of private interests, without prior consultation with property owners. According to property valuers and owners who participated in the interviews, that practice is not appropriate as they argue: *“The law does not grant Kigali City and its constituent districts the power to initiate the expropriation for a real estate agency whose projects consist of developing apartments for rent or sale¹⁵.”*

The practice of public agencies to use the power of eminent domain in carrying out the expropriation for private interest records low scores in three dimensions of spatial justice. This practice is decried for disguising patterns of unfair compensation, as stated by participants in the household survey and interviews. Property owners perceive that their rights are not recognised by districts which do not allow them negotiating just compensation with investors. Private property valuers raised the same concern. They find inappropriate for districts to carry out the expropriation for private investors, while the latter should directly negotiate with property owners, as follows: *“District authorities use the expropriation for public interest as a strategy to attract private investors. They initiate the expropriation which may result in paying low compensation, while its purpose is for private investment. However, if the investors negotiate with property owners, the compensation value may be higher. Paying low compensation can be a ground for collaboration between districts and investors*

¹⁵ Interviews and household surveys

who contribute in implementing socio-economic development programmes some of which are counted while evaluating the performances of the districts¹⁶.”

However, other respondents interpreted that practice differently. High and local levels government authorities rejected these allegations. They do not find it unjust for Kigali City and its constituent districts to carry out expropriation on behalf of private investors. They contend that: *“Letting property owners negotiate the compensation with the investors can result in long processes, high speculation on property prices and demand for excessive compensation. This can result in either delay in the start of the project of the investors or its abandon. Those investors create jobs for the public. Some of them contribute in mitigating the shortage of modern residential buildings¹⁷.”*

These are the main grounds for Kigali City and its constituent districts to assist private investors in acquiring land, because those investors contribute in the development of Kigali City and job creations. Proponents of this idea maintain that: *“If Kigali City and its constituent districts carry out the expropriation for private investors and property owners are not satisfied with the compensation, they can appeal and proceed with the counter-valuation. The law is clear¹⁸.”*

Actually, the pursuit of just outcomes entails observing the law so that local community can trust the authorities (de Vries & Chigbu Uchendu, 2017). Putting it clear, the authorities should play a role of mediators between investors and property owners in negotiating just compensation that fairly values the affected properties. Calculating a just compensation may also be a concern when the expropriation is carried out for public interest. It is hence necessary to comprehend how this process which requires neutrality of expropriating agency in the valuation is undertaken.

5.4.1.1.2. Lack of neutrality in calculating compensation

According to the expropriation law, the calculation of just compensation is undertaken by an independent valuer, registered under the board of the Institute of Real Property Valuers in Rwanda (IRPVR). Property owners expect property valuers to be independent and to calculate compensation freely from the interference of expropriating agencies. However, most of the expropriated people decry the lack of independence of valuers who carry out valuations on behalf of public agencies. Although, legal provisions on this aspect have a very good score, this is very low on neutrality in the current and previous practices, hence the outcome. In fact, valuation for compensation is carried out by valuers who are hired either by Kigali City or its constituent districts, through annual framework contract for valuation services. Those valuers are criticised by property owners for having developed patronage relationships with their employers. They seldom use updated reference prices in order to palliate to insufficient budgets those agencies may face, in the case the cost for expropriation becomes higher than estimated in budget plans¹⁹. Inadequacy of compensation can often be exacerbated by the

¹⁶ Interviews with property valuers

¹⁷ Interviews with local government leaders, members of district council, decision makers at MININFRA and high level authority and the Ministry of Justice. The budget for the expropriation is always estimated, without prior survey for the affected proprieties.

¹⁸ Ibid.

¹⁹ Interviews with urban planners and land managers

superior bargaining position of public agencies which carry out the expropriation. However, recognising the rights of property owners to participate in the expropriation and observing its redistributive feature can be aligned with the demand of just compensation. This requires not to separate the three forms of spatial justice, consisting of procedural, recognitional and redistributive justice (Fraser, 1995) in the pursuit of fair compensation.

5.4.1.2. Trends of procedural, recognitional and redistributive justice

Trends of the three forms of spatial justice are explored within the expropriation law, its implementation practices and the compensation (outcomes), focusing on specific aspects. Those include recognition of rights of property owners to participate in expropriation, to negotiate on compensation options and values, the calculation of compensation at market price and satisfactory and just compensation. Scores for these aspects reveal good trends of spatial justice in the rules dimension, with mean scores of 3.3 and 3.1 out of 5, while processes show very low scores of 1.2 and 1.5 out of 5, in expropriations carried out before and after 2015 as observed in Table 2. The levels of satisfaction on the outcomes were very low for both periods.

5.4.1.2.1. Negotiation on the compensation option or value and participation in valuation

Negotiation on compensation option and participation in the calculation of the compensation value are ultimately the rights of property owners and drivers for fair compensation (Stern, 2017). However, these features of spatial justice which advance a fair redistribution and guarantee just outcomes are not well expressed in Rwandan expropriation law. The law grants independent valuers the power to undertake valuations in the presence of property owners. Yet, there is no clause endorsing the participation of property owners in processes such as checking reference prices or asking details on how compensation is calculated. It grants property owners the right to choose among two compensation options: “in cash or in kind.” But the decision on the option or form of compensation is made by expropriating agencies, whether the expropriation is carried out for public or private interest. The law opens room for negotiation when private investors aim at implementing the master-plans. If negotiations between property owners and investors fail, expropriation can be carried out as an act of public interest (Article 6). This clause was not respected in two cases of expropriation, namely *Rugarama* and *Kangondo II*. Actually, the expropriation was carried out for development of residential apartments by private investors. For the compensation option, property owners in *Kangondo II* have complained against the decision of Kigali City and *Gasabo* district to resettle them in shared residential apartments, without prior consultation. Nevertheless, the law (article 35) provides the room for the expropriator to negotiate with property owners and mutually agree upon compensation options. For the authorities in Kigali City and *Gasabo* district, it is appropriate to decide on the compensation option for those property owners, as follows:

“Keeping paying money as compensation option to the expropriated people thrives informal settlements in Kigali City and its outskirts. Property owners whose houses are of poor quality receive little money as compensation. They move to urban fringes where they build up new poor quality housing and henceforth contribute to the spread of slums, which are being cleared alongside the implementation of the current master plan. The practice for compensation in cash should stop”^{20,21}.

²⁰ Interview with land manager and urban planner in *Gasabo* district

Though these authorities justify the relevance of their decisions in counteracting the proliferation of slums, the expropriated people²² and low level government officers²³ argue that rights of property owners to negotiate on the compensation option should be respected. That question of non-participation of property owners in making some decisions that affect their livelihoods is also echoed in reports published on service delivery, good governance and performances of local governments (Never Again Rwanda, 2018; Rwanda Governance Board, 2017). This correlates with findings on low trends of spatial justice in the aspect of participation in expropriation and negotiation on compensation in this study. Very low scores are recorded at the dimensions of rules, 2.6 and 2.3 out of 5 and processes, 1.18 and 1.52 out of 5, (before and after 2015 respectively) and therefore in the outcomes. When the expropriation is undertaken outside the bargaining arena, its fairness can be questioned. It can further be assessed on the basis of compensation value which has to be calculated at market prices, when expropriating agencies behold the affected property owners (Stern, 2017).

5.4.1.2.2. Compensation at the market prices

Like the previous law, the current expropriation law establishes clear procedures for determining fair compensation at market prices. An updated list of the reference prices for the land, crops and trees has to be annually established by IRPVR (Legal Aid Forum, 2015) and approved by relevant organs (Government of Rwanda, 2010). For other properties such as buildings, valuation methods such as the cost approach, comparable sales approach and income approach have to be applied. However, as pointed out in section 5.4.1.1.2, expropriated people have decried the fact that valuers who are hired by expropriating agencies often do not use market prices or appropriate valuation methods so that the compensation value becomes unfair. In other words, valuation processes and outcomes show no good trend of spatial justice.

A new list of reference prices, which is in use since 2017, was established at the end of 2016 (Institute of real property valuers in Rwanda, 2018). Prior to this, the calculation of compensation repeatedly resulted in low values due to the use of outdated list of reference prices, determined in 2008 (Government of Rwanda, 2009). When no updated reference list price exists, property valuers should look for recent sale prices for land or use other valuation methods in calculating compensation at market value. However, compliance is often limited due to lack of independence (section 5.4.1.1.2) with valuers aiming at minimising the expropriation costs for agencies they work for. Those agencies execute different urban development projects, requiring huge amounts of public funds. Some projects are often part of performance contracts signed with higher levels of government as a performance management tool in monitoring how districts perform in achieving long-term socio-economic development goals. Calculating compensation below the market prices is attributed to budget constraints

²¹ <https://www.newtimes.co.rw/section/read/228299>

-<http://igihe.com/amakuru/u-rwanda/article/abazimurwa-muri-bannyahe-barashaka-ingurane-y-amafaranga-ahokubakirwa-inzu>, -<https://www.kigalitoday.com/amashusho/kt-tv/article/bannyahe-abaturage-ntibishimiye-kwimurwa-badahawe-ingurane-y-amafaranga>,

- Audio records from TV1, on expropriation in Kangondo II; March 2018

²² Household survey

²³ Ibid. as 7

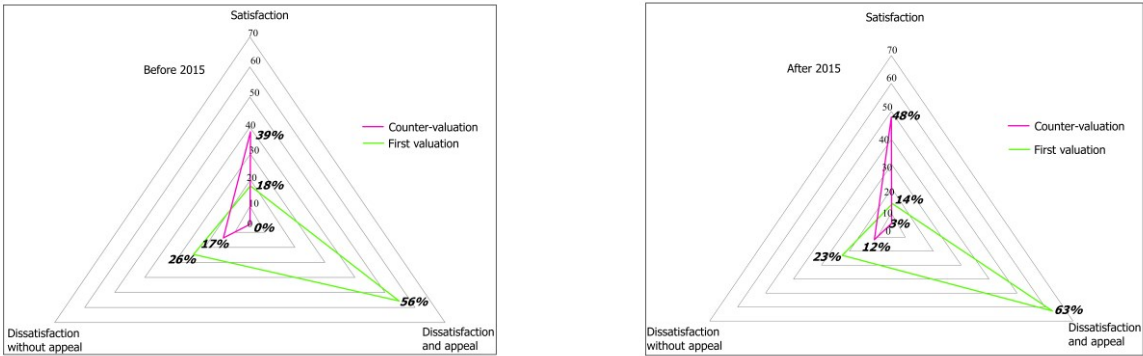
when those agencies intend to meet goals pertaining to public interest and achieve their performances, without due consideration of private property rights. That practice was repeatedly made by participants to this study: “District authorities feel a need to implement some urban development projects for their best appraisal, even though the cost for the expropriation has not been secured enough²⁴.”

This argument was largely repeated in the interviews with members of the district councils, urban planners, land managers, staff at the office of Ombudsman, researchers at UR and RGB and property owners and recently published report on the issues of good governance (Never Again Rwanda, 2018). Inequity in calculating the compensation value can substantively influence aspect of satisfaction which derives from the feeling of the expropriated people on fair compensation. Although it is obvious to consider all factors, such as the fairness of the whole process of expropriation, including participation, negotiation, prompt payment of the compensation and its use to acquire new assets which influence the satisfaction of the property owners on the compensation (Cao & Zhang, 2018), satisfaction aspect was exclusively assessed in this study on basis of the experience of the expropriated people on the use of the market prices while calculating their compensation.

5.4.1.2.3. Satisfaction on the compensation value

Some of the expropriated people evaluate their satisfaction on the basis of calculating their compensation at market prices and access to other properties after expropriation. In this study, the degree of satisfaction was evaluated in two stages: first valuation and counter-valuation. People who are satisfied at the first valuation represent 18 % and 14 % of expropriated property owners before and after 2015 respectively (see Figure 16) and are mainly poor groups whose income per month ranges between 70–150 USD (see Appendix 5).

Figure 16: Trends in satisfaction and dissatisfaction on the compensation before (a) and after (b) 2015



(a)

(b)

Data source: Household survey

Those people do not compare compensation value to the market value. The quality of their buildings, some of which are located in wetlands, is generally poor as Figure 17 shows.

²⁴Interview with one of members of district council and property valuers

Figure 17: Poor housing quality for the expropriated poor groups in Kangondo II(a) and location of some of the expropriated residential buildings in the wetland area(b)



Data Source: field observations

Those buildings on Figure 17 do not attract private buyers. Property owners do not have reference prices from the open market, which can be a basis for dissatisfaction with the compensation value. They rely on calculated compensation value to acquire other properties outside the city where the prices may be affordable and accept compensation at the first valuation. However, a high number of other people are not satisfied at the first valuation (56 % and 63 % before and after 2015 respectively; see Figure 16). Through appealing, these people used the counter-valuation process which resulted in increased satisfaction (at 39 % and 48 % before and after 2015 respectively, see Figure 16). The general levels of satisfaction reached 57 % and 62 % for people who were expropriated before and after 2015, by counting the outcomes of first valuation and counter-valuation. However, these figures still reveal low levels of satisfaction on compensation in similar ways as previous studies (Legal Aid Forum, 2015; Norwegian People's Aid & Rwanda Civil Society Platform, 2017; Rwanda Governance Board, 2017). The level of satisfaction increases through the process of counter-valuation which is provided in the expropriation law. People who can afford it engage the services of private valuers who carry out a counter-assessment for the value of their properties, submit the resulting report to expropriating agencies in order to appeal for just compensation. However, the outcome of the counter-valuation may sometimes be unsatisfactory for some people who appeal (see Figure 16). This happens when negotiations with expropriating agency do not result in paying all amount of money which is claimed through the counter-valuation report. The amount might have been disproportionately increased by the hired private valuers. The revision of the counter-valuation report can therefore result in dissatisfaction for the expropriated people, though the compensation value has increased.

Dissatisfaction on the compensation at the first valuation is driven by speculation on reference prices which are used in calculating the compensation. This has become a factor for property owners to appeal against the first valuation. For example, during the expropriation in *Rugarama* in 2014, there was high speculation on land price which was being used in calculating the compensation by valuers hired by expropriating agency. Initially, valuers intended to use very low reference price, which was twice rejected by property owners, until negotiations reached an agreement to calculate compensation at market value. During bargaining, land price increased

from 7.7 USD to 12.2 USD²⁵, through 9.5 USD per square meters. Currently, claims against the first valuation are also frequent. Expropriated people find reference prices set by the IPVR to be low, compared with market prices. As finding of this study, there are clear dissimilarities between the two prices, based on land transactions records collected from different land management offices in Kigali City. These dissimilarities are presented in Table 9, below:

Table 9: Comparison between the land prices in 19 locations and the current reference prices in the USD

Year	Reference Price (average)	Market Prices	Difference	Sig.	Reference Price (maximum)	Market Prices	Difference	Sig.
2017	5.40	9.72	4.32	.054*	8.22	9.72	1.49	.697
2018	5.40	12.16	6.76	.002* *	8.22	12.16	3.93	.116

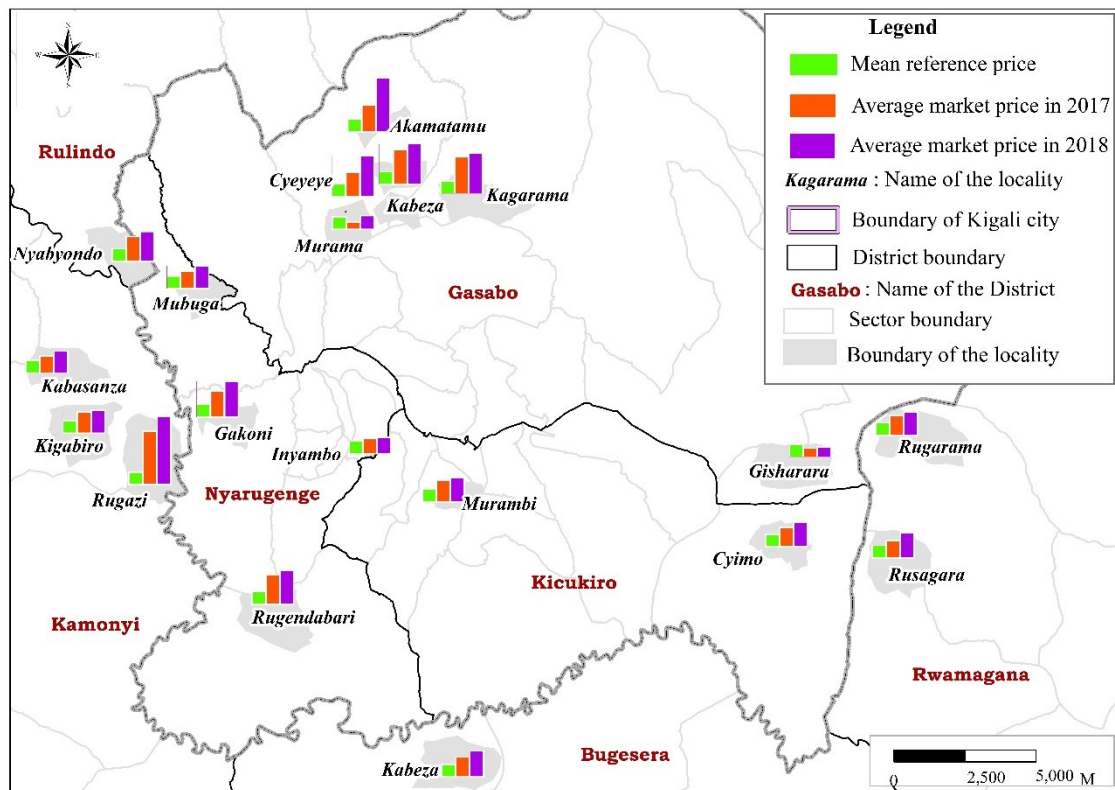
Asterisk means significant difference level of reference price compared to market prices (Dunnnett's t test), as follows: * $P \leq 0.1$; ** $P \leq 0.01$.

Data source: Household surveys; Land transaction reports and compensation reference prices list 2017–2018 (Institute of real property valuers in Rwanda, 2018).

In Table 9, averages for the mean and maximum reference prices in use (established in 2016 and in use since 2017) for compensation are compared to mean land prices (at open market) for two consecutive years in 19 localities. The current mean reference prices are even very low compared to market prices recorded two years ago. Land prices in 2017 were slightly significantly different from the mean reference price in use at $P \leq 0.1$ while those prices are very significantly different at $P \leq 0.01$, in 2018. Contrasts between the reference prices in use for the calculation of the compensation and the market prices are well presented in Figure 18.

²⁵ Exchange rate of 684 Rwandan francs for 1USD, in April 2014. Data source: valuation rolls for the expropriated people in Rugarama site.

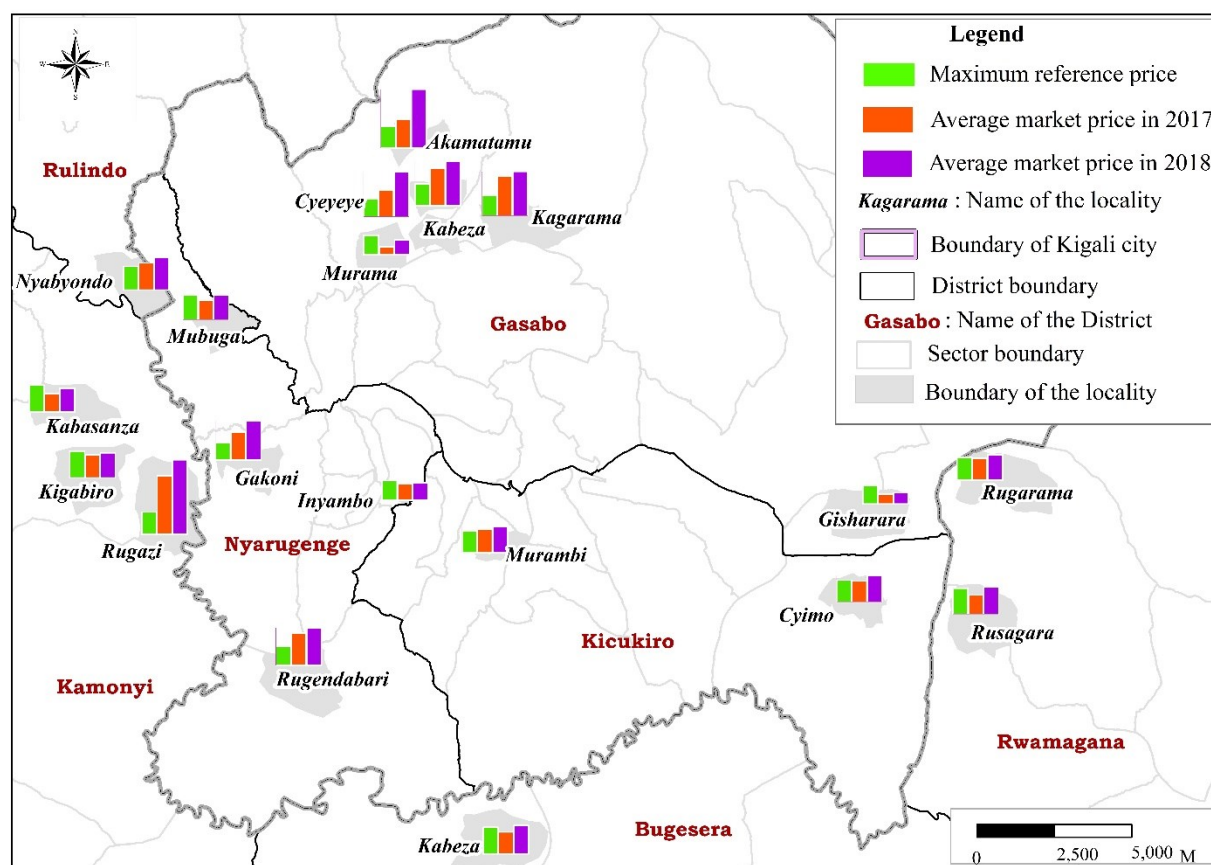
Figure 18: Comparison between mean reference price for expropriation and the market



Data sources: Household surveys; Land transaction reports and compensation reference prices list 2017-2018

Figure 18 shows that in most of the 17 localities, the mean reference prices which are mostly used for the calculation of the compensation are lower than the market prices in 2017 and 2018. Those prices are higher than the market prices for the same period in two (2) localities only (Murama and Gisharara). If the maximum prices are compared to market prices in the same years, results rather reveal some positive trends in some localities, as Figure 19 shows:

Figure 19: Comparison between maximum reference price for expropriation and the market



Data sources: Household surveys; Land transaction reports and compensation reference prices list 2017–2018

In Figure 19, the maximum reference price is greater than the market prices for the year 2017 in some localities. However, it is still lower than the market price for the year 2018 in most localities. The results of statistical test, presented in Table 9, show that the maximum reference price is not very significantly different from the market prices during the two years. Yet, the former remains lower than the latter. Those differences explain the reasons why most property owners complain against first valuation, which applies the established reference prices. A clear instance shows that in one of the counter-valuation reports, a reference price equivalent to 17.50 USD per square meter of land was in use in the first valuation carried out in February, 2018. During that period, the latest sale price which was used as reference price for the counter-valuation was equivalent to 33.82 USD. Yet, most of property valuers are aware of constant changes in prices of real property in Kigali City (see appendix 8). These changes are attributed to speculation regarding property prices, since prices have constantly increased from 2008, following the implementation of Kigali City master-plan. It has involved acquisition of large tracks of land and related assets through expropriation or private land transactions. The inflation is also among driving factors for speculation in real property prices (Legal Aid Forum, 2015). Expropriated people contribute to such speculation in the urban fringe, where they buy land for housing development. This speculative property market and perpetual increase in prices should entail calculation of compensation values using references from recent sales and appropriate valuation approaches such as the replacement cost.

Counter-valuation is not used for claiming just compensation for land only. It applies also for recalculating the compensation for buildings when its size was not well measured, all its components and their quantities underestimated or cost for the excavation works not counted in the compensation values. One way to understand the degree to which counter-valuation promotes just compensation is to examine figures which are presented in Table 10. They show increase in the geometric mean of compensation values for 93 expropriated people who used counter-valuation to receive just compensation.

Table 10: Variation in compensation values, based on first and counter-valuation

Expropriation Period	Range of the Compensation Value in USD (based on first valuation)	Number of Appeals	Geometric Mean of the Value in USD		Increase in %
			First Valuation	Counter-Valuation (Paid Compensation)	
Before 2015	Less than 1,000	6	781.99	1,004.22	20.49
	5,000–10,000	6	7,923.99	13,385.50	68.03
	10,000–20,000	5	16,471.56	22,722.76	34.38
	20,000–30,000	15	24,709.11	33,219.55	32.30
	30,000–40,000	7	33,456.34	42,005.80	22.06
	40,000–50,000	2	46,882.59	70,608.46	50.61
	All ranges	41	11,553.48	15,630.64	30.53
After 2015	Less than 5,000	2	4,514.52	6,874.68	51.97
	5,000–10,000	12	7,806.85	12,763.12	59.92
	10,000–20,000	4	14,972.34	24,744.26	64.42
	20,000–30,000	14	25,364.95	41,606.01	63.47
	30,000–40,000	14	32,900.06	52,057.74	56.52
	50,000–60,000	2	54,533.80	80,913.70	47.78
	60,000–70,000	4	65,311.44	96,541.82	46.52
All ranges	52	20,629.50	33,016.14	58.25	

Data source: Valuation reports from private property valuers and expropriated property owners.

Table 10 shows a high increase in the compensation value, by comparing the outcomes of the first valuation and the counter-valuation, for properties owners who were expropriated in different urban neighbourhoods before and after 2015. The increase in compensation is driven by observance and verification of the market value component in the process of counter-valuation by property owners, the hired independent valuers and the expropriating agency. The use of actual market value is at the heart of surpluses to the first value, which was previously calculated by a valuer hired by the expropriating agency. Through process of counter-valuation, Kigali City and its constituent districts observe procedural, recognitional and redistributive justice and negotiate with property owners in order to reach a consensus on just compensation. However, this only works for people who are relatively young (less than 55 years old, see appendix 7), educated and whose incomes are moderate or high help them afford the cost of counter-valuation. They search for the market information on property prices, use it as ground for appeal and receive just compensation.

The cost of appeal disincentives poor people from engaging with counter-valuation processes. Those people find very expensive hiring a private valuer for around 68 USD²⁶, beside their

²⁶ Exchange rate of 883.23 Rwandan francs for 1 USD

uncertainty about its outcome. They therefore accept compensation calculated at the first valuation, even though they may not be satisfied. The inability to appeal is also linked to low levels of education or illiteracy, because they are not well informed about property markets. This is also true for older people or widows who may be sceptical about outcomes of counter-valuation. They also find it difficult to challenge government actions (see appendix 9). Perception is also part of the problem. Many old and illiterate people argue that the introduction of the long lease tenure system allocates the ownership of land to the government which can repossess it any time. Despite this misconception, the current expropriation law recognises all people's rights to just compensation, regardless their tenure statuses. Beside the just compensation which is discussed above, redistributive pattern of just compensation should constitute of remedial schemes and promote the replacement of the affected people in similar living conditions as before the expropriation. This pattern is explored through the opportunity of the expropriated people to invest the received compensation in replacing the expropriated properties in close neighbourhoods, relative to the areas they move from.

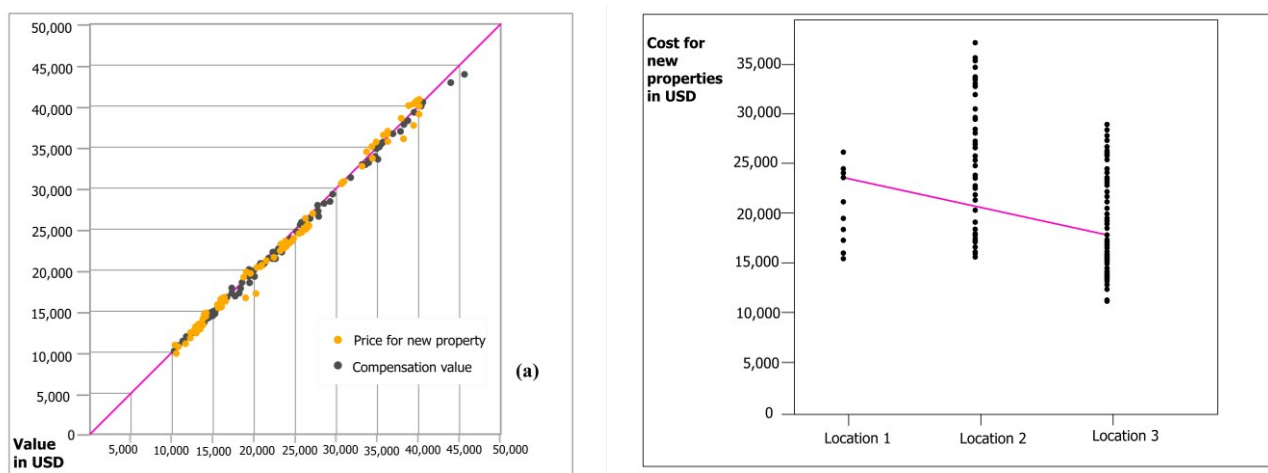
5.4.2. Paucity of redistributive justice

The redistributive pattern of spatial justice centres on access to basic needs such as housing, infrastructure and social services (Harvey, 2010). This pattern was exclusively assessed by probing whether the paid compensation establishes financial means for expropriated people to access other properties in their neighbourhoods or close vicinity and basic socio-economic amenities. General trends show little likelihood for most of the expropriated people to stay in the core urban area due to the high perceptions of eviction or expropriation in the low income neighbourhoods where prices for new properties are affordable.

5.4.2.1. Access to new properties in the close vicinity

The replacement value for the expropriated property is among evaluative metrics which can be used in assessing whether compensation helps the affected people in acquire new properties and replace them in similar socio-spatial positions. The cost for housing is an important factor in pursuing the same lifestyle in the close vicinity to their previous homes. Notwithstanding the received right compensation, after counter-valuation, is often insufficient to acquire new properties in neighbourhoods close to where they had been living. This is due to high levels of speculation in real property prices. The imbalance between the compensation value and replacement cost exerts a displacement effect on the expropriated people. They therefore migrate to the urban fringe and surrounding rural areas where land and housing prices are lower than in the inner city, where they had moved from. Figure 20 shows trends of prices for the new properties, compared to the paid compensation.

Figure 20: Trends in cost of new buildings, compared to compensation value (a) and according to the location of resettlement for the expropriated people (b)



(a) (b)

Data sources: Households survey and field observations

The analysis of differences between compensation and prices for new properties shows positive correlation between the costs for new properties and the received compensation. However, the average cost of a new property such as building is slightly lower than compensation paid, as seen in left side of Figure 20, because these properties are acquired outside of the city. The right side of the figure shows negative correlation between the costs for new properties and location. The prices decrease and new properties become affordable as the distance from the inner city toward the urban fringes increases. In other words, prices for new properties decrease when expropriated people move from the inner city (location 1 where they have been living) towards the rural urban fringes (location 3), through the zone under urbanisation (location 2). Those correlations are presented in Table 11, below.

Table 11: Cost of new properties, compared to the compensation

Location	Number	Mean Value for Compensation	Mean Prices for New Property	Correlation Coefficient	Sig.
1	9	23,207.04	20,920.45	.695*	.038
2	29	26,467.37	29,580.45	.884**	.001
3	33	20,300.46	16,705.15	.923**	.001

*. Correlation is significant at $P \leq 0.05$ level (2-tailed)
 **. Correlation is significant at $P \leq 0.01$ level (2-tailed)

Data source: Household surveys and land transaction reports

Location 1 is part of the urban core, where few of expropriated people (6 % and 3 %, before and after 2015 respectively) have acquired other properties. Prices correlate as the cost for new properties is relatively lower than the compensation. The low prices for buildings in location 1 are linked to risks of eviction that property owners perceive because that location is within informal settlements which can be cleared any time, alongside the implementation of the master plan of Kigali City. Therefore, property owners sell their buildings which are naturally of poor quality at low prices. More people (43 %) prefer to resettle in location 2 which is undergoing spatial transformation through establishment of local physical plans for residential housing

development. Housing standards in location 2 (see Figure 21) are high and this implies similarly higher housing prices than the compensation.

Figure 21: Poor quality aspects of most of the expropriated houses(a) and quality aspects of buildings under development in relocation site (b)



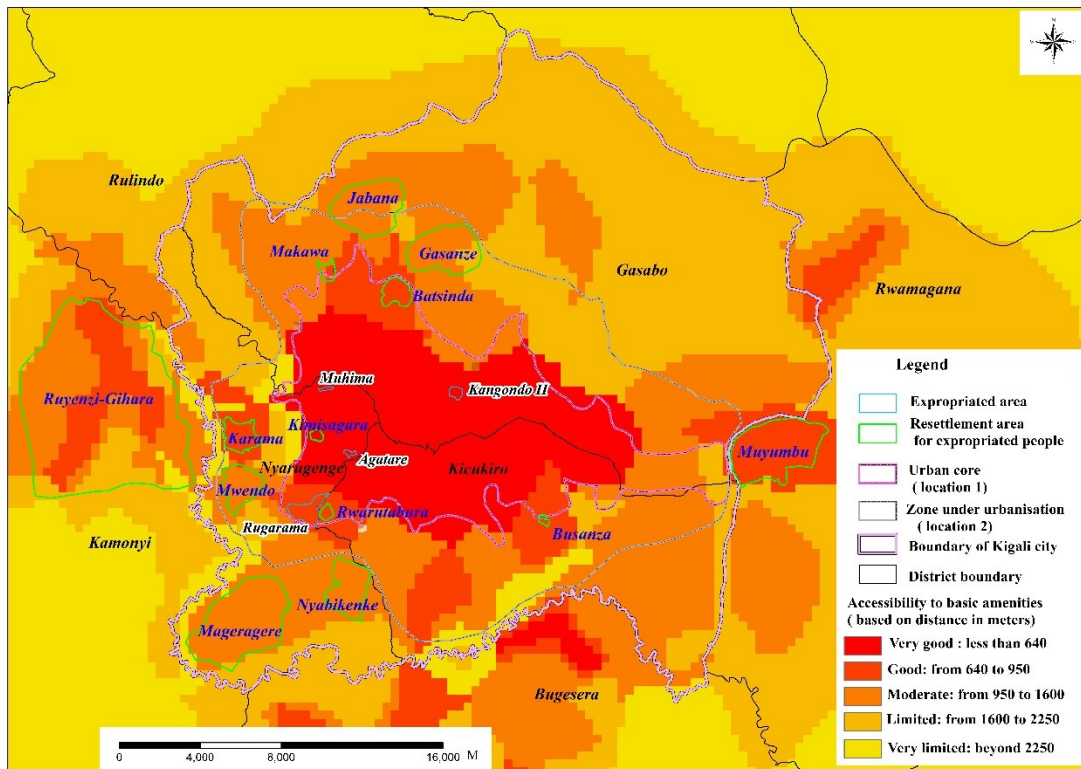
Data sources: Field observations

The cost of acquiring new buildings in location 3 is also slightly lower than compensation (see Table 11). Location 3 is a remote urban fringe, outside of Kigali City, where housing development standards are affordable for different categories of displaced people (48 %). In addition, enforcement of regulations bidding housing development is flexible. Therefore, this is the favoured destination for low-income groups as they can pay less than the compensation they receive. However, there is high likelihood for the proliferation of informal settlements in location 3, as pointed out in section 5.4.1.2.1.

5.4.2.2. Decreased access to basic infrastructure and services

Migration of expropriated people towards remote areas has an impact on their livelihoods, such as decreased accessibility to basic amenities that they were using before expropriation. This impact has been analysed using distance in meters to basic amenities and services including water, electricity, public transport, education (nursery, primary and secondary), health centres and markets. Figure 22 shows that within core urban areas where expropriated people had been living, access was generally good. This decreases and falls off rapidly outside the core urban, towards the urban fringes, where those people are resettling.

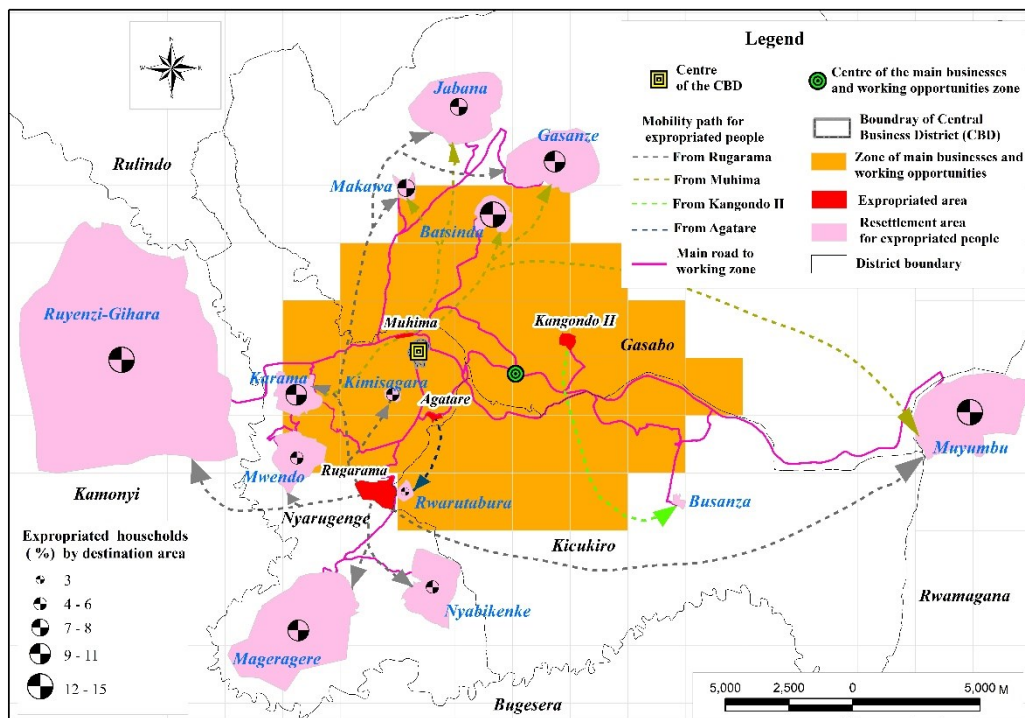
Figure 22: Distance to basic amenities in the origin and destination areas for the expropriated people



Data source: Filed survey; Kigali City, Geo-datasets on socio-economic facilities in Kigali City and neighbouring districts; NSIR and CGIS-UR (NISR & CGIS-UR, 2012).

As Figure 22 shows, expropriation has been carried out in neighbourhoods where access to basic amenities is generally very good. But, expropriated people cannot afford good properties in neighbourhoods close to where they had been living. As they move further away, they face difficulties in accessing basic amenities, because these areas are not developed to the same degree as Kigali City itself. Compared to situations in previous neighbourhoods, most of these expropriated people travel further to work in the inner city. Increase in the distances they currently travel to the main working places such as the Central Business District (CBD) and the Zone of Main Businesses and Working Opportunities (Z.M.B.W.O) within Kigali City was determined on the basis of the transportation network they use as presented in Figure 23.

Figure 23: Resettlement sites for the expropriated people and travel network to working places



Data source: Filed survey; Kigali City, Geo-datasets on socio-economic facilities in Kigali City and neighbouring districts; NSIR and CGIS-UR (NISR & CGIS-UR, 2012).

Figure 23 shows that most of the expropriated people resettle in remote areas, far from the areas they had been living. They face the problem of increased travel distance, compared to distances they had been traveling before the expropriation. Changes in those distances were computed and results are presented in Figure 24.

Figure 24: Travel to working places before and after expropriation

Rugarama site				Muhima site				
Settlement status	Neighbourhood	Travel distance (In Km) to		Settlement status	Neighbourhood	Travel distance (In Km) to		
		C.B.D	Z. M B.W.O			C.B.D	Z. M B.W.O	
Previous	Rugarama	9.1	11.4	Previous	Muhima	1.2	6.4	
Current	Batsinda	10.3	19.8	Current	Batsinda	10.3	19.8	
	Gasanze	18.8	24.2		Gasanze	18.8	24.2	
	Jabana	15.1	21.2		Jabana	15.1	21.2	
	Makawa	9.1	14.5		Ruyenzi-Gihara	15.7	21.2	
	Ruyenzi-Gihara	15.7	21.2		Karama	8.2	13.6	
	Mwendo	13.7	19.7		Mwendo	13.7	19.7	
	Mageragere	18.7	21.1		Muyumbu	31.8	23.9	
	Nyabikenke	17.9	19.7					
	Muyumbu	31.8	23.9					
Agatare site				Kangondo II site				
Settlement status	Neighbourhood	Travel distance (In Km) to		Settlement status	Neighbourhood	Travel distance (In Km) to		
		C.B.D	Z. M B.W.O			C.B.D	Z. M B.W.O	
Previous	Agatare	5.2	5.7	Previous	Kangondo II	10.4	5.2	
Current	Rwarutabura	9.1	11.4	Current	Busanza	17.9	11.8	

Data source: Field survey; Kigali City, Geo-datasets on socio-economic facilities in Kigali City and neighbouring districts; NSIR and CGIS-UR (NISR & CGIS-UR, 2012).

In Figure 24, highlighted rows show the situation before the expropriation while others show the current status. The figure can reveal trends of greater travel time and increased transportation cost. Linking this to changes in the access to basic amenities and considering the aspects of compensation value, it is evident that expropriation does not boost the quality of life of the expropriated people. Therefore, there is need to improve expropriation processes and amend the current expropriation law in the pursuit of just outcomes. Expropriation options providing the opportunities for those affected to live in similar conditions as before the expropriation would be among aspects to be examined. Areas that require improvement in the three dimensions of spatial justice are highlighted in the conclusion and recommendations that follow.

5.5. Conclusion and recommendations

This study has unpacked patterns of spatial justice from the current law, processes and outcomes of expropriation in Kigali City. Indicators relating to different aspects of spatial justice were used to decode these patterns. Results show good trends of the three forms of spatial justice in the expropriation law, which relates to the dimension of rules in the applied analytical framework. As parts of findings, very good aspects which are echoed in the law are highlighted below:

- It promotes the compensation (recognitional and redistributive justice) regardless of tenure status.
- It advances sharing the power of eminent domain because private investors can carry out the expropriation if the implementation process of the law opens room for those investors to directly negotiate with property owners on compensation (procedural, recognitional and redistributive justice).
- It grants property owners the rights to use the counter-valuation process, in order to claim for just compensation (procedural, recognitional and redistributive justice).

However, those trends in the three forms of spatial justice are not generally identified at the processes dimension, due to non-compliance with the law by expropriating agencies and valuers. This coalesces to negative outcomes which tend to be unfair and dissatisfactory compensation. Findings have also indicated the ambiguous definition of the public interest and deficiency of the metric of participation in the law and its implementation processes. The law should therefore be revised. Even if just compensation is paid after the counter-valuation, it is not determined using the cost replacement approach which would help the expropriated people acquire new properties in the city. Rethink of the appropriate compensation option which may decrease the displacement effect of the expropriation is suggested. Generally, aspects that should be improved are highlighted below:

❖ *Improvements to the law*

As a matter of justice in rules dimension, the expropriation law should embrace a participatory conception of justice. It does not provide legal principles on participation and negotiation with property owners whose rights are affected during expropriation. Participation and negotiation feature the aspects of collaboration between actors in expropriation and property owners. It advances transparency in valuation, resulting in appropriate compensation option and value, reflected in the general consensus between expropriating agencies and property owners. The discourse on public interest should also be redefined, due to a critical confusion about public and private interests pushing Kigali City and its constituent districts to undertake expropriation for private investors. The list of activities which are meant to public interest alongside implementation of the master plans should be defined. Thus, this can advance recognition of the rights of property owners to just compensation and all forms of investments that are sought to generate benefits for investors should be called private interests.

❖ *Improvement in the processes*

The pursuit of just compensation requires the involvement of property owners in all steps of expropriation, including direct negotiation on compensation options and collaboration with valuers in compensation calculations. Those features of procedural and recognitional justice provide an open and communicative arena for increasing public trust in agencies undertaking expropriation. It also increases perceptions of fairness of valuation and feelings about just compensation. When expropriation is carried out for public interest, just compensation should be guaranteed using public funds. In all aspects of spatial justice, just compensation can drive from the use of valuation methods which consider market prices and replacement cost. Process of valuation can be more transparent if property valuers hired by the expropriating agencies collaborate with property owners and explain methods and reference prices they use. It can therefore increase acceptance of outcomes of the first valuation, speeding-up the whole expropriation process and decreasing the burden of counter-valuations for some property owners who hardly afford it. Noting that property owners' perception on just compensation is not merely related to the amount of compensation they receive but the fairness and transparency of the whole process of expropriation. Counter-valuation should not be a privileged option for paying appropriate compensation. If expropriating agencies bear the payment of just compensation after counter-valuation, calculating just compensation should be undertaken appropriately at the first valuation as well. Kigali City and its constituent districts establish regular short and mid-term development plans. Expropriation can be planned within those schemes so that an inventory of the properties to be expropriated can be carried out and well estimated cost for compensation included in the budget plans accordingly. When expropriation is carried out for private investment, just compensation should be agreed on between property owners and investors. District authorities or other decision makers should act as mediators and help reach a consensus on compensation options. Independent valuers, selected by both parties should neutrally carry out valuation processes.

❖ *Improvement in the outcomes*

Even if property valuation can result in paying just compensation, most of expropriated people do not afford other properties in urban area. The consequence is the prevalence of the displacement effect of the expropriation, pushing those people towards remote urban fringes. Shielding them from displacement requires a participatory and communicative approach to just in-kind compensation, especially for expropriation which is meant to develop residential apartments. The in-kind compensation in form of shared-apartments which is being adopted by Rwandan government is a very good decision. It can counteract the proliferation of informal settlements and advance recognition of property owner's rights (recognitional justice). Property owners can collaborate with private investors in valuing their properties and making decisions and plans (procedural justice) on the development of those shared-apartments (redistributive justice). This can therefore result in the co-production of the urban space which advances sustainable and inclusive urban development. Though, findings of this study do not confirm the broad results of other studies conducted on expropriation across the Rwandan territory, they do not diverge. They can therefore serve as guidance on improving the expropriation law and its implementation processes in Kigali City as well as other regions. The study has also alluded on ongoing urban development processes that can be improved through observing spatial justice frames.

Chapter 6: Can in-kind compensation for expropriated real property promote spatial justice? An analysis of experiments in Kigali City, Rwanda²⁷

Abstract

Kigali City regularly applies the expropriation for the implementation of urban renewal and development processes. However, this instrument has been criticised for causing spatial injustices. It fuels the displacement of the expropriated property owners towards the urban outskirts, despite the monetary compensation they receive. It also exacerbates the development of informal settlements in the new residential areas for those displaced people. To reverse this cycle and promote a spatially just urban development, a promising alternative consisting of the in-kind compensation has been recently introduced by Kigali City authorities. It consists of resettling expropriated people in shared residential apartments. This paper explores whether this form of compensation currently enhances spatial justice alongside the (re)development of Kigali City. Trends of spatial justice are ascertained using different indicators, relating to three dimensions of spatial justice consisting of rules, processes and outcomes. These indicators are also connected to four forms of spatial justice consisting of procedural, recognitional, redistributive and intra-generational justice. The in-kind compensation indicates good trends of spatial justice in Kigali City. It is embedded in the increased political recognition of the rights of the expropriated people to housing and basic urban amenities (recognitional justice). The development of these houses and provision of these amenities reflects patterns of redistributive and inter- and intra-generational justice. Procedural justice is highly embedded in the underlying rules, but becomes deficient in their implementation processes. This is noticed in the lack of negotiation on the compensation option and participation of property owners in the planning and implementation of the resettlement process. In addition, its planning did not consider the households' sizes and the employment opportunities for the expropriated people after their resettlement. These drawbacks inhibit the acceptability of this process by most of the expropriated people. Yet, the poor property owners whose land tenure is informal appreciate it, because it promotes their access to quality housing, their inclusion in the urban fabric and the security of tenure. Embedding procedural justice, grounding active participation of property owners, is therefore recommended to increase the acceptability of this process. Moreover, this study suggests some options to policy makers and municipal authorities that could be applied in the resettlement of the expropriated property owners in Kigali City. The applied assessment framework in this study can also be adopted by other researchers interested in evaluating the effectiveness of the resettlement processes induced by the expropriation.

Keywords: Kigali City, expropriation, property owners, in-kind compensation, resettlement, spatial justice, participation.

6.1. Introduction

Following the approval of the 2007 conceptual master plan of Kigali City and its detailed master plans, adopted from 2010 to 2013, the city of Kigali (the capital city of Rwanda) has been

²⁷ This Chapter is based on a published paper : Uwayezu, E. and de Vries, W.T., Can in-kind compensation for expropriated real property promote spatial justice? An analysis of experiments in Kigali City, Rwanda. Sustainability journal. <https://doi.org/10.3390/su12093753>.

undergoing different processes of urban renewal and re-development. Urban renewal and re-development are processes consisting of clearing slums and other structures under decay and improving the economic, physical, social, and environmental conditions of the city. Generally, they are coupled with the provision of basic amenities, services and heritage preservation to some extent (Zheng et al., 2014). In Kigali City, the implementation of these processes has long been preceded by acquisition of large tracts of land and other assets incorporated thereon, such as buildings, through expropriation (Legal Aid Forum, 2015; Mugisha, 2015).

In this chapter, expropriation is used to designate the act of compulsorily acquiring individuals' real properties by the state for the public interest, in accordance with procedures provided by law and subject to fair and prior compensation (Government of Rwanda, 2015) which can be in monetary form or other real property (referred as the in-kind compensation in this chapter). In Kigali City, the practice of expropriation has focused on the informal settlements which are the main targets for clearance (Goodfellow, 2014). The reason being that the current master plan does not provide room for slum upgrading. Informal settlements have therefore been the main targets for private investors who intend to transform them into modern apartments (Nikuze et al., 2019). This approach of locational targeting in the (re)organisation of the urban space has been decried by spatial justice scholars for producing spatial injustices. It actually results in depriving the poor and low-income urban dwellers of access to basic urban resources, through their displacement from their original neighbourhoods (Soja, 2009).

The existing studies on Kigali City state that the gradual processes of clearing informal settlements has been excluding many urban dwellers from the city. Although, it is preceded by the compensation in monetary form (Goodfellow, 2014; Goodfellow & Smith, 2013), it accelerates the pace of market-driven displacement for the expropriated poor and low-income people who cannot afford new buildings in planned urban neighbourhoods (Durand-Lasserve, 2007; Uwayezu & de Vries, 2019a). This displacement is triggered by the current regulations on housing development in Kigali City. They propose housing standards which are prohibitive. A large number of expropriated households are therefore forced to settle in the urban fringes where they create new informal settlements (Durand-Lasserve, 2007; Manirakiza & Ansoms, 2014; Uwayezu & de Vries, 2019a). Their exclusion from the core urban space results in loss of access to basic services which are not sufficiently developed in the new residential areas. This form of displacement and resulting deprivation of access to these basic amenities reflect the dominant aspects of spatial injustices, attributed to spatial planning. In their new residential neighbourhoods, the expropriated people have been putative actors of informal settlements proliferation. These settlements and connected environmental degradation increasingly become the burden for the current urban (re)development programme (Manirakiza & Ansoms, 2014; Nikuze et al., 2019; Uwayezu & de Vries, 2019a).

In seeking for urban (re)development options counteracting the exclusionary effects of expropriation and these associated urban development problems, the management board of Kigali City and its partners have recently decided to implement the in-kind compensation for the expropriated property owners (Uwayezu & de Vries, 2019a). This form of compensation consists of resettling all households displaced from their dwellings alongside the implementation of Kigali City master plan (Nikuze et al., 2019). Resettling these households is embodied in the socio-economic development goals stated in the current country development strategies. They include the Vision 2020 (Ministry of Finance and Economic Planning, 2000), the national strategy for transformation (Government of Rwanda, 2017) the national urbanization policy (Ministry of Infrastructure, 2015c), the national housing policy and the urbanisation and rural settlement strategic plan (Ministry of Infrastructure, 2013). These goals include the promotion of living conditions of all Rwandans through increased access to basic infrastructure, services and

housing, poverty eradication, and redressing socio-spatial marginalisation. In the urban area, the main aim is to grant the Right to the City for all urban dwellers, equitable access to basic services, and prevent urban dynamics from contributing toward spatial exclusion and inequalities (Government of Rwanda, 2017). In addition, the Government of Rwanda set a goal of increasing the current rate of urban population from 18 % of to 35 % by 2024 in the framework of promoting socio-economic growth based on urbanisation (Government of Rwanda, 2017). Meeting this goal necessitates decreasing the displacement of urban dwellers. All these goals are in accord with the aspirations of spatial justice. These aspirations generally appeal for inclusion of all urban dwellers in the urban space. Achieving this requires the recognition of rights of these people to inhabit the urban space, use its resources and their active participation in making and implementing decisions related to its (re)development (De Vries, 2018; Lefebvre, 1991). If these principles are applied in the implementation of the adopted option of the in-kind compensation, it can definitely advance spatial justice (Nozick, 1974).

However, recent studies on the resettlement of property owners, displaced alongside the clearance of informal settlements in Kigali City, point out that these people have been sceptical about the advantages of this resettlement option as a form of compensation to their properties (Nikuze et al., 2019; Uwayezu & de Vries, 2019a). Because there are no studies that fully evaluate the implementation of this form of compensation for the expropriated real properties in Kigali City, in-depth research on this problem is needed. This study is therefore a contribution to the existing body of knowledge on this problem. It applies an analytical framework of spatial justice. This framework is grounded on the principle of direct participation of all property owners whose rights are infringed by various projects related to urban (re)development. The other principle is the recognition and respect of people's rights to real property affected by these projects, considering their needs and use value of these properties. If these principles are observed by all actors in urban (re)development, its outcomes can be spatially just for the affected property owners. These outcomes include the restoration of access to other real property, basic urban resources and other opportunities that sustain the livelihoods of the expropriated property owners. This chapter therefore investigates the extent to which these outcomes are present in expropriation projects and the implementation of the related in-kind compensation. Its main objective is to evaluate if the in-kind compensation for expropriated real property in Kigali City promotes spatial justice. This objective has been addressed through 2 subsequent research questions: (1) Do rules and practices governing the in-kind compensation option for expropriated real properties in Kigali City promote spatial justice?; (2) How can this compensation option be effectively applied to advance spatial justice for the expropriated real property owners in Kigali City?. This research informs policy makers and agencies engaged in Kigali City (re)development on the degree to which they attain their objectives of preventing spatial exclusion and resources deprivation for property owners in Kigali City. By using a spatial justice framework, this study also contributes to science by recapping approaches pertaining to spatial justice and which can be applicable in the implementation of expropriation projects involving the relocation of displaced property owners. We do not frame the study within the broad context of displacement and resettlement. Rather, we centre the debate closer to the expropriation and resettlement of the affected property owners in order to inform future direction of the implementation of this form of the in-kind compensation towards solutions which can be spatially just. In next sections, we discuss the theoretical foundation of spatial justice and the evaluative framework. Data sources and research methods will follow. Thereafter, we present and discuss our findings. The chapter ends up with areas for improvement on the implementation of the in-kind compensation for the expropriated real property and the general conclusion on this implementation.

6.2. Referents of spatial justice from the in-kind compensation through the resettlement process

The need for increased spatial justice in rules and processes related to urban (re)development is expressed by global agenda of promoting the well-being of urban dwellers in the world cities (UN-Habitat, 2016; United Nations Secretariat, 2016). The advocates of spatial justice plead for increased recognition of the rights for all urban dwellers to urban space, its resources and their rights to use them, according to their needs and their socio-economic aspirations (Harvey, 2010; Lefebvre, 1991). Spatial justice is therefore required in rules and processes of urban restructuring to produce outcomes which are spatially just (Uwayezu & de Vries, 2018). Lefebvre (1996) recommends that any investment linked to the development of urban space should be a vector of more spatial justice, so that rules and processes must stand for reducing spatial inequalities, preventing resource deprivation and socio-spatial inequalities in the sense of access to basic urban resources. This is attained through the pursuit of four forms of spatial justice, so that urban (re)development can result in just outcomes. These forms of spatial justice are procedural, recognitional, redistributive and intra-generational justice.

Procedural justice is conceptualised based on spatial management principles. It is embedded in rules and processes related to the use, access or allocation of spatial resources. It is vividly captured in participation and inclusion of all spatial resources owners when making decisions which affect their rights on these resources. In urban (re)development, it embodies the inclusive, collaborative and communicative planning. This is the main prerequisite for promoting equality of access to urban resources for all people (Alexander (2002) and Fainstein (2009). When the urban (re)development results in property deprivation through the expropriation, pursuing procedural justice epitomises clear procedures for acquiring private real properties and fair compensation options which are reached and implemented through active participation of the affected property owners. Their participation advances the respect of their rights to real properties (Fainstein, 2009; Iveson, 2011; Soja, 2010). Procedural justice is also reflected in the implementation of the resettlement processes which follow the expropriation. Property owners should participate in the whole process, from planning to the implementation (Cohen, 1985). In this vein, procedural justice is associated with voice and hearing (Purcell, 2014) and permits shaping the resettlement site in accordance with the needs, interests and livelihoods situations of the expropriated property owners. For this to happen, it is crucial to combine procedural justice with recognitional justice.

Recognitional justice embraces the respect and recognition of property owners' rights to land, housing and basic amenities when implementing the expropriation projects. These rights are sought in both rules underlying the expropriation and compensation options in which the resettlement is blended. Recognitional justice is about treating all property owners in a just way, in accordance with the rules in use. These rules should be aligned with international and/or national guidelines and mechanisms applied in acquiring real private property. The rights and needs of the affected property owners are recognised if they are actively involved in the implementation of these rules, through direct collaboration with actors who make decisions related to the use of the urban space and its resources. These include both tangible and intangible resources (Leewis, 2009). In one word, recognitional justice through participation empowers property owners and allows for fair redistribution of spatial resources that benefits greatly them.

Redistributive justice embraces all processes of redistributing spatial resources or allocating the rights to use them based on the needs of all users of the urban space in order to overcome material deprivation (Stanley, 2009). This form of spatial justice focuses on the implementation

of the rules underlying these processes and their outcomes. In the case of compulsory land acquisition, redistributive justice stems for fair compensation for the affected property owners, proportionally to losses inflicted on them. This implies the increased consideration of the human dignity in the expropriation and compensation processes so that they should not result in resources deprivation and deepening poverty among the expropriated property owners (Soja, 2009).

Intra-generational justice advances the welfare for all categories of the urban space users, through the recognition of their basic rights when implementing different projects related to the urban (re)development. Alongside the implementation of the expropriation and resettlement projects, the welfare coalesces in fair restitution of individuals' rights to land, housing and other urban amenities (Jones et al., 2019). This means that urban (re)development projects equally benefit all categories of property owners, who are deprived of access to their resources. Connecting this blending to intra-generational justice requires specific considerations of the conditions of the worst-off or least disadvantaged property owners when implementing the expropriation project and related resettlement programmes. In this sense, the pursuit of this form of spatial justice remedies resources deprivation or decreased access to basic resources and incomes which are required for the livelihoods of all affected property owners, especially the poorest groups. Intra-generational justice therefore promotes effective allocation of material resources among generation of people from different socio-economic statuses, so that the position of the worst-off individuals is improved as it can be or does not deteriorate.

The four forms of spatial justice share similar normative values which can be sought in the resettlement of people deprived of their properties. These values are the recognition and restoration of their rights to basic material resources and other socio-economic opportunities and their active participation in their resettlement processes. Consideration of these values helps in the reconstitution of the expropriated property owners' livelihoods. In the following section, we present the evaluative framework that can be applied to assess if the expropriation and related compensation option are aligned with these values.

6.3. Evaluative framework

The contemporary literature on compulsory acquisition of land primarily refers to the guidelines and mechanisms developed by the international organisations such as UN-Habitat, World Banks, FAO to provide the affected property owners with just/fair compensation. These include relocation processes which minimise the impacts of the displacement on the livelihoods of these people and advancement of spatial justice alongside the relocation of these people. Other guidelines and mechanisms are discussed in the literature related to project-induced displacement and resettlement or expropriation and compensation. Table 12 summarises these guidelines and mechanisms and connect them to the forms of spatial justice discussed above. This connection is established in accordance with the general aspiration of spatial justice which canvasses the effective or just resettlement of displaced property owners.

Table 12: Key aspects of guidelines and mechanisms for the implementation of the in-kind compensation in case of expropriation and resettlement

Key guidelines and mechanisms	References
Negotiation with property owners on the compensation option: the in-cash or in-kind payment.	(Food and Agriculture Organization of the United Nations, 2012; Hoops et al., 2015; Hoops et al., 2018)
Compensation value is determined based on market values.	
Participation of property owners in property valuation, planning and implementation of their resettlement processes.	(World Bank, 2004, 2015)
Resettlement site is in reasonable proximity to neighbourhoods from which the expropriated property owners will be displaced.	(International Finance Corporation, 2002; Smyth & Vanclay, 2017; Vanclay, 2017)
Resettlement processes re-establish the living conditions of the affected people, at least at the similar standards as the previous situation.	(World Bank, 2004, 2015)
Resettlement does not result in losing employment opportunities or offer opportunities for employment or income generation activities.	(Un-Habitat, 2009; UNHCHR, 1996; Vanclay, 2017)
Resettlement does not deprive the affected people of access to basic infrastructure and services.	(Un-Habitat, 2009; UNHCHR, 1996)
Resettlement grants the security of tenure through legal protection against of the resettled against forced evictions.	

By connecting the four forms of spatial justice with these guidelines and mechanisms related to the resettlement of the property owners, we selected the indicators applied in assessing trends of spatial justice in the resettlement of expropriated property owners in Kigali City. These indicators were used to derive insights on how rules in use and their implementation processes promote the restitution of the lost property rights and access to other urban resources and services so that the expropriated people can pursue their livelihoods (Uwayezu & de Vries, 2018). Apart from remedy to housing deprivation and improved living conditions of informal settlement dwellers, just compensation for the expropriated real properties promotes land tenure security. This is intercepted from the resettlement process, which redresses property rights wrongs associated with forced eviction (Uwayezu & de Vries, 2018, 2019b). Therefore, this chapter, also ascertains the patterns of tenure security emerging from the resettlement of the poor and low-income urban dwellers in Kigali City as an alternative option to eviction. We applied these indicators with consideration of their connections to the three dimensions and main four forms of spatial justice as Figure 25 shows.

Figure 25: Framework for evaluating spatial justice and land tenure security in land resources management

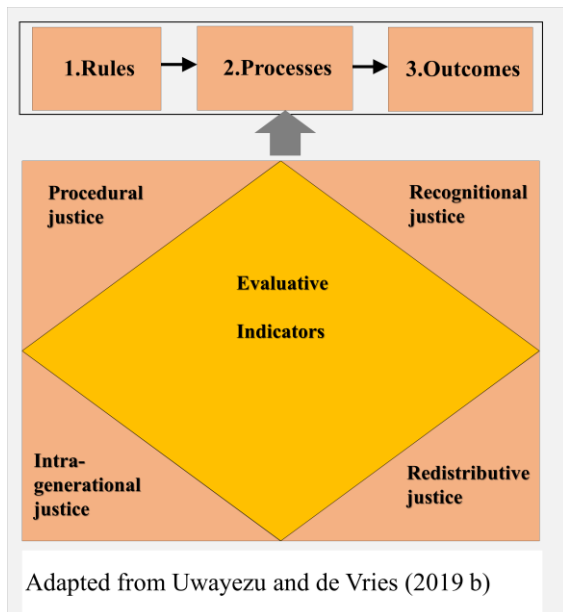


Figure 25 shows that the evaluative framework comprises three dimensions, which are rules, processes, and outcomes and a series of indicators which are connected to four forms of spatial justice (Uwayezu & de Vries, 2018). The rules dimension stands for different laws, policies and regulations applied in the compulsory acquisition of private real property and the resettlement of the affected property owners. The master plan and physical development plans which are being implemented in the (re)development of Kigali City are also included in these rules. The processes dimension embraces different action plans and activities related to the implementation of these rules. The outcomes dimension is associated with the redistributive effects of the implemented action plans and

activities performed in line with the (re)development of Kigali City. In our case study, these outcomes relate to access to decent housing, basic amenities, employments, and other opportunities which are fundamental for the resettled people to pursue their livelihoods. We applied the evaluative indicators which cover these aspects as Table 13 shows:

Table 13: Indicators for measuring spatial justice in the in-kind compensation for expropriated real property in Kigali City

Variable	Indicators based on dimension of spatial justice			Related form of spatial justice			
	Rules	Processes	Outcomes	Procedural	Recognitional	Redistributive	Intra-generational
1. Negotiation on compensation option	Expropriation law allows negotiation on the compensation option between expropriating agency and property owners.	Property owners negotiate on compensation option.	The percentage of property owners who negotiated the compensation option for their properties.	√	√	√	⁻²⁸
2. Compensation at market value	Expropriation law allows the compensation at market values.	The compensation value is determined based on market values of the expropriated properties.	The percentage of property owners whose compensation was determined based on market value of their properties.	√	√	√	-
3. Compensation for all tenure types	The law allows the payment of the compensation for both property owners in formal and informal tenures.	The compensation value is determined for both property owners in formal and informal tenures.	Both formal and informal property owners will be resettled.	√	√	√	√
4. Participation in resettlement planning	Rules related to resettlement of the expropriated property owners allow their participation in planning their resettlement.	The expropriated property owners participate in the planning of their resettlement.	The percentage of the expropriated property owners who participated in planning of their resettlement.	√	√	-	-
5. Participation in resettlement processes	These rules allow participation of the expropriated property owners in implementing their resettlement plans.	The expropriated property owners participate in the implementation of their resettlement plans.	The percentage of the expropriated property owners who participated in the implementation of their resettlement plans.	√	√	-	-
6. Minimization of	These rules allow the resettlement	The resettlement site of the	The percentage of the	√	√	√	√

²⁸ -: The applied indicator does not relate to the related form of spatial justice

Variable	Indicators based on dimension of spatial justice			Related form of spatial justice			
	Rules	Processes	Outcomes	Procedural	Recognitional	Redistributive	Intra-generational
displacement distance	within or in proximity to the neighbourhoods of the expropriated property owners.	expropriated property owners is selected in the vicinity of their existing residential neighbourhoods.	expropriated property owners who will be resettled within or in proximity to their existing residential neighbourhoods.				
7. Integration in the urban space	These rules allow the resettlement of the expropriated property owners in the development plan of Kigali City.	The resettlement site of the expropriated property owners is integrated in the master plan of Kigali City.	The expropriated property owners will be resettled within the urbanised area of Kigali City.	√	√	√	√
8. Adequacy of house size	The resettlement rules promote the provision of residential housing for all the expropriated property owners.	Resettlement housing unit matches household size	Number of rooms in the houses allocated to expropriated property owners fit to households' sizes.	√	√	√	√
9. Ownership rights of property acquired through compensation	These rules grant the expropriated property owners the ownership rights of property acquired through compensation.	The expropriated property owners are granted ownership rights of these houses.	Percentage of resettled households who are granted ownership rights	√	√	√	√
10. Access to jobs or employment opportunities	These rules promote access to jobs or employment opportunities for the expropriated property owners.	The resettlement site of the expropriated property owners is close to their working places.	The distance between the resettlement site and the working places of the expropriated property owners.	√	√	√	√
11. Access to basic urban amenities	These rules promote the provision of basic infrastructure and services in their resettlement site.	The relocation plans of the expropriated property owners include the provision of basic amenities to these people.	The resettlement site for the expropriated property owners is provided with basic amenities.	√	√	√	√

Adapted from Uwayezu and de Vries (2018).

Based on these evaluation indicators, we applied a Likert scale with five levels, ranging from ‘very unjust’ to ‘very just’ (5), to evaluate whether the implementation of the resettlement process as a form of compensation for the expropriated property owners, abides by the aspirations of the four forms of spatial justice. The five levels of the Likert scale and related scores were defined as very unjust (with 1 score), unjust (2 scores), neither unjust nor just (3 scores), just (4 scores) and very just (5 scores). In applying this evaluation approach we assumed that just rules that are implemented in a just way (their just implementation processes) result in just outcomes (Uwayezu & de Vries, 2018). This evaluation approach was combined with the degree to which the expropriated property owners (based on their percentages) participate in the processes of expropriation and resettlement, and receive fair compensation (perceived in the outcomes of these processes). These percentages were aligned with the above scores to harmonize the presentation of our results. This measurement approach is combined with the degree of satisfaction of the expropriated property owners (based on the percentage), in relation with outcomes resulting from the expropriation or the resettlement as the adopted option for their compensation. In practice, just outcomes are reflected in the alignment of the resettlement processes with the needs and rights of the users or owners of land and related resources. They also translate into the restoration of the rights of the expropriated people to these resources and the improvement of their socio-economic conditions (Fraser & Honneth, 2003; Harvey, 2010; Young, 1990). In the next section, we present the sources of data and the methods we applied in this study.

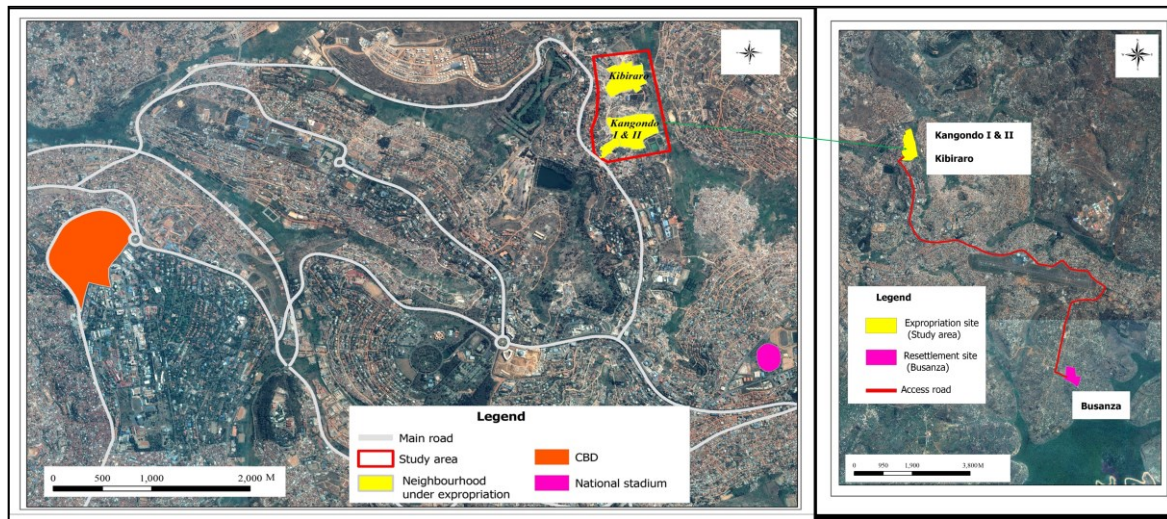
6.4. Data sources and methods

In this section, we present the study area and discuss methods and approach used in collecting the required data for this study. These data were collected in two phases: January-March, 2018 and January-February, 2019. During the first phase, the valuation for the real properties to be expropriated was being carried out and local leaders, district authorities were informing property owners about their resettlement processes as option for the compensation for their properties. We collected data on the motivation for adopting the in-kind compensation and perceptions of property owners on this compensation option. During the second phase, the construction of houses in which the expropriated people will be resettled was going on. We collected data about the characteristics of these houses, and the availability of socio-economic infrastructure and services.

6.4.1. Study site

The study was carried in an informal settlement, comprising three neighbourhoods of Kangondo I&II and Kibiraro as Figure 26 shows.

Figure 26: Location of the study area



Data source: Field survey, January-March, 2018 and January-February, 2019

Figure 26 shows the location of the study area in Kigali City. This area is located in *Nyarutarama* cell, *Remera* sector, *Gasabo* district, in Kigali City. It lies at 8 kilometres from the Central Business District (CBD) of Kigali City, and 5 kilometres from the main national stadium located in Remera. Its development had been driven by the rapid population growth of Kigali City and poor physical planning in the past years, which turned the site into the mushrooming of unplanned and disorganised residential neighbourhoods (Rwanda Housing Authority, 2017). The spatial growth of these neighbourhoods was accelerated by the development of the neighbouring planned residential sites. This spatial growth was notable between 2000 and 2013, when inhabitants of these areas were coming from rural areas in search for employment in these closest planned residential neighbourhoods. During that time Kangondo I&II and Kibiraro were vacant sites where these rural-urban migrants could develop poor and low-cost dwellings, due to failure of municipal authorities to control their development (Rwanda Housing Authority, 2017). These sites of Kangondo I&II and Kibiraro had therefore evolved into overcrowded and non-organised settlements deprived of basic urban amenities such as water, sanitation system, waste disposal and roads. In the framework of the current re-development processes of Kigali City, these sites have been identified among informal neighbourhoods that are being transformed into modern villas (Rwanda Housing Authority, 2014). Before the clearance of these neighbourhoods, property owners will be resettled in another site, called Busanza, as a form of compensation.

6.4.2. Sampling

We used random sampling approach in selecting participants to household survey based on the number of households recorded in the study areas. They were 1498 in total. We sampled 306 heads of households who participated in the study. It is applied in selecting the sample from the finite population (Krishnaswamy et al., 2006) as follows:

$$n = \frac{z^2 * p(1 - p) / e^2}{1 + (z^2 * p(1 - p)) / z^2 * N}$$

Where:

Z = is the value assigned for the confidence level, which in this case is 1.96 for a margin error of 95 %;

p = the desired proportion for the sample size n , which is 0.5; e = the tolerable error (10 % in this study);

N = population size (for the whole study area).

As the study area is divided into three neighbourhoods, we distributed our sample proportionally to the number of households recorded in each neighbourhood as follows: 126 respondents in Kangongo I, 108 in Kangondo II, and 72 in Kibiraro. By distributing these selected samples over the total number of households in the respective neighbourhood, we realised that 1 person out of 5 could participate in the survey. We, therefore, skipped 4 to 5 households in each neighbourhood to survey the next one and so on, to cover the whole geographic area.

6.4.3. Data collection method

This study applied a parallel mixed method approach for the data collection, including household surveys, semi-structured interviews and documentary reviews.

6.4.3.1. Primary data

Evidences for this chapter were collected through household surveys and in-depth semi-structured interviews with property owners in the study area, interviews with all actors from government institutions who are involved in this project of resettlement of these property owners, other organisations that follow the implementation of the expropriation law and the master plans of Kigali City, and researchers. Household surveys covered the following topics: household characteristics, including the size, the source incomes, employment status, property owners' appreciation of the compensation option and relocation processes, including the value and quality of housing in the new settlement site, opportunities and challenges associated with the resettlement, their roles in the resettlement processes, their living conditions before and after resettlement. We also collected empirical data from these property owners in the resettlement site for the expropriated property owners, through field observations. We focused on availability of basic infrastructure and services in this site, the size of houses in which these people will be resettled and working opportunities around this new settlement site.

6.4.3.2. Secondary data

Secondary data for this study were collected through the review of the expropriation law, research papers and reports on expropriation, valuation and counter-valuation reports held either by the expropriated people and real property valuers who participated in the valuation of the expropriated properties. Other documents included the masters plans of Kigali City, land law, policies on urbanisation, housing development and human settlement. These policies were reviewed because they provide guidelines that various actors in the resettlement of the displaced property owners alongside the implementation of the master plan of Kigali City must follow to restore access to housing and urban amenities for the affected people. During this documentary review, attention was paid to the compensation option provided in the case of real property expropriation, decision making on the compensation option, planning and implementation of resettlement of the expropriated property owners. Both aspects related to the participation and

collaboration with the property owners were investigated in this review. In addition to documentary review, media resources including video and online newspapers articles on expropriation were accessed and reviewed. Expropriation and the resettlement processes of the expropriated property owners in Kigali City have largely attracted the attention of the local media during the last five years, so we identified them among the important sources for data for this study.

6.4.4. Data analysis and presentation of results

Data analysis relied on the transcription of recorded information from interviews and household surveys. Transcripts were organised into nine themes as follows: Negotiation on the compensation option; Compensation at market value; Compensation for all tenure types; Participation in the planning of the resettlement and implementation of resettlement plans; Decreased displacement and Integration in the city; Access to jobs of employment opportunities; Access to basic infrastructure; Habitability of the house and free ownership of houses allocated to the expropriated property owners. These themes relate to the variables that we use in evaluating if the in kind compensation, through the resettlement, for the expropriated property owners promotes spatial justice. As the evaluation uses the measurement scale with five levels, the recorded scores and other quantitative data were organised in table format using excel. SPSS was used to perform descriptive and inferential statistics to examine levels of spatial justice corresponding to these variables and related indicators applied in this evaluation. These indicators were defined in our evaluative framework in Table 13. ArcGIS software was using in producing different maps that illustrate some of the findings which are presented and discussed in the following section.

6.5. Results and discussion

The in-kind compensation as a form of payment for the expropriation of real property has been perceived as a string to spatial aspects of justice, through counteracting the displacement of property owners from their neighbourhoods. In this section we explore first if this aspiration is being met in Kigali City, alongside the expropriation of property owners affected by the project of (re)development. Secondly, we suggest different approaches through which this aspiration can be effectively met, based on features of spatial injustices identified in the implementation of this form of compensation.

6.5.1. Patterns of spatial justice emerging from the in-kind compensation in Kigali City

Trends of spatial justice identified in the rules and processes underlying the implementation of the in-kind compensation for the expropriated property owners in Kangondo and Kibiraro are presented in this section. The recorded scores on survey-based variables and related forms of spatial justice are presented in Table 14 and discussed in the subsequent texts. Generally, they show very good trends (with scores ranging between 4.6 and 4.8 out of 5) of procedural, recognitional, redistributive and intra-generational justice from the dimension of rules. However, these scores creep in the implementation of these rules (processes dimension) and their outcomes. They range between 1.1 and 3.1 out 5 at both processes and outcomes dimensions. The main reason for discrepancies observed in scores recorded for each form and dimension of spatial justice is the lack of collaboration between the agencies implementing the expropriation law and the resettlement processes and the expropriated property owners. Despite these pitfalls,

some of the assessed variables of spatial justice at both processes and outcomes dimensions show very good scores which are worthy of appreciation. We discuss these trends and deficiencies of spatial justice in different sub-sections of this chapter that follow the Table 14 below.

Table 14: Patterns of spatial justice in rules and practices of the in-kind compensation in Kigali City

Measurement variable	Main evaluative indicators	Related form of spatial justice				Mean scores ²⁹		
		Procedural	Recognitional	Redistributive	Intra-generational	Rules	Processes	Outcomes
Negotiation on the compensation option	Expropriation law allows negotiating the compensation option between expropriating agency and property owners.	√	√	- ³⁰	-	4.6 ^a	1.3 ^b	1.0
Compensation at market value	Expropriation law allows the compensation at market values.	√	√	√	-	4.8	4.7	4.7
Compensation for all tenure types	Compensation is paid for both property owners in formal and informal tenures.	√	√	√	√	4.8	4.8	4.8
Participation in the planning of the resettlement	Expropriated property owners participate in the planning ³¹ of their resettlement.	√	√	-	-	4.6 ^a	1.1 ^b	1.0
Participation in implementation of resettlement plans	Expropriated property owners participate in the implementation of their resettlement processes.	√	√	-	-	4.6 ^a	1.1 ^b	1.0
Decreased displacement	Expropriated property owners are resettled within or in proximity to the neighbourhoods of the expropriated property owners.	√	√	√	√	4.8 ^a	1.2 ^b	1.2
Integration in the city	The resettlement of the expropriated people is carried out in	√	√	√	√	4.8	4.8	4.8

²⁹ A Likert scale with five levels of scores standing for “very unjust (1), unjust (2), neither just nor unjust (3), just (4) and very just (5) “was used to evaluate whether various rules and processes applied in the expropriation and resettlement of real property owners portray some patterns of spatial justice and result in just outcomes. The mean scores were computed at three dimensions of our analytical framework: rules, processes, and outcomes, as presented in this table

³⁰ As stated in Table 2, the applied indicator does not relate to the corresponding form of spatial justice

³¹ Site selection, site plan and house plan

Measurement variable	Main evaluative indicators	Related form of spatial justice				Mean scores ²⁹		
		Procedural	Recognitional	Redistributive	Intra-generational	Rules	Processes	Outcomes
	the framework of the current master plan of Kigali City.							
Access to jobs or employment opportunities	The resettlement prevents the loss of employment opportunities for the expropriated property owners or promotes their access to jobs.	√	√	√	√	4.8 ^a	1.1 ^b	1.1
Access to basic infrastructure	The resettlement promotes access to basic infrastructure and services for the expropriated property owners.	√	√	√	√	4.8	4.7	4.6
Habitability of the house	Housing plans are aligned with the size of the household.	√	√	√	√	3.1 ^a	1.1 ^b	1.1
Free ownership of the acquired house	Expropriated property owners are granted ownership rights of the houses they receive in compensation.	√	√	√	√	4.8 ^a	3.1 ^b	3.1
General mean scores						4.6 ^a	2.6 ^b	2.6
<p>Different letters indicate statistical significant means which were calculated using the Mann-Whitney test (at $p < 0.05$) for the respective dimensions of spatial justice: rules, processes, and outcomes.</p> <p>- Different small letters (a, b) indicate significant difference between rules and processes: they show discrepancies between good trends of spatial justice at rules dimension (a) and trends of spatial injustices at processes dimension (b), as well as at the outcomes dimension since the scores recorded at this dimension are dependent of how the criteria of spatial justice are met at processes dimension (Uwayezu & de Vries, 2018).</p>								

Data source: Review of the expropriation law, urban development rules, housing and settlement policies, master plan of Kigali City and analysis of field data collected from January to March, 2018 and January to February 2019

6.5.1.1. Trends of spatial justice in the in-kind compensation for the expropriated real property owners in Kangondo and Kibiraro

Despite different deficiencies in spatial justice identified at the rules, processes and outcomes dimensions of the expropriation and resettlement of property owners in Kangondo and Kibiraro, there are some good trends of spatial justice which are worth being described. These trends embrace the quality of developed houses and the promotion of tenure security for the expropriated property owners.

6.5.1.1.1. Compensation at market value and improved quality of buildings: procedural, recognitional and redistributive pattern of spatial justice

Access to new houses of similar (or greater) market value and quality as (than) the previous ones, coupled with access to basic amenities is among good indicators of procedural, recognitional and redistributive spatial justice alongside the resettlement of the expropriated property owners. If we consider the market value of developed houses, this indicator is scored at 4.8 out of 5 scores at rules dimension, at 4.7 out of 5 scores at the both processes and outcomes dimension as Table 14 shows. These scores are also linked with procedural justice in the sense of compliance to expropriation law which stipulates that the compensation for the compulsorily acquired private property should not be below the market value of this property. They also reflect good trends of recognitional and redistributive justice which hold for the recognition of the rights of the expropriated property owners to other properties of similar or higher value than the acquired ones, for the sake of greatly improving their conditions before the acquisition of their properties. These features of recognitional and redistributive justice are well identified in the implementation of the in-kind compensation for the expropriated property owners in Kangondo and Kibiraro, regarding the quality of buildings these people will be resettled in.

Most of the existing houses in these study areas were built up using non-durable materials: walls of 87 % of these houses are made of mud bricks against 13 % made of cement bricks and burnt bricks. Some of these houses are plastered with sand and cement. Their floors are paved with cement (79 %). Others (21 %) are not paved (Rwanda Housing Authority, 2017). Based on our field observations, most of these houses (68 %) have two bed rooms and one living room, 14 % have three bed rooms and one living room, while 18 % have one bed room and one sitting room. Among them, 23 % have annexes resulting from the conversion of the external bathroom into single room house because it was not possible for dwellers of Kangondo and Kibiraro to obtain building permission to expand their houses after illegal consolidation of their neighbourhoods. Around 81 % of these houses are in critical conditions: they are old since they are made of non-durable materials and the existing housing regulations banned building rehabilitation in informal settlements. Comparing the quality of these buildings and that of the apartments which will be allocated to the expropriated property owners, there is clear difference between them, as demonstrated in Figure 27, below:

Figure 27: Housing aspects before and after the resettlement



Data source: Field survey, January-March, 2018 and January-February, 2019

Figure 27 shows that the in-kind compensation features two main aspects of spatial justice: reparation to deprivation in housing and improvement in environment quality of the residential neighbourhood through recognition of the rights of the expropriated property owners to access decent houses. The quality of these new buildings is not linked with the construction material, but also the availability of basic urban amenities in the resettlement area of the expropriated property owners. In fact, the field work for this study was carried out when construction works in this site were at 70 %. Some of the building blocks were already completed and connected to water network, power grid, and drainage systems. They are also close to basic urban amenities. Within these blocks, each house contains a bath room, internal toilet and a kitchen. However, 64 % of the existing dwellings do not possess these facilities as Table 15 shows.

Table 15: Status of access to basic amenities before and after resettlement

Resource	Available in house premise or distance from the neighbourhood	After resettlement
Water	67 %	100 %
Electricity	81 %	100 %
Drainage system	0 %	100 %
Bus line	800 m	600 m
Market	3,500 m	2,000 m
Health center	3,000 m	2,000 m
Hospital	1,200 m	2,000 m
Nursery school	In the site	In the site
Primary school	1,200 m	1,000 m

Data source: Field survey, January-March 2018 and January-February 2019

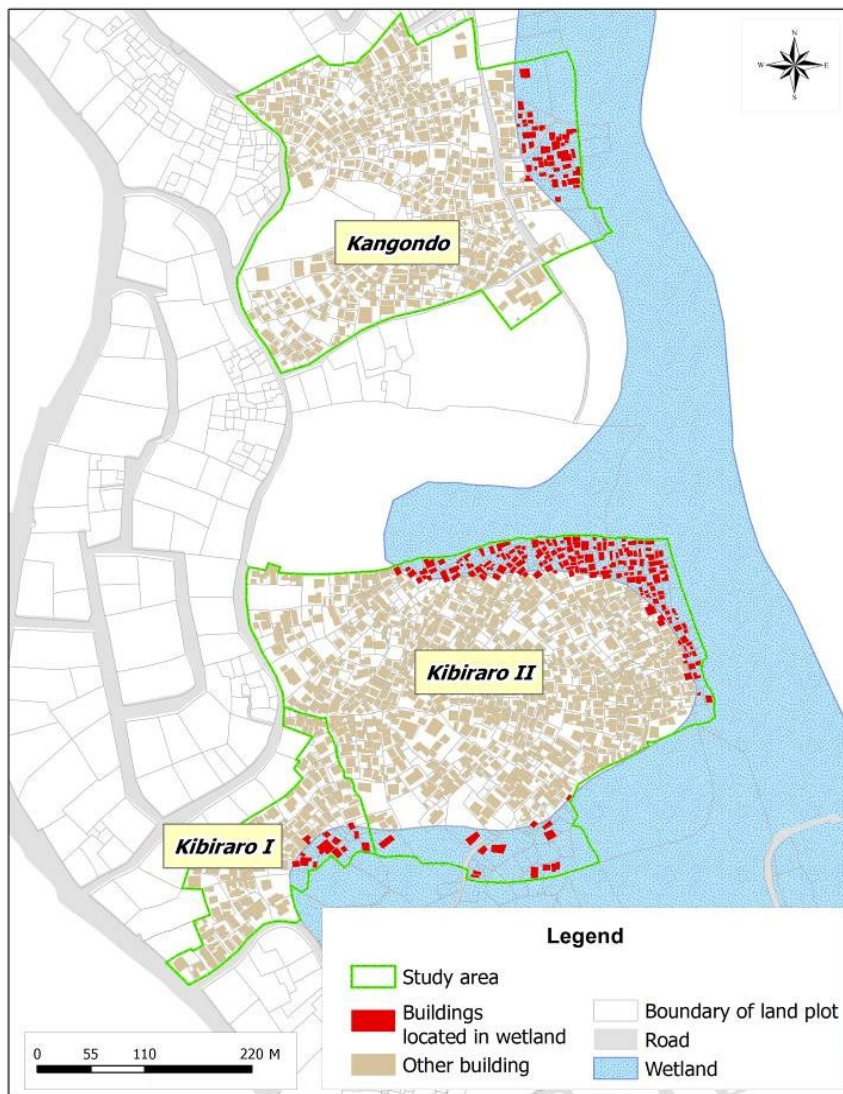
Table 15 shows that the resettlement process results in the increased access to basic facilities. This aspect is featured in procedural justice, in tandem with recognitional and redistributive justice, which requires that new operations of spatial organisation enhance access to basic urban resources for the affected people. Related indicators culminate to a mean score of 4.8 out of 5 at the rules, processes and outcomes dimensions as shown in Table 14. Recognitional justice is reflected in the respect of the rights of all expropriated property owners to basic urban amenities

and services when developing their resettlement sites. This form of recognition leads to redistributive justice through the development of these amenities and services in the new residential site for the expropriated property owners. It is worth noting that this site is developed in compliance with the guidelines on inclusive urban development, which recommend the respect of these rights alongside the processes of clearing informal settlements (United Nations Secretariat, 2016; Uwayezu & de Vries, 2018). These guidelines are also clearly indicated in the national urbanisation policy and housing development policy which guide urban (re)development in Rwanda (Ministry of Infrastructure, 2015a, 2015c). These policies also recommend a spatially just management of the urban space that enforces the rights of these property owners to housing, and protects them against property deprivation, from which their security of tenure emerges (U.E. Chigbu et al., 2019; Ministry of Infrastructure, 2009). In the following section, we explore how compliance with these policies boosts the security of tenure in the resettlement of dwellers of Kangondo and Kibiraro, within the general contours of promoting spatial justice.

6.5.1.1.2. Compensation for all tenure types: increased tenure security through procedural, recognitional and redistributive and intra-generational justice

The resettlement of the expropriated property owners in Kangondo and Kibiraro promotes their security of tenure, especially for people whose property rights had been held through informal tenure. As echoed in other studies on the issues of spatial re-organisation and resettlement of the affected people, this security of tenure is connected with the common claim of both procedural and recognitional justice in relation to the payment of the compensation for all property owners, whether they formally or informally hold their properties (Uchendu Eugene. Chigbu et al., 2017; Uwayezu & de Vries, 2018, 2019b). Recognitional justice is more specifically connected to the recognition of their rights to other property, advances redistributive justice through the alternative compensation and intra-generational justice when this compensation is paid for all categories of property owners, from both formal and informal tenure. In our case study, most of the poorest people had informally acquired their properties, through encroachment to wetlands, which are public lands, where they illegally developed their houses. The study identified 84 buildings and 107 land plots located within the wetland as Figure 28 shows:

Figure 28: Location of the expropriated buildings



Data source: Field

survey, January-March 2018 and January-February 2019

Figure 28 shows the buildings (red colour) which had been illegally developed in the wetland, but whose owners will receive the in-kind compensation as well as others who developed their houses legally. According to the organic law N°04/2005 of 08/04/2005, 15/07/2010 determining the modalities of protection, conservation and promotion of environment in Rwanda it is actually prohibited to put up residential buildings in the wetlands (Government of Rwanda, 2005). In addition, the article 19 of the law n° 43/2013 governing land in Rwanda states that the wetlands belong to the State. They are not allocated to individuals and no person can use them for a long time to justify their definitive takeover (Government of Rwanda, 2013). These rules prohibit the development of the residential buildings in the wetlands. Subsequently, the current master plan of Kigali City recommends the removal from the wetland of all buildings whose use is either residential or commercial. The provisions of these rules and the master plan on the illegality of the buildings located in the wetland have accordingly exposed their owners to insecure tenure for a long, since they have been feeling that they can be evicted any time³².

³² Household survey

Despite their illegal status, the values for these buildings were determined during the process of expropriation. Their owners will be compensated through the resettlement as well as other property owners who developed their buildings outside of the wetland. The compensation for these categories of people is embedded in the recognition of their basic rights to housing by political leaders and the government commitment to enhance access to decent housing for all Rwandans. This was clearly stated by decision makers, local authorities and urban planners who participated in our interviews. This political awareness on the rights to housing for the poor urban dwellers reflects the patterns of procedural, recognitional, redistributive and intra-generational justice, from a spatial justice perspective. Procedural justice is embedded in the current land policy and human settlement policy which prohibit land and housing deprivation for all informal urban dwellers. Recognitional justice is connected to procedural justice and blended in the recognition and respect of the rights to housing in the new settlement for all inhabitants of Kangondo and Kibiraro. Redistributive and intra-generational justice is embedded in the equality of rights and opportunities in access to basic urban amenities for all these people and the increased recognition of these rights for property owners whose houses had been built-up in the wetlands. These good trends of spatial justice are substantiated with the results from the household survey. Our evaluative indicators connected to features of spatial justice and related results record a mean score of 4.8 out of 5 at three dimensions of our analytical framework as Table 14 shows. Generally, these good trends of spatial justice are connected to the engagement of decision makers and political leaders in promoting access to housing and basic urban amenities for all categories of urban dwellers, including the poor. In fact, if the above-mentioned laws prohibiting housing development in the wetlands were respected and strictly implemented, property owners who developed their houses in these areas should not receive any compensation. In other words, they could have been evicted without relocation. Increased consideration of spatial justice frames in the current expropriation practices has therefore resulted in the recognition of their rights to housing as well as for other urban inhabitants who developed their dwellings on their own lands. Thus, property owners whose buildings are in the wetland will be compensated through their resettlement in better quality houses (here consideration is made to their market value, durable construction material and access to basic amenities) than the ones they have been leaving in. This resettlement is arranged in a site planned for housing development, from which these people will not feel any risk for eviction as stated by 96 % of our informants whose houses are located in the wetland. This decreased likelihood of eviction and their resettlement within the framework of the current master plan (this aspect records a score of 4.8 out of 5 at rules, processes and outcomes dimensions) are driving factors for their increased tenure security. Despite these good trends, there are other aspects of spatial justice which show very low scores and tend to depict some patterns of spatial injustices in the implementation of the in kind compensation Kigali City.

6.5.1.2. Scanty trends of spatial justice in the implementation processes and outcomes of the in-kind compensation

In this sub-section, we discuss general problems identified in the implementation processes of the in-kind compensation and their implication on the resettlement and livelihoods of the expropriated property owners. These pitfalls are generally linked with the unwillingness of public agencies, (which implement the expropriation law), to negotiate with the property owners on the compensation option and to include them in the planning and implementation of their resettlement processes. This lack of social interactions and collaboration among these people can result in non-recognition of their basic needs of the expropriated property owners and disrespect of their basic rights alongside their resettlement, which we can comprehend well from a spatial justice lens.

6.5.1.2.1. Lack of negotiation on the compensation option and community participation in the resettlement processes: deficient procedural and recognitional justice

Negotiation with the urban space users and their participation in urban (re)development are the main drivers for both procedural and recognitional justice (Fraser, 1998). Generally, when these frames of spatial justice are embedded in both rules and processes of urban (re)development projects, the resulting outcomes can be spatially just (Uwayezu & de Vries, 2018, 2019b). This is also required in the implementation of any expropriation project. Negotiation on compensation option and participation of the expropriated people in their resettlement are not only factors for procedural and recognitional justice, but also their rights (Fraser, 1995; Hoops et al., 2018; Nozick, 1974; United Nations, 2007; Vanclay, 2017). According to our results, these features of spatial justice record a score of 4.6 out of 5 at the rules dimension, within the framework of the expropriation and resettlement of the property owners in Kigali City (see Table 14). In fact, the Rwandan expropriation law recognises the rights of property owners to negotiate on the compensation option (Republic of Rwanda., 2015). Rules related to the relocation of people displaced alongside the implementation of the master plan of Kigali City also recognise their rights to be consulted and to participate in the planning and implementation of their resettlement processes (Ministry of Infrastructure, 2009, 2015b).

Nevertheless, these frames of spatial justice are deficient in the implementation processes of the expropriation of real property for the inhabitants of Kangondo and Kibiraro sites. As Table 14 shows, they record the mean scores of 1.3 and 1.1 out of 5, for the strands of negotiation and participation respectively. This finding on the little likelihood of negotiation and participation of property owners in the expropriation and their resettlement when public agencies implement the expropriation in Kigali City are also consistent with previous studies (Legal Aid Forum, 2015; Nikuze et al., 2019; Norwegian People's Aid & Rwanda Civil Society Platform, 2017). However, there is no clear justification for not negotiating with the property owners on the compensation option when they lose their properties through the expropriation. Their exclusion from the planning and implementation of their resettlement is also not pertinently proved. Kigali City authorities and local leaders argue that negotiation and participation of property owners in expropriation, design and implementation of their resettlement plans may be cumbersome and time consuming so that they do not abide to these normative frames of spatial justice. Moreover, these actors argue that property owners may reject or delay any project of expropriation whose compensation is in the form of resettlement. The reason being that property owners prefer to be compensated in the monetary form, which unfortunately does not help all of them access new properties in Kigali City (Uwayezu & de Vries, 2019a). For this reason, government authorities perceive that resettling these people without their consents is the best option and which they find more spatially just in the sense of promoting their access to quality housing, basic urban amenities and their integration in the urban space in the general context of the advancing their rights to the city³³.

Despite this justification for not negotiating and collaborating with property owners in the expropriation process, these authorities do not provide any evidence about a failed attempt to use this approach which is required for this process to result in just outcomes. Yet, negotiation and collaboration approaches have been applied without compromising the success of expropriation and resettlement projects in various countries such as Morocco, India, Sri Lanka,

³³ Interviews with local leaders, Kigali City authorities

Timor-Leste (or East Timor) and different Pacific States (Asian Development Bank, 2014; Price & Singer, 2019; Roquet et al., 2017; UN-Habitat, 2013). In Azerbaijan, Kazakhstan, Slovenia and Germany the expropriation process and the determination of compensation value for private real property involve negotiation and agreement between the property owners and the expropriating agencies (Price & Singer, 2019; Šumrada et al., 2013; Voss, 2010). Deficiency in property owners' participation and lack of voice hearing has unfortunately resulted in developing houses that do not fit with the family sizes of the beneficiaries. This compromises the habitability of these houses (some of which are in the forms of studio) for 63 % of the expropriated households. The habitability of these houses shows the paucity of spatial justice in all its forms and dimensions. This is portrayed by the low score of 3.1 out of 5 recorded at the dimension of rules and which falls to 1.1 out of 5 at both processes and outcomes dimensions. In fact, rules related to the resettlement do not mention any specification of the houses which should be developed for the displaced people. Actors who implement their resettlement design small sized houses, which often do not fit with the sizes of the beneficiaries due to limited financial capacity of the government. Yet, the market values for these new houses are greater than these of the expropriated properties. This aspect of compensation value and the question of the inhabitability of the houses developed for the resettlement of the property owners in Kangondo and Kibiraro is discussed in the next sub-section, which connects the value and the size of these houses with the recorded size of each household that participated in our survey.

6.5.1.2.2. Fair compensation at market values is not always spatially just

Despite their inhabitability, the values of the developed houses for the expropriated property owners in Kangondo and Kibiraro depict some features of procedural and redistributive justice, based on the market values of these houses. As Table 16 shows, these values are higher than the values of the expropriated houses.

Table 16: Market values of the in-kind compensation compared to the values of expropriated properties

Household income category	Property value in USD (Class)	Mean value of the property in the US Dollars	Compensation in US Dollars	Type of House	Size in Square meters	Beneficiary Households in %	Average size of Household	Monthly income of the household (range in US dollars ³⁴)
1	1,060.00-8,258.00-	4,201.38	16,722.80	Studio	65	41	6	70.65 to 117.76
2	8,68.00-20,864.00	10,858.89	22,964.41	1 Bed room apartment	45	33	5	117.76-235.54
3	11,380.00 - 21,912.00	14,677.93	29,441.55	2 Bed room apartments	35	19	5	235.54- 353.30
4	21,776.00 - 24,095.00	18,857.21	42,395.23	3 Bed room apartments	27	7	5	Over 353.30,

Data source: Household survey (January-February, 2018) and expropriation rolls

³⁴ The exchange rate was 1 US dollar for 849.14 Rwandan francs on 16 February 2018

Table 16 shows that market values of houses allocated to the expropriated people are higher than the values of the expropriated properties. The increase in these values essentially depicts a pattern of procedural and recognitional justice since they do not fall below the market values of the expropriated properties. This means that the compensation was calculated at market value and not as pledged in the law (scores of 4.8 out of 5 for the rules dimension and 4.7 for both processes and outcomes dimensions were recorded as shown in Table 14). These values also reflect the redistributive pattern of spatial justice. This transcends in a restoration of the rights to housing for all categories of the expropriated property owners through recognitional justice which claims for the respect of these rights. This recognition has advanced the redistributive justice which is being operationalised within a shared space and promotes the diversity within the undifferentiated urban neighbourhood, hosting in chorus urban dwellers of differentiated income categories as Table 16 shows. In addition, the resettlement of these people exhibits the combination of redistributive and intra-generation patterns of spatial justice that benefit greatly the poorest property owners. In fact, consideration has been given to the economic status of underprivileged classes, like people of category 1 as shown in Table 16. They received the greatest values in the shares of prices of the developed houses. Yet, these values are disproportional to the low values of their houses because Kigali City authorities are committed to promoting access to decent houses for poor urban dwellers and integrating them within the urbanised neighbourhood of Kigali City.

However, these patterns of spatial justice relate only to the market values of the lost properties. They are not commensurate with just remedies to deprivation of adequate housing which is the basis for the livelihood of the expropriated property owners. Adequate housing is intimately associated with its use value and reflects just outcomes, if it fits with the needs of the beneficiaries, from a recognitional justice dialectic (Yin et al., 2019). But, if the provision of the amount of shelter which does consider the household size, it results in deficient about recognitional justice in our case study. This deficiency in the resettlement of the expropriated property owners in Kangondo and Kibiraro is also perceived by these people. The lack of recognitional justice is attributed to the inhabitability of the developed houses, with regards to their sizes and number of their rooms which are not compatible with the sizes of the beneficiaries. Assessing trends of recognitional justice from the resettlement of the expropriated property owners in Kangondo and Kibiraro, with consideration of their basic needs, leads us to posit that the compensation they receive is not spatially just. The non-recognition of their needs is also connected to deficiency of procedural justice, which is more practically grasped from the lack of their participation in the planning and implementation of their resettlement processes. This lack of participation is therefore at the heart of the non-recognition of household size and its needs in the design and construction of the houses the expropriated people will be given as compensation for their expropriated real properties.

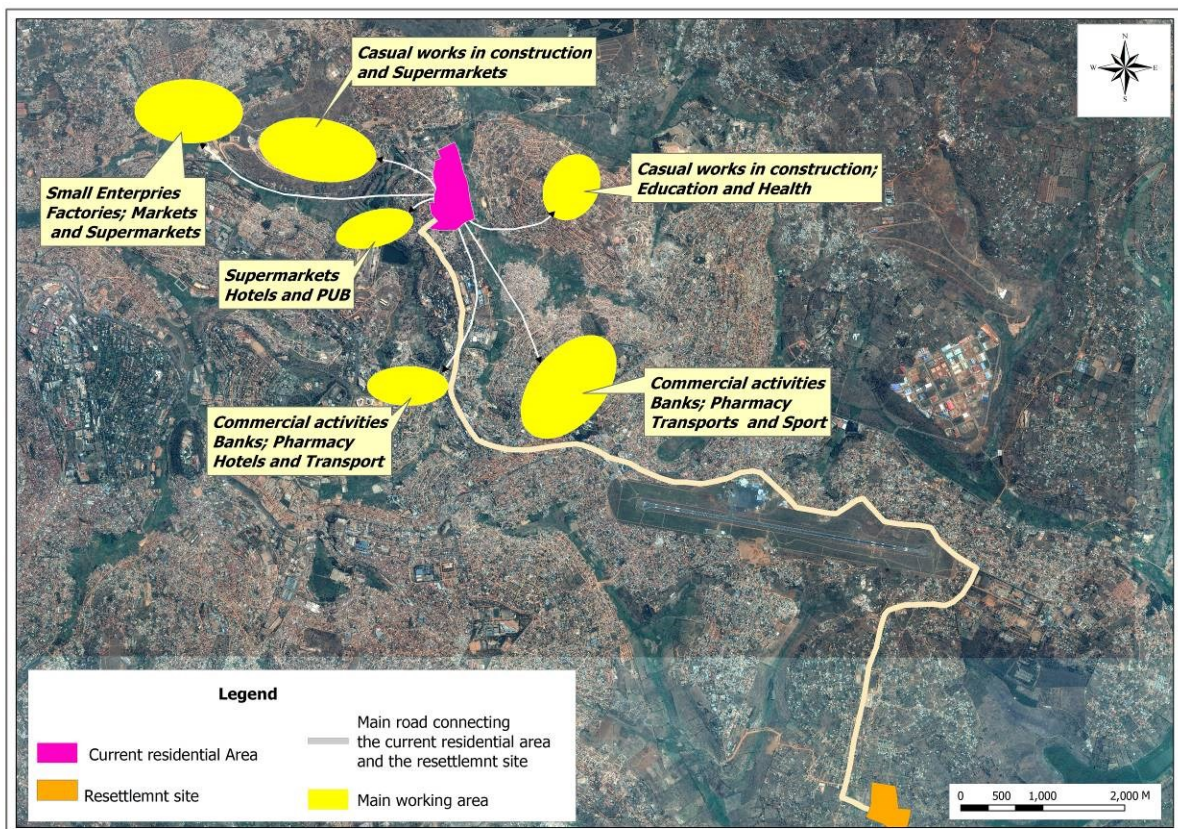
This question of deficient procedural and recognitional justice, which resulted in non-consideration of the use value of developed houses, was discussed with municipal leaders and decision makers, during our interviews. Their arguments are contentious. They argued that the expropriated property owners whose family sizes do not fit within the developed houses have rights to rent or sell them to small or single families which can fit in these houses. However, this suggestion contrasts with the current goals of promoting inclusive urban development and mitigating the growth of informal settlements in Kigali City. If the expropriated property owners rent or sell the new houses they will receive, it follows their resettlement in informal settlements whose spatial growth is mushrooming in the urban fringes. The expropriated people will therefore remain the potential actors for the spatial growth of these informal settlements. In addition, not occupying their houses in the new resettlement site will result in their disintegration from the formal city and deprivation of access to basic urban amenities. This disintegration and

resources deprivation will therefore remain drivers for spatial injustices that the adoption of the in-kind compensation intended to tackle.

6.5.1.2.3. Non-recognition of the rights to incomes: deficiency in procedural, recognitional and redistributive justice

The implementation of the in-kind compensation for the expropriated property owners in Kangondo and Kibiraro also portrays deficiency in procedural, recognitional, and redistributive justice (with scores of 4.8 out of 5 at the rules dimension, which falls to 1.1 at both processes and outcomes, as shown in Table 14) in view of the non-recognition of the rights of these people to jobs or employment opportunities. Deficiency in procedural justice is associated with their displacement and resettlement in site which is very far from their usual working places. The scantiness of recognitional and redistributive justice is mirrored in non-consideration of the rights of the expropriated people to employment or their deprivation of access to incomes, without palliative options. These urban dwellers are employed as teachers, drivers, and workers of small shops and/or bars. Others are self-employed as security guards for elites and security companies, artisans, casual workers (masonry and gardeners in elites' estates), machine operators, and bicycle and motorcycle repairers in their neighbourhoods. They also work in the local market, shops and small-scale manufacturing businesses such as carpentry and metal work (Artisanal) in the neighbouring economic zones which are shown on Figure 29.

Figure 29: Working places for the inhabitants of Kibiraro and Kandongo



Data source: Field survey (January-March 2018 and January-February, 2019)

Among the inhabitants of Kangondo and Kibiraro sites, the percentage of people employed in masonry, garden, and security services are estimated at 30 %. Artisanal workers represent 4 %. People who are self-employed in business (such as trading, transport etc.) are estimated at 35 %,

while those who are employed in businesses such as hotels, supermarkets and bars represent 10 %. Public servants (such as teachers, nurses, and other government employees) represent 3 %. The remaining (18 %) are unemployed, but some of them rely on small incomes generated from renting the annexes of their main houses to low-income tenants. As Figure 29 shows, the resettlement of these people will negatively affect their economic status and incomes, if we consider the sources for their incomes and their working places. The main problem will obviously be the loss of jobs. Currently, they walk to work and back home. If they decide to keep their jobs after the resettlement, they will travel 18 Kilometres and 800 meters using the public transport. However, their low salaries will not allow them to do savings. The average monthly income of the heads of households varies depending on the type of employment or sources of this income. These incomes in the US dollars range between 70.65 and 94.22 for 28 % of heads of households; 94.22 and 117.76 for 20 %; 117.76 and 176.65 for 20 %; 176.65 and 235.54 for 15 %; 235.54 and 294.42 for 10 %; 294.42 and 353.30 for 5 %; and above 353.30 for 2 % (data source: Field survey, January-February 2019 and Rwanda Housing Authority, 2017). This study assessed how the transport can affect these incomes if these people if they keep their current jobs. Table 17 shows figures on the costs for transportation as follows:

Table 17: Cost for daily transport before and after the resettlement

Transport cost in US dollars per a working day		Percentage of the surveyed households
Currently	After the resettlement	
0.00	1.17	72 %
0.47	1.17	28 %

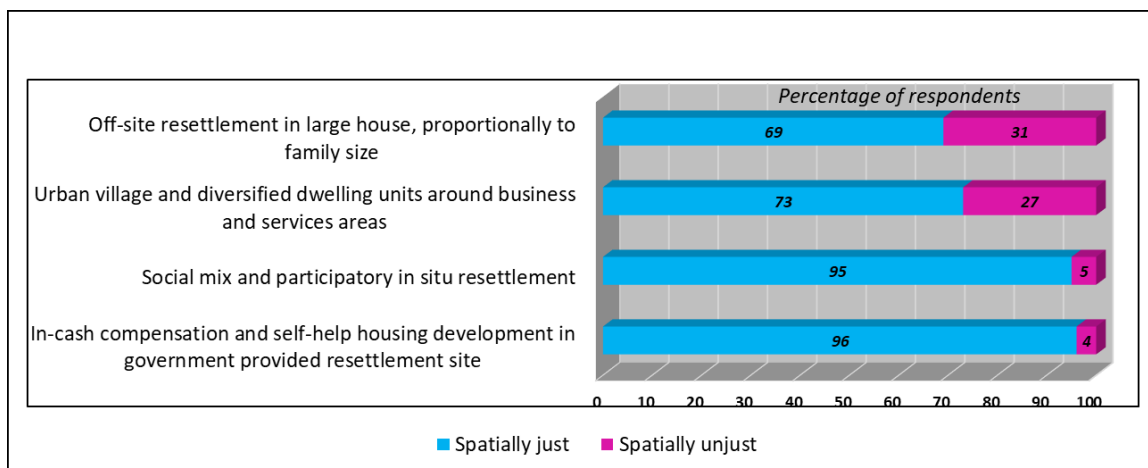
Data source: Field survey (January-February, 2019) and review of data on local transportation tariff

After the resettlement of households in Kangondo and Kibiraro, the daily cost for transport will increase for people who currently use public transport to go to work, as shown in Table 17. This cost will also be high for others who normally walk to work if they decide to keep their current jobs and use public transport to go to their respective working places. This implies that each person may spend between 25.90 to 29.45 US dollars per month if we count only the work days. Therefore, the take home will considerably decrease. This will seriously affect all people whose monthly income is less than 117.76 US dollars. Since they already live under the poverty line, the resettlement will deteriorate their economic status as they argued during our surveys. These people perceive high risks for impoverishment, if they keep their jobs (due to high cost of the transportation) or they do not find new jobs in the resettlement site. However, the likelihood for finding new jobs is very low. Their resettlement site is in a newly developed residential neighbourhood, with very limited working opportunities. The risk for impoverishment is also perceived by 23 % of landlords whose incomes are earned from renting their secondary houses or annexes to main houses to tenants. Their resettlement will evidently result in loss of incomes because each household will receive one family apartment as a form of compensation for their properties. This concern is also echoed in previous studies on the displacement of dwellers of informal settlements in Kigali City (Goodfellow, 2014; Goodfellow & Smith, 2013; Nikuze et al., 2019). As pointed out in other studies on the expropriation and resettlement in different countries, disruption in the livelihood and resulting impoverishment are among the features of spatial injustices connected with the expropriation (Huang et al., 2018; Kim et al., 2019; Li et al., 2017; Meng, 2018). These injustices are driven by the displacement of property owners who lose their properties and sources of incomes (Jiang et al., 2018). However, there exist different options which can be applied to decrease different aspects of these injustices, that may accrue from the displacement of the property owners from their properties and established residential neighbourhoods.

6.5.2. Options for promoting spatial justice in the implementation of the in-kind compensation in Kigali City

In this section, we discuss possible options which would be compatible with the demands of spatial justice, in the implementation of the in-kind compensation associated with the expropriation practices. These options (see Figure 30) include the in-cash compensation and self-help housing development in government provided resettlement, participatory in situ resettlement, resettlement of the expropriated property owners in the urban village and diversified dwelling units around business and services areas, and the off-site resettlement in large house, proportionally to family size. They are suggested based on the perceptions and recommendations provided by dwellers of property owners in our study area as best alternatives for the compensation of their properties to be spatially just.

Figure 30: Options for promoting spatial justice through the in-kind compensation as selected by the expropriated property owners



Data source: Field survey (January-February, 2019)

These options are reiterated in the current rules and strategic development plans related to both urban and socio-economic development in Rwanda. Applying them alongside the resettlement of the expropriated property owners may result in spatially just outcomes in the broad context of urban (re)development of Kigali City. We discuss each of these options in the next sub-sections.

6.5.2.1. The in-cash compensation and self-help incremental housing development: procedural, recognition, and redistributive justice

To cater for the problem associated with the habitability of dwelling units allocated to the expropriated property owners in Kibiraro and Kandongo, a possible just option that these people (96 % of respondents) suggested during the survey is the combination of the in-cash and in-kind compensation. It would consist of fair compensation in the monetary form for the houses and other developments made on the land, and the provision of serviced land plots in the residential site which is close to employment opportunities such as commercial or industrial areas. The selection of this site should be done in participatory manner, through the collaboration between Kigali City authorities and the expropriated property owners. These people can thereafter incrementally develop themselves their own houses in this site, using the compensation paid for the non-movable properties. This option is commensurate with different forms of spatial justice in different ways: Procedural justice is embodied in the compensation at

market values for these immovable properties. It is also engrained in the engagement of property owners in the development of their residential neighbourhood through a participatory planning and implementation of their resettlement, including the construction of housing units whose costs are compatible with the financial capacities of the expropriated people. This development can be done through the guidance of the Kigali City authorities or its representatives such as urban planners or other actors who are engaged in the planning and (re)development of this city. If adopted, this approach can result in engaging urban dwellers in the development of their residential houses whose sizes are aligned with their households' sizes (Campbell & Marshall, 2006; Fainstein, 2014). Recognition and redistributive justice is reflected in the recognition of the rights of the expropriated property owners to produce the dwelling units that are compatible with the sizes of their families, through an approach of incremental self-help housing development. Redistributive and intra-generational justice is exhibited in promoting mixed neighbourhoods. The allocation of residential land plots to these categories of urban dwellers, comprising poor, low-income urban and middle-income groups can help them develop diversified dwelling units, that are aligned with the needs and financial capacities of each group, within one neighbourhoods. This approach has the advantage of counteracting the long-term financial obligations in the form of mortgages (stated in the above section) that may result in housing deprivation for the poor and low-income expropriated property owners. Yet, finishing a self-built house may be difficult for some categories of property owners and result in the transformation of the selected residential site into shacks or informal settlements. The adoption of incremental self-help housing can consist of practical approach of preventing this problem. It can therefore necessitate strong collaboration of Kigali City authorities with the expropriated property owners in this process. They can seek for other forms of support (from the local NGOs, international development agencies) that may consist of materially or financially supporting the poor urban dwellers who may fail to develop the received land plots in accordance with the proposed housing plan.

6.5.2.2. Promotion of the social mix through the in-situ relocation

The social mix is among options applied for promoting spatial justice within urban (re)development, through the integration all segregated poor and low-income urban neighbourhoods and their inhabitants in the formal city (Trop, 2017). The proposed approach of social mix is supported by 95 % of households who participated in the study. It opens the room for the integration of the informal dwellers in the formal urban community. Applied in solving housing problems, it results in housing packages balanced with the needs of all categories of urban dwellers. This housing development option which is admitted to be spatially just is largely echoed in the work of Arthurson et al. (2015). They find it as a corridor for spatial justice flagship in the (re)organisation of any urban space, especially in clearance and re-development of declining poor and low-income neighbourhoods. Its outcomes include the protection of dwellers of these areas against the displacement (Denoon-Stevens, 2016). The social mix has been implemented in different ways. Its most implementation practice is termed "organic mix", consisting of mixed housing typologies inhabited by various socio-economic groups (Morris et al., 2012), in a spatially just and managed urban space. It advances equality in access to material resources which include decent housing and basic urban amenities required for daily subsistence (Marcuse, 2009, p. 190). In the pursuit of spatial justice, the organic mix is implemented through the creation of various blocks of housing units which balance the needs in housing, based on the various socio-economic precincts of urban dwellers and therefore advances the recognition of individuals differences. Although, the literature shows that this practice has been mainly implemented in developed countries such as The Netherlands (Lawton, 2013; van Kempen &

Bolt, 2009), Australia (Arthurson, 2010; Arthurson et al., 2015), UK, USA, Canada (August, 2008), it is among the applicable options for advancing recognitional and redistributive spatial justice in urban (re)development in Rwanda. This is reiterated in the national policies on human settlement, housing and urbanisation which commend the promotion of social mixed housing development. These policies plead for the integration of all categories of urban dwellers in the cities through the increased recognition of their rights to urban space and access to basic urban amenities (Ministry of Infrastructure, 2008, 2015a, 2015c). Other features of spatial justice linked with this option of social mixed housing development is imbued in procedural justice, reflected in the participation of the affected property owners in the re-development of their neighbourhood as alternative option to curb their displacement (Fainstein, 2009; Uwayezu & de Vries, 2018).

If the organic mix approach is framed in the in-situ resettlement of the expropriated property owners, it allows for the redevelopment of their neighbourhood without their displacement. We propose this urban (re)development approach, in the attempt of mitigating various challenges, such as the loss of employment opportunities that the expropriated property owners may face after their off-site resettlement. It is also among the informal settlement management options suggested by various studies on Kigali City (Rwanda Housing Authority, 2014, 2017). However, the resettlement site for property owners in Kangondo and Kibiraro who participated in this study is already developed. They will move very soon in the developed houses. Yet, this study identified that it could have been possible to relocate them in one part of their neighbourhoods and therefore reduce their displacement. Thus, the social mix approach can rather be applied in further processes of real property expropriation and the resettlement of the affected property owners.

6.5.2.3. Urban village and diversified dwelling units: reframing recognitional, redistributive and intra-generational justice

Another option for curbing with the problem associated with the habitability of the apartments allocated to the expropriated property owners in Kibiraro and Kangondo would be the development of urban village. This option was supported by 73 % of our respondents. The suggested urban village should be in good location for working opportunities in order to advance the livelihoods of the resettled people (Wagner & de Vries, 2019). The village should comprise various dwelling units with a reasonable number of rooms matching the sizes of the expropriated households. Some models of urban villages (see Figure 31) have been already developed in Kigali City by the Government of Rwanda in collaboration with Kigali City and other public and private agencies. They serve for the resettlement of the homeless poor and vulnerable urban dwellers but can also be developed in the framework of resettling the expropriated property owners whose family sizes do not fit to the modern apartments.

Figure 31: Model of low-cost housing underdevelopment in Kigali City



Data source: Field survey (January-March, 2018 and January-February, 2019)

Figure 31 shows the model of the above-mentioned urban villages. They comprise various blocks of residential buildings. Each block encompasses different compartments, serving for family houses. They are connected to water networks and power grid. In addition, they are close to nursery and primary schools, health center, market and public transport line. Each of them has one sitting room, two bed rooms, a toilet, a kitchen, a bath room, and small store for food stuff. It costs around 5649.72 US dollars. This type of buildings can be more convenient to the property owners from Kangondo and Kibiraro, who will be resettled in studio or one-bedroom apartment. As mentioned previously, the values for the studio is estimated at 16,723.00 US dollars, while the value of the one bed room apartment is 22,964 US dollars. It is therefore possible to use this money in developing large dwelling units, with 3 to 4 rooms for the prices which is less than the prices of the studio or one bed-room apartment. Unfolding this option, can result in developing building blocks comprising large units of connected houses and high-rise apartments (see Figure 31), which can accommodate poor, middle and rich urban categories in the same neighbourhoods without spatial segregation. This option is in accord with the material aspect of spatial justice, which promotes diversity, emplaced in oneness (Philippopoulos-Mihalopoulos, 2011) consisting of mixed urban community within one space without socio-spatial segregation (Rawls, 1999; Young, 1990).

6.5.2.4. Increasing housing size and progressive ownership approach through recognitional and redistributive justice

To promote spatial justice while implementing the in-kind compensation, decision makers and urban planners who are involved in the design of the resettlement plans should think of improving the quality of houses which will be allocated to the expropriated property owners. This issue relates more specifically to the habitability of these houses. In this chapter, the habitability aspect clings to family size. The average family size in Kangondo and Kibiraro is 6 people. They include two parents and four children. This household size is prominent in the category of poor property owners whose compensation consists of one studio (of 27 square meters) and the low-income households whose compensation is one bed room apartment (of 35 square meters). In practice, it is difficult for these expropriated property owners to inhabit these dwelling units which are deprived of rooms for children. More critically, the sizes of these houses are not large enough to be subdivided into small rooms that can fit for the household size.

One of the possible options for the expropriated people (according to 48 % of participants to the household survey) would be to provide them with at least two bed-room apartments, whose sizes are 45 square meters. Because the value for this apartment is higher than the value of the expropriated properties, they suggest the progressive ownership approach, through which they can pay over time the balance between these two values. For people who will be allocated in

studio, its value is 16,723.00 US dollars. For those who will be allocated in one bed room apartment, its value is 22,964 US dollars. The value of the two-bed room apartment being 29,442.00 US dollars, the first category can have a loan of 12,719.00 US dollars while the loan for the latter can be 6,478.00 US dollars. Yet, it is very sceptical for 52 % of participants to the survey. They argue that the first category, comprising the very poor households, may not have the financial capacity to pay this loan. The progressive ownership approach can therefore result in their risks of losing their homes, when these categories of urban dwellers fail to pay the loan. A more likely practical option is the combination of cash compensation and the in-kind compensation, as well as promotion of the self-help incremental housing on the other site allocated by the government to the expropriated property owners.

6.6. Conclusion

In this chapter, we have analysed the implementation of the first experiment of in-kind compensation in Kigali City, through the resettlement in shared flats of affected expropriated property owners, in both formal and informally land tenure. This resettlement option has been adopted by Kigali City authorities in a bid to counteract the displacement of expropriated property owners towards urban fringes and development of informal settlements in these areas, driven by the in-cash compensation option which had been applied in previous expropriation projects. The applied analytical framework explores trends of spatial justice from three dimensions: the rules underlying the real property expropriation, the implementation processes of the in-kind compensation, and the related outcomes. These outcomes should embrace a decreased displacement of expropriated property owners and an increased access to decent houses, basic urban amenities, services and employment opportunities. This was assessed using a series of indicators connected to the four forms of spatial justice, namely procedural, recognitional, redistributive and intra-generational justice. This evaluative approach can be applied in other studies which evaluate the effectiveness of operations related to the expropriation (or displacement) and resettlement of affected users of spatial resources. Our findings reveal that the expropriation law and various policies and regulations governing Kigali City (re)development and resettlement process of expropriated property owners are highly potential to promote spatial justice in all its four forms. These findings are supported by high scores of spatial justice indicators related to access to decent housing, basic urban amenities and services in the resettlement site of the expropriated property owners at the rules dimension of the evaluative framework. However, indicators related to the processes dimension which stands for the implementation of the rules governing this resettlement had very low scores. This is due to non-compliance to procedural, recognitional and redistributive justice by actors implementing these rules, which results in non-recognition of the rights of the expropriated property owners to negotiate the compensation option and participate in their resettlement process and the limited consideration of their employment opportunities or income sources in the new settlement. However, the pursuit of procedural, recognitional and redistributive justice (in combination) is required for the resettlement of the expropriated property owners to produce spatially just outcomes. Since these forms of spatial justice are deficient at the processes dimension, the outcomes which directly derive from redistributive justice tend to be generally unjust, as shown by very low scores for most of indicators of spatial justice defined at the outcomes dimension. Notwithstanding these low overall scores there are good trends of spatial justice at the outcomes dimension: they relate to the equality in access to urban amenities and services, good quality houses, and the integration of all expropriated property owners in the urban space.

While various studies on expropriation in various countries (including Rwanda) largely report trends of low compensation values and tenure insecurity connected with the eviction of property

owners under informal tenure (Food and Agriculture Organization, 2008; Hui et al., 2013; Jacoby et al., 2002; Vanclay, 2017) this study on the implementation of the in-kind compensation through resettlement of the expropriated property owners in Kigali City has demonstrated different trends which are just, from a spatial justice perspective. The market values of the houses developed for the expropriated property owners are higher than the values of their expropriated properties. The pursuit of spatial justice results in the compensation (through the resettlement) of the squatters who illegally developed their dwellings in the public land where housing development is not allowed. Their formal resettlement in the planned area has also been a driver for their tenure security. Despite these good outcomes, this study has identified various unjust outcomes associated with the non-consideration of the criteria of procedural, recognitional and redistributive justice by decision makers and professionals who implement the resettlement processes of the expropriated property owners. In fact, these unjust outcomes embrace mainly the loss of sources of incomes and employment opportunities for the expropriated property owners through their displacement and resettlement in new neighbourhood which is located in remote area relative to the pre-relocation settlement, the non-monetary compensation to help these property owners reconstitute their economic activities in new settlements. They also include the increase in commuting distances to pre-existing jobs from the resettlement site which would impose significant transportation costs and commute times, especially on the lowest income workers, the small number of bedrooms and sizes of the houses developed for these expropriated property owners, which place them into overcrowding housing conditions

In line with these unjust outcomes, this study draws some recommendations for enhancing spatial justice in the resettlement process of expropriated property owners. The pursuit of procedural and recognitional justice through active participation of property owners should be at the forefront in the expropriation process so that these people can negotiate their compensation option. They should also be actively involved in planning and implementing their resettlement, if the outcomes of the negotiation uphold for the resettlement option. Participation and negotiation are the ladders for spatial justice in all processes of urban re-organisation. It allows for the recognition of the rights of all urban inhabitants to urban resources, and for identification of their basic needs and making decisions that help ensure the process meets their needs. Even if all their needs may not be met due to limited resources, the application of these strands of spatial justice (negotiation and participation) can at least result in a common consensus which establishes a balance between the basic needs of each party (the expropriating agencies and property owners) and available resources. Therefore, negotiation and participation approach can support fairness of established processes and more just outcomes. In doing so, greater consideration must be given to the problem of overcrowding of expropriated households in resettlement housing. For the welfare of resettled households, upholding procedural and recognitional justice further requires better consideration of their livelihoods and income generation opportunities during the design and implementation of the resettlement plans. This can be achieved through in-situ resettlement, or selection of resettlement locations with various employment opportunities. That and urban villages have the benefit of helping to achieve a diverse social mix. Moreover, the combination of the in-kind and in-cash compensation can mitigate social and economic impacts of lost business income and jobs and greater commuting costs. Finally, partial loans for self-help housing can provide the resettled households with more options in home size needed to prevent overcrowding and allow for home businesses.

This chapter complements the existing body of knowledge on the expropriation process and related challenges in Kigali City. While the existing studies on this process in this city have focused on the monetary form of the compensation for the expropriated real properties, this study has examined the implementation of the first experiment of the in-kind compensation

through the relocation of the expropriated property owners in shared flats. It sheds lights on the challenges associated with the implementation of this form of compensations and suggests different options which can be applied for its just implementation, not only in Kigali City, but also other cities in developing countries which are undergoing the redevelopment processes. In addition, the evaluative framework applied in this study, and its findings can inspire future studies which aim at designing the frameworks for the resettlement of urban dwellers who are displaced during the implementation of the urban (re)development plans which involves the clearance of various poor and low-income residential urban neighbourhoods, through the expropriation of large tracts of land and properties thereon, like in Kigali City. Such framework can be built upon the nexus between the aspirations of all forms of spatial justice (by stressing on the need to restructure the power relations that underlie the production of the urban space and increased considerations of basic needs and interests of the affected property owners) and the main goals of inclusive urban redevelopment. The next chapter evaluates whether these criteria have been applied in other processes of urban (re)development, which consist of relocating the informal settlement dwellers into planned and serviced residential sites.

Chapter 7: Stakes of spatial justice and land tenure security from the resettlement of informal settlements dwellers in Kigali City, Rwanda³⁵

Abstract

Following the ideological aspect of spatial justice in urban (re)development processes by Kigali City informal dwellers, this study ascertains trends of spatial justice and land tenure security associated with the resettlement of these urban dwellers. It applies mixed research methods to gather and analyse the required primary and secondary data. Findings reveal that the principle of positive discrimination has been applied in combination with recognitional, redistributive and intra- and inter-generational justice to identify the informal dwellers in high-risk zones and to relocate them in serviced and planned residential sites. The outcomes consist of increased access to decent houses, basic urban amenities (which are embraced in the material aspect of spatial justice) and enhanced tenure security. However, the non-compliance with all aspirations of procedural, intra- and inter-generational justice has resulted in the non-consideration of the income sources for the relocated people during their resettlement. Despite this odd, this study concludes that local community claim over justice in urban (re)development processes offers insight on how spatial justice aspirations can be realized in the implementation of these processes and enhance increased recognition of informal urban dwellers rights to housing and basic urban amenities and services.

Keywords: Spatial justice, resettlement, high-risk zone, poor and low-income urban dwellers, access to urban resources.

7.1. Introduction

The development of Kigali, the capital city of Rwanda in East Africa, has been criticised for fuelling spatial disintegration of poor and low-income urban dwellers (Finn, 2018; Michelon, 2009). This disintegration is largely linked to slum clearance which results in housing deprivation for these people, especially the informal settlement dwellers who developed their houses in marginal lands, such as wetlands, steep slopes and along the uncovered water drainage structures (City of Kigali, 2013). Clearing their settlements is mandated in the conceptual and detailed master plans of Kigali City, adopted between 2008 and 2013. The main aim is to transform Kigali City into a slum-free urban space and mitigate environmental risks which can endanger the lives of urban dwellers who live in these flood- and landslide-prone areas (Nikuze *et al.*, 2019). From 2013 on, some of these informal settlements have been identified and marked for demolition (as shown in Figure 32) by professionals who take part in Kigali City management.

³⁵ This chapter is based on paper which will be submitted to the journal of Development Policy Review for peer review processes as: Uwayezu, E. and de Vries, W.T., Stakes of spatial justice and land tenure security from the resettlement of informal settlements dwellers in Kigali City, Rwanda. Some sections of this chapter were included in the book chapter “*Patterns of Spatial Justice and Land Tenure Security from Urban Land Management. Insights from Kigali City, Rwanda*”, in the forthcoming book: *Responsible and smart land management interventions in Africa* (CRC Press)

Figure 32: Houses in a high-risk area marked for demolition



Data source: Rwanda Environment Management Authority (2017) and Rwanda Housing Authority (2014)

In 2016, these actors undertook other operations that consisted of demarcating all high-risk zones and carrying out a detailed inventory of all houses located in these areas, as well as notifying the owners to relocate to other suitable residential neighbourhoods. An ad hoc report (City of Kigali, 2016a) has identified 28,613 households in high-slope areas (over 30 % of landscape slope) and along water drainage structure and 4,616 households in the wetlands who were expected to abide by this decision. Appendix 10 shows the spatial distribution of these households in three districts (Gasabo, Kicukiro and Nyarugenge) and their respective sectors which constitute the administrative divisions of Kigali City. However, most of these households peacefully resisted clearing their houses because the government and Kigali City did not provide them with compensation or relocation options (Kanamugire, 2018), although they had received certificates of landownership and construction permits before the development of their houses (Karuhanga, 2015). Therefore, they complained of unjust and forceful eviction without compensation or palliative means to their real estate properties, including land and houses (Isugi, 2014; Karuhanga, 2015). In this chapter, forced eviction is referred to as the permanent or temporary removal against the will of individuals, families and/or communities from their homes and/or lands, without the provision of options for access to other properties (UN-Habitat and United Nations, 2014). The perceived risk of eviction (which is also the driver for tenure insecurity) is the main factor which instilled the inhabitants of high-risk areas in Kigali City to appeal for recognition of their rights to housing and justice in the processes of informal settlements management in this city.

7.2. Spatial justice claim as a catalyst for changes in Kigali City (re)development processes

The local community claim for justice in the management of any geographic space has largely been conceptualised as an ideological aspect of spatial justice (Harvey, 2010; Lefebvre, 1996; Marcuse, 2009). In urban (re)development, this claim is conceived as a struggle over the urban space (Harvey, 2010, p. 2). It is also conceptualised as an urban dwellers' cry or some kind of

emancipatory politics for changes in the existing urban (re)development rules and processes which do not respect the rights of all urban dwellers to use and/or access the basic urban resources (Iveson, 2011; Soja, 2009). The claimed changes should consist of creating new urban (re)development rules or processes, in collaboration with all categories of urban dwellers. This can promote their inclusion in the urban (re)development processes (Dikeç, 2001), as well as increased recognition and respect of their rights to land, housing, urban amenities and services (Chatterton, 2010; Soja, 2009, p. 4). For Lefebvre (1996, pp. 173-174), access to housing is among the fundamental human rights that actors in urban management should respect and enforce for all urban dwellers. As for the rights to basic urban resources, the key claim is to improve the conditions of the poor and other disadvantaged urban dwellers who are deprived of access to these resources (Adegeye & Coetzee, 2019).

In Kigali City context, the ideological aspect of spatial justice has been conveyed in the claim by urban dwellers in high-risk zones for urban (re)development processes which recognise their rights to housing. It revolves around different provisions of the national constitution and various policies and laws related to land and urban management in Rwanda. These legal provisions advocate for the upholding of the rights to decent houses for all urban dwellers, especially the poor and low-income groups when crafting and implementing any urban (re) development plan (Ministry of Infrastructure, 2008, 2015a, 2015c). As for the compensation for the claimed urban dwellers' properties, they refer to the land and expropriation laws of Rwanda which provide for fair compensation for all property owners when government agencies interfere with their property rights for any public interest, including activities related to urban (re)organizations. This has been the main driver for their resistance against vacating their houses, without prior compensation for their property or relocation option (Isugi, 2014; Karuhanga, 2015).

Following this resistance to vacate their lands and claim for justice in Kigali City (re)development, political leaders and Kigali City authorities have adopted a relocation process that consists of resettling these urban dwellers in a planned residential area (City of Kigali, 2016; Kanamugire, 2018; Nikuze *et al.*, 2019; Uwayezu & de Vries, 2019a). Their resettlement process marks a shift from the past experiences of exclusionary (Goodfellow, 2014; Goodfellow & Smith, 2013) to just and inclusive urban development which recognises all people's rights to housing and basic urban amenities. However, there are no studies that ascertain the outcomes of this change in Kigali City management (Uwayezu & de Vries, 2019a). Therefore, the main aim of this chapter is to explore how the local community claim for justice in urban space can influence changes in urban (re)development processes, using empirical experience from informal urban dwellers' resettlement in Kigali City. It responds to the following research questions: How does the resettlement of informal urban dwellers in high-risk zones in Kigali City abide by general aspirations of spatial justice? Can this resettlement process alone be applied in mitigating informal settlement issues in Kigali City? Findings to these questions can, hopefully, inform decision-makers on possible options that may be applied for a spatially just management of informal settlements in Kigali City. Following this introduction and the study background, this chapter is structured as follows: section 7.3 discusses the theoretical foundations of spatial justice and the applied evaluative framework; section 7.4 outlines the research methodology, section 7.5 presents and discusses findings; section 7.6 draws the main conclusion.

7.3. Theoretical foundations of spatial justice and evaluative framework

From the urban space management perspective, spatial justice is discussed as a concept relating to equity and equality in the allocation of spatial resources and services, or the rights to use among urban dwellers (Uwayezu & de Vries, 2018a, 2019b). Its claims link to the main goals of inclusive and sustainable urban (re)development, such as increased access to urban amenities,

housing, and various services for all urbanites (United Nations Secretariat, 2016). Spatial justice is also applied as the evaluative framework to investigate how urban space users and various actors in its management interact and act on its resources to reduce resource deprivation or improve the status quo of these categories of urban dwellers (Fainstein, 2009, 2014). This framework is also applied to explore how the dynamic processes of urban (re)organisation operate and ascertain if their outcomes are spatially just. This framework relies on the evaluative indicators which address different aspects of spatial justice, connected with its four inter-related forms consisting of procedural, recognitional, redistributive, and intra- and inter-generational justice. In this chapter, these forms of spatial justice are discussed based on the review of critical spatial justice scholars, such as the seminal works of Dikeç (2009), Fainstein (2014), Fraser and Honneth (2003), Harvey (2010), Lefebvre (1996), and Marcuse (2009).

Procedural justice is at the forefront of other forms of spatial justice. It embraces good urban management rules and/or schemes and related decisions recognising the rights of all urban dwellers to land, housing and other material resources and services. It implicates dialogue and active participation of the local community in crafting these rules or schemes or decisions in order to decrease resources deprivation for all people, with specific attention to the poor and low-income urban dwellers (Fainstein, 2014; Friedman & Rosen, 2019). The pursuit of procedural justice promotes fair compensation when these rights are undermined through the implementation of various urban re-organisation projects (He & Sikor, 2015).

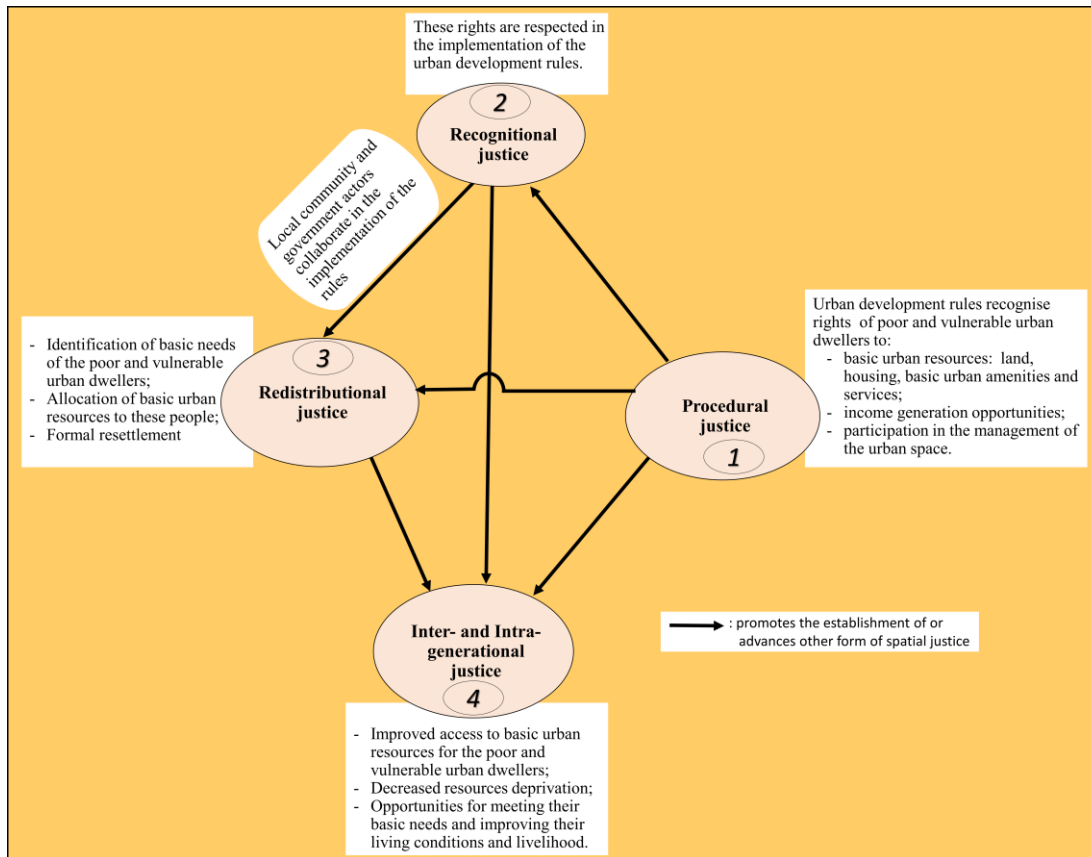
Recognitional justice embraces the recognition of the above-mentioned rights to urban resources and services for all urban inhabitants when implementing urban (re)development schemes and related decisions, and their involvement in its implementation (Uwayezu & de Vries, 2018b). In combination with redistributive justice, it conveys some mechanisms that affirm the values and identities of all urban dwellers, especially the poor and low-income ones. It prevents their marginalisation, and reduces their deprivation of basic material resources and services (Fraser, 1995; Lefebvre, 1996; Németh et al., 2018).

Redistributive justice seeks for a fair distribution of land, housing and other resources, such as basic infrastructure and services, based on the needs of all urban dwellers. It also helps to overcome deprivation of these resources and services through specific measures which can prioritise the socially and economically disadvantaged groups (Uwayezu & de Vries, 2018a), so that it can improve their living conditions (Barry, 1997). By applying the principle of positive discrimination, in combination with redistributive and recognitional justice, social and economic inequalities can be decreased for the greatest benefits of the poor and low-income urban dwellers (Rawls, 1999).

Intra- and inter-generational justice appeals for good urban (re)development schemes and related decisions which provide all people of the current and future generations with the opportunities to access and/or use urban resources and services (Magel, 2016). This form of spatial justice attends to various aspects of social and economic life to advance equality of rights in using spatial resources for sustainable development (Cruickshank et al., 2011; Mensah, 2019). More specifically, intra-generational justice appeals for a fair allocation of basic urban resources and services for all people of the same generation, with special consideration of the least advantaged ones. The inter-generational justice inclines for the equality of rights of the present generation to access and use these resources and services and creation of opportunities through which their uses can benefit their offspring (Magel, 2016; Uwayezu & de Vries, 2018a). Attaining these aspirations requires the combination of procedural, recognitional, and redistributive justice which allow for redressing resources deprivation for all urban dwellers, especially the urban poor and low-income groups (Magel, 2016), and their chances to access to basic urban resources, services

and other opportunities, such as income generation activities, required for improving their socio-economic conditions. This becomes the desideratum for the welfare of their descendants (Picard et al., 2015). The demand for all individuals' welfare instils government actors in urban management to devise and implement some processes that consist of protecting dwellers of disaster-prone areas, through their resettlement in suitable residential neighbourhoods (Smedby & Neij, 2013). Generally, the aspirations of the four forms of spatial justice are intertwined and should be pursued in combination with each other as Figure 33 shows.

Figure 33: Conceptual framework for the evaluation of the trends of spatial justice in spatial resources management



Data source: Review of spatial justice literature and connection between spatial justice forms, extended from Uwayezu and de Vries (2019b)

As Figure 33 shows, the pursuit of spatial justice through the combination of all its four forms becomes the main path towards promoting the welfare of all urban dwellers. This is achieved through the pursuit of procedural justice (1) embracing good urban management schemes and/or related decisions that recognise the rights to basic urban resources and services for all urbanites and operationalised towards meeting the aspirations of recognitional (2), and redistributive justice (3) which become vectors for redressing resources deprivation for the worst-off urban dwellers, in which the intra- and inter-generational justice (4) is embedded (Craike et al., 2018; Fraser & Honneth, 2003; Ikeme, 2003; Keivani, 2010; Magel, 2016; Pirie, 1983; Soja, 2010a). It also leads to improving the living conditions for all urban space users in different ways, such as the resettlement process of the poor and low-income group. When this resettlement process is adopted as the alternative measure to eviction like in Kigali City case study, the assessment can also address the question of land tenure security. This is intercepted

from the resettlement processes which redress property rights wrongs, associated with forced eviction (Uwayezu & de Vries, 2018a, 2019b). The displacement and resettlement of the urban dwellers, being some patterns of spatial re-organisation processes can, therefore, promote any of the elements of tenure security, if these processes are implemented with due diligence to spatial justice claims (de Vries & Voß, 2018; Uwayezu & de Vries, 2018a, 2019b). To evaluate how this process promotes spatial justice and land tenure security in Kigali City, the study applied evaluative indicators which are presented in Table 18.

Table 18: Indicators evaluating trends of spatial justice emerging from the resettlement of informal dwellers in Kigali City

Pattern under evaluation	Evaluative indicator	Definition or measurement approach
Procedural justice	Community participation in resettlement planning	Resettled people involved in the planning of the resettlement project.
	Resettlement planning is based on basic informal dwellers' needs.	Resettlement plans are designed based on the basic needs (houses, urban amenities, employment opportunities and incomes) of the beneficiaries.
	Community participation in selecting the resettled informal dwellers	Local community participates in the selection of people who are most in need of resettlement.
	Participation of informal dwellers in the development of their resettlement site	Resettled people participate in the implementation of their resettlement plans.
Recognitional and redistributive justice	Access to decent housing	The developed houses are aligned with the current urban housing standards
	Access to water	Resettled people have access to water
	Access to electricity	Resettled people have access to electricity
	Access to waste management system	Resettled people have access to a waste management system
	Access to nursery school	The resettlement site is close to basic urban amenities. We used the measurement indicators corresponding to less than 500 meters for schools, health facility and public bus line and 1000 meters for the market ³⁶ and the Likert scale.
	Access to primary school	
	Access to health facility	
	Access to transportation services	
Access to market		
Intra- and inter-generational justice	Protection of slum dwellers' lives	Lives of informal dwellers in high-risk areas are protected through their relocation to suitable residential areas.
	Poor and low-income informal dwellers are integrated in the city	Resettled people are integrated into the city.
	Housing conditions are improved	Resettled people have access to quality houses, with basic amenities.
	Employment opportunities in or around the resettlement site	Resettlement site is close to business and services areas.
	Opportunities for income generation activities in or around the resettlement site	There are opportunities for income generation in the resettlement neighbourhood.
Tenure security	Slum dwellers are formally settled	Resettlement site for informal dwellers is integrated in Kigali City master plan.
	Reduced risks of eviction	Resettled people currently perceive little likelihood of displacement.

³⁶ See the Ministerial Order N° 04/Cab.M/015 of 18/05/2015 determining urban planning and building regulations

Pattern under evaluation	Evaluative indicator	Definition or measurement approach
	Provision of housing ownership document	Resettled people receive the ownership proof for the new houses.

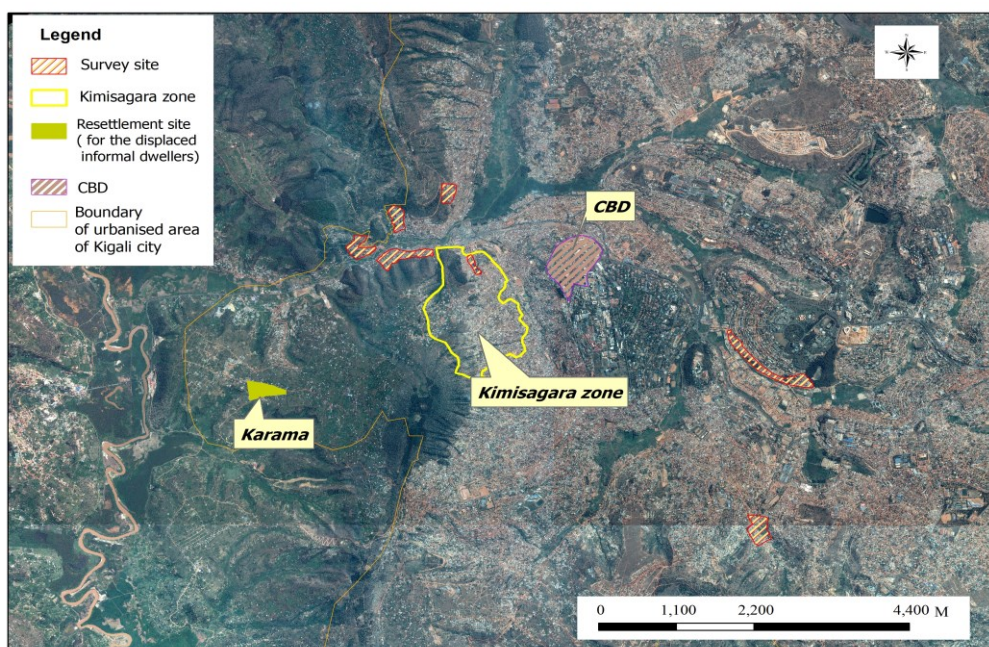
Adapted from Uwayezu and de Vries (2018a)

Table 18 shows the evaluative indicators applied in this study. They were selected based on various aspects of spatial justice that can be expected from the resettlement processes of informal urban dwellers, as discussed by Uwayezu and de Vries (2018a, 2019b) and spatial justice scholars, such as Dikeç (2009), Fainstein (2014), Harvey (2010), He and Sikor (2015), Lefebvre (1996), Magel (2016) and Marcuse (2009). We used the Likert scale to ascertain trends of spatial justice in the resettlement process of displaced informal dwellers in Kigali City, based on their experiences and perceptions on this process, using indicators presented in Table 18, as follows: 1: totally disagree; 2: disagree; 3: neither disagree nor agree; 4: agree; 5: totally agree. The next section discusses the data sources and research methods.

7.4. Data sources and methods

The primary data for this study were collected from January to February, and from June to July 2019, in seven informal settlements located in high-risk zones delimited by Kigali City in 2015/2016, based on the land slope exceeding 30 % (City of Kigali, 2016). Figure 34 shows all survey sites for this study.

Figure 34: Surveyed sites



Data source: Field survey (January-February and June-July, 2019)

Figure 34 shows seven areas where we collected empirical data. These areas are in high-risk zones delimited by Kigali City. They were given priority in the resettlement of their dwellers in order to protect them against possible hazards associated with the high slope, such as landslides and runoff erosion (City of Kigali, 2016). We applied purposive and random sampling

approaches through the face-to-face household surveys, administered to 87 heads of households that we were able to meet before and after their resettlement in Karama site. The survey questionnaire covered different topics: drivers for vacating residential houses in high-risk zones; selection of the resettled households; perceptions of resettled people on the housing quality before and after the resettlement; employment opportunities; and options for effective management of informal settlements in Kigali City. We also organised field observations in Karama site (see Figure 34), where the informal dwellers were relocated to collect data on the outcomes and challenges associated with their resettlement.

We also selected Kimisagara zone for the collection of data used in ascertaining other options for effective informal settlement management in Kigali City. This zone was settled through illegal development of private lands and encroachment on public land, such as forest land and wetlands. Kimisagara zone is among planned areas for slum clearance, as stated in Kigali City master plans and report on the delimited high-risk zones (City of Kigali, 2013, 2016). During the household survey in this zone, we interviewed 43 heads of households (randomly selected) and the local leaders about their experiences on environment risks associated with settlements in this zone. We departed from this question and identified (under their guidance) the areas that should be cleared due to their very steep slope or proneness to rainwater erosion. We delineated these areas and enumerated the houses. Other sources of primary data include the semi-structured interviews held with different actors, from public and private sectors and NGOs, who participate in Kigali City management. They include decision-makers, civil engineers and professionals from the department of human settlement management, infrastructure and environmental management, land managers, urban planners, and local government representatives. These interviews covered the following topics: drivers for clearing informal settlements; resettlement of the affected people and the associated compensation options; government capacity to relocate all informal dwellers; restoration of their livelihoods; and other approaches for effective informal settlements management.

The secondary data were collected through the review of regulations, Kigali City (re)development plans and the existing related studies. A comprehensive review of literature on spatial justice, focusing on its main claims, in connection with urban space re-organisation and resettlement of the affected people, and tenure security was undertaken in order to develop our evaluative framework and grasp the narrative of spatial justice in urban (re)development processes. We applied textual analyses of qualitative data compiled from the literature review and field survey, through the categorisation, interpretative synthesis, pattern matching (using the triangulation approach) and conclusion drawing to derive our findings, presented and discussed in the next section. Quantitative data were analysed using Excel and SPSS. The results are presented in the forms of descriptive and inferential statistics.

7.5. Results and discussion

In this section, we present and discuss the patterns of spatial justice and land tenure security identified in the resettlement process of informal dwellers in Kigali City. These patterns are mainly associated with the increased recognition of their rights to housing and basic urban amenities. This chapter discusses these patterns and thereafter proposes options that may be applied for a spatially just management of informal settlements in Kigali City.

7.5.1. Trends of spatial justice emerging from the resettlement of informal dwellers in Kigali City

Trends of spatial justice identified from the resettlement of the informal dwellers in Kigali City converge towards two main variants, as outlined below:

- Recognition and restitution of the informal dwellers' rights to housing through their formal resettlement, in combination with the provision of basic urban amenities and services.
- Protection of their lives through resettlement into suitable and planned residential sites.

Survey results associated with these patterns are presented in Table 19. It shows correlations between the patterns of spatial justice and land tenure security and the related aspects, investigated using the evaluative indicators shown in this table.

Table 19: Trends of spatial justice and land tenure security alongside the resettlement of informal dwellers in Kigali City

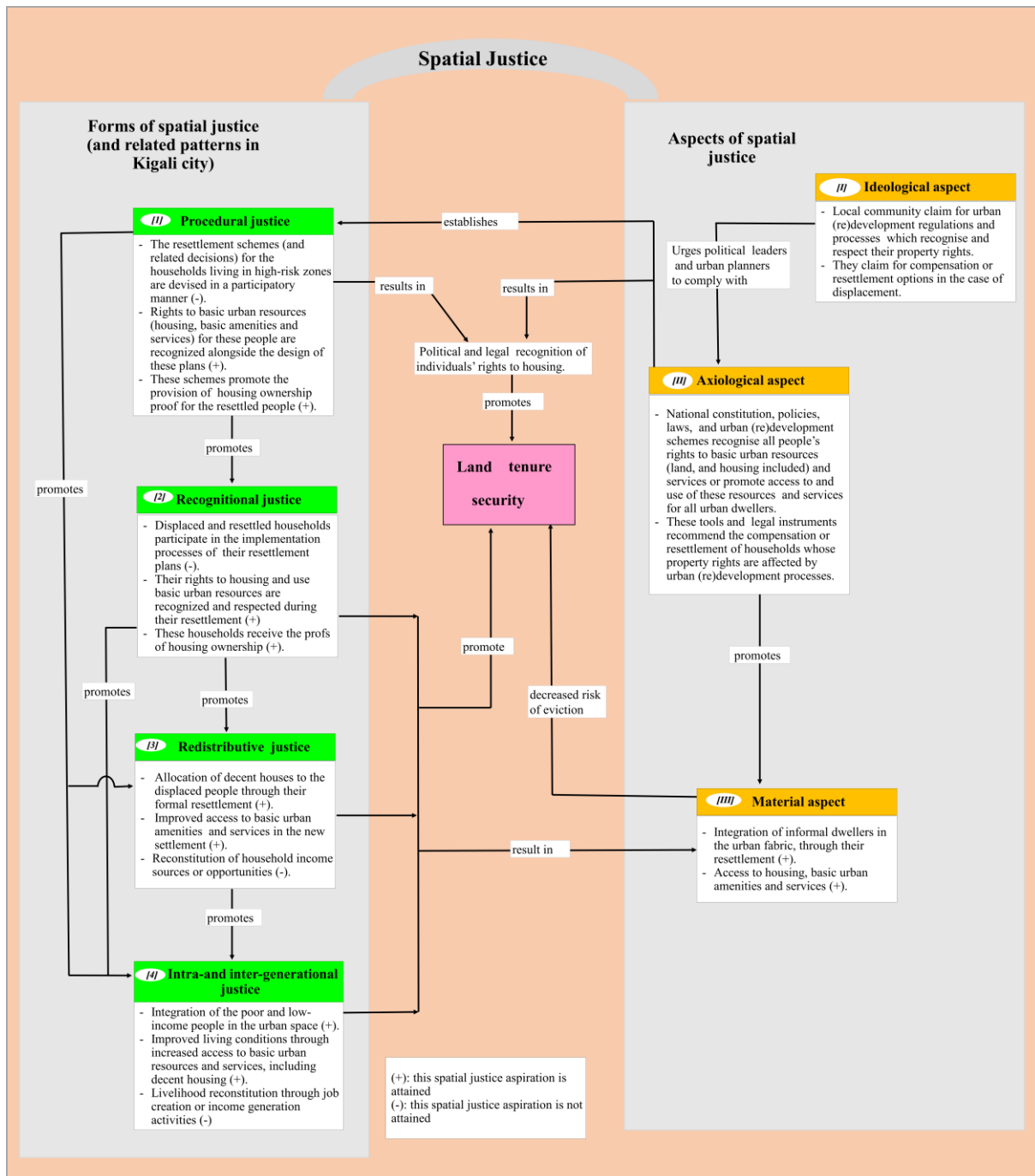
Pattern under evaluation	Evaluative indicator	Coefficient	Standard Error	T Stat	P-value
Procedural justice	Participatory resettlement planning	0.02296	0.12558	0.18285	0.85539
	Participatory implementation of the resettlement plan	0.01628	0.12501	0.13022	0.89672
	Planning is based on community needs	2.99575	0.80007	55.69135	0.05207
	Increased recognition of individuals' property rights	0.09794	0.02616	1.82068	0.00014**
	Participatory selection of the resettled people	1.49787	0.40003	27.84568	0.00260*
Recognitional and redistributive justice	Access to electricity	0.17344	0.04632	2.99520	0.00028**
	Access to water	0.18502	0.04941	3.42309	0.00032**
	Access to waste management system	0.13871	0.03704	2.57037	0.00023**
	Access to education facilities	0.20239	0.05405	3.74439	0.00035**
	Access to transportation services	1.27132	0.33953	23.53374	0.00220*
	Access to health facilities	2.45421	0.65544	45.62407	0.00426*
	Access to market	1.96584	0.52498	36.37033	0.00340*
	Access to quality house	0.20815	0.05559	3.85098	0.00036**
Intra- and inter-generational justice	Protection of informal dwellers' lives	0.69394	0.05772	12.02161	0.00010**
	Inclusion of the poorest urban dwellers in the city	2.59248	0.69237	48.19444	0.0047*
	Presence of income generation activities	0.00211	0.01152	0.01678	0.0785
	Presence of employment opportunities	0.00218	0.01194	0.01739	0.08135

Pattern under evaluation	Evaluative indicator	Coefficient	Standard Error	T Stat	P-value
Tenure security	Formal settlement of informal settlement dwellers	0.11278	0.03012	2.08982	0.00018**
	Reduced risks of eviction	0.58612	0.15653	10.89613	0.00009**
	Provision of housing ownership document after the resettlement	2.14183	0.57201	39.62654	0.0037*
Asterisk (*) shows significant correlation between the measurement indicator and related forms of spatial justice (*for a $P \leq 0.05$ but > 0.001 and ** $P \leq 0.001$ respectively).					

Data source: Household surveys (January-February and June-July 2019).

As shown in Table 19, trends of spatial justice identified from the resettlement process of informal dwellers living in high-risk zones in Kigali City exhibit forms of spatial justice, mainly recognitional, redistributive, based on the P values associated with the related evaluative indicators. These results also show scanting patterns of procedural and intra- and inter-generational justice, linked with the non-participation of the local community in this process and the limited consideration of their rights to jobs and income generation activities. These findings are also visualised in Figure 35 to illustrate the connections between the patterns of spatial justice and land tenure security identified from this resettlement process.

Figure 35: Patterns of spatial justice and land tenure security identified in the resettlement of informal urban dwellers in Kigali City



Data source: Field survey data and synthesis of literature review of spatial justice

As stated in section 2, community claim for justice in urban (re)development relating to the *ideological aspect* [1] of spatial justice is the departure point for changes in the management of Kigali City. It instilled political leaders and Kigali City authorities to abide by national urbanisation policy, national land policy, land law, expropriation law and Kigali City development schemes which recommend the respect of the rights to land and housing for all Rwandans, regardless of their forms of tenure if they are involuntarily displaced from their properties. From a spatial justice lens, these legal political and instruments embrace the *axiological aspect* [2] of spatial justice (Marcuse, 2014; Soja, 2010b) as shown in Figure 35. In the Rawlsian theoretical

frames of spatial justice the axiological aspect of spatial justice consists of rules which provide for equality in the redistribution of disadvantages and advantages among all users of spatial resources when implementing different programmes and activities related to the organisation of any geographic space (Rawls, 1999). As Figure 35 shows, aspirations of this axiological aspect of spatial justice are pursued in practice through the applications of different forms of spatial justice, with procedural justice at the forefront. The result has been the integration of informal dwellers in Kigali City, through their resettlement which exhibits the *material aspect [3]* of spatial justice and increased tenure security. This aspect stands for the material manifestation of justice, such as a housing unit which affirms individual's relationship to land resources (Philippopoulos-Mihalopoulos, 2011) or residential neighbourhoods developed for the resettled urban dwellers, including the associated basic amenities (Uwayezu & de Vries, 2019b). The next sections discuss in detail these findings.

7.5.1.1. Limited patterns of procedural justice

One of the patterns of procedural justice embraces the collaboration between decision makers and the local community in planning and implementing the resettlement project of the affected people. It is the prerequisite for the recognition of these peoples' basic needs when designing and implementing their resettlement plans (Campbell & Marshall, 1999; Fainstein, 2014; Fraser, 2001). However, our findings reveal that this metric of collaboration is not present in the resettlement of informal dwellers in Kigali City. This is linked with the non-participation of the local community and resettled people in the planning and implementation of this resettlement process. It is shown in Table 19 by the none-significant correlation between procedural justice and the metric of community participation. The main stakeholders in the resettlement of the informal dwellers are political leaders who initiated this process and various government actors tasked with its implementation. They apply a top-down approach, placing the local community and the beneficiaries in the position of passive recipients. On the question of non-involvement of the local community, these actors argued that the programme aims at meeting the goals of a smart and aesthetic city which is also responsive to the basic needs of all Kigali City inhabitants. Despite this backlog, this study has identified some patterns of procedural justice, which are reflected in the selection of the resettled urban dwellers, through collaboration between the local community and local leaders, decision makers and professionals from Kigali City and its constituent districts. They select dwellers of high-risk zones who are in most need of the resettlement, due to high exposure to environmental hazards, and relocate them to new residential neighbourhoods. This resettlement is the main pattern of the material aspect [3] of spatial justice as shown in Figure 35. The landscape conditions in the former residential neighbourhood of the resettled people are illustrated in Figure 36.

Figure 36: Housing conditions before the resettlement process



Data source: Field survey (January-February and June-July, 2019)

In resettling the informal dwellers, priority was given to the poor who represent 68 per cent, followed by the low-income households representing 32 per cent of urban dwellers resettled in Karama site. As shown in Figure 36, their previous houses were in dangerous areas. Selecting and resettling those most in need of decent houses is also a hallmark of procedural justice in the allocation of basic urban resources (Fraser, 1995; Rawls, 1999). As stated in the interviews held with the government actors implementing this resettlement process, promoting access to these resources for the informal urban dwellers is also reflected in the current resources' allocation arrangement commended by the Rwandan high-level political leaders. They emphasize the application of the principle of positive discrimination in selecting the resettled people³⁷.

This spatial resource allocation arrangement is associated with the significance of exception to the principle of equal rights and opportunities (Herbert & Thomas, 2013, p. 347; Ottensmann, 1987). This principle is largely applied to prevent unjust spatial resources distribution that may arise from the pursuit of equality in the allocation of these resources among spatial resources users who are already unequal. It also considers their different socio-economic and environment conditions (Hay, 1995; Young, 1990). It is supported by spatial justice scholars, such as Pirie (1983) and Rawls (1971, p. 302), who suggest the application of specific processes in spatial resources allocation to ameliorate the status quo of urban dwellers who are most deprived of the basic material resources and services. In this respect, and due to the shortage of funds, actors in Kigali City management give preferential treatment to the worst-off urban dwellers and the low-income groups who are highly exposed to environment hazards, because they cannot resettle all informal settlement dwellers³⁸. Still, such a resettlement labels other trends of spatial justice, such as recognitional and redistributive justice which were unfolded by this study.

³⁷ Interviews with government actors at RHA, and urban planners at Kigali City and its constituent districts, February 2019.

³⁸ Ibidem

7.5.1.2. High trends of recognition and redistributive justice: access to quality housing

The main *material aspect* [3] of spatial justice identified in the resettlement of Kigali City informal dwellers is exhibited in their access to decent houses which are in the forms of shared apartments. Another material aspect is revealed by the presence of water and power supply networks, waste collection system and public transportation services. The education and health facilities are also in close vicinity. The quality of these houses is unveiled by Figure 37, while the increased access to basic amenities is illustrated in Table 20.

Figure 37: Houses and education facilities allocated to resettled informal urban dwellers



The Data source: Field survey (June-July, 2019)

The development of these houses and basic amenities links with the general aspirations of *recognitional* and *redistributive justice*. Table 20 shows the current status of access to basic urban amenities for the relocated urban dwellers, before and after the resettlement.

Table 20: Status of access to basic amenities before and after resettlement

Amenities and services	Availability in the residence premises or distance to the basic amenity	
	Before the resettlement	After the settlement
Water	42 %	100 %
Electricity	67 %	100 %
Drainage and waste collection system	0 %	100 %
Bus line	1,200 m	200 m
Market	3,700 m	200 m
Health centre	2,750 m	1,000 m
Nursery school	1,700 m	200 m
Primary school	3,400 m	800 m

Data source: Field survey, January-February and June-July 2019.

Table 20 shows that the resettlement of the displaced informal dwellers resulted into decreased travel distance to these basic urban amenities. The redistributive pattern of spatial justice is also portrayed in access to a modern house built in durable materials (burned bricks). The mean market value³⁹ of this new house is 24,348.82 US dollars, compared to 15,179.35 US dollars for

³⁹ Field survey data and resettlement reports of informal dwellers in Karama site

the previous adobe-brick house. Other patterns of *recognitional* and *redistributive justice* are also enfolded in the funding of the resettlement programme. The required funds were raised by the President's office, in collaboration with different ministries and various public agencies. The first phase of this programme which resettled 240 families was completed in July 2019 and cost 9,714,530.76 US dollars⁴⁰ (including the acquisition of the land through expropriation). The increased access to decent housing for the resettled urban dwellers contributes also to their protection against environmental hazards, which is also connected with intra- and inter-generational justice.

7.5.1.3. Protection of informal dwellers' lives through intra - and inter-generational justice

The resettlement of informal dwellers resulting in their protection against natural disasters and increased access to quality housing is generally linked to the welfare metric, constituting the key pattern of intra-and inter-generational justice (Magel, 2016). However, this form of spatial justice has not been fully pursued due to the non-restoration of the resettled urban dwellers' livelihoods. The underlying factor is the paucity in procedural justice which has eviscerated some patterns of intra- and inter-generational justice, due to limited involvement of the relocated people in their resettlement process. This occluded the bargaining arena and the non-consideration of the income sources and employment opportunities in designing the resettlement plan for these urban dwellers. One of our interviewees pointed out this problem as follows: "*Non-participation in the planning of our resettlement resulted in the non-recognition of our rights to incomes*". This is evidenced by our findings presented in Table 19 which shows that there is no significant correlation between the intra- and inter-generational justice pattern and the variables related to access to jobs or income opportunities.

Nevertheless, the resettlement of these informal dwellers was combined with the support in developing small poultry, of 5,000 chicken for egg production, from which they could earn some money. However, this poultry cannot constitute a potential source of income for the 240 resettled households, while access to income generating activities or employment opportunities is a prerequisite for poverty alleviation alongside the contemporary processes of urban (re)development (Deininger, 2003). During our interviews, 86 % of households' heads stated that a single family would need to start from 500 chicken for any poultry project to be financially profitable. Thus, they do not count on this poultry as a source of income. One of them asserted that: "*Our relocation into good apartments without subsistence means or source of income will result into economic hardship for most of us*". This problem was also raised by 23 % of resettled households which had been generating their incomes through renting the annexes to their main houses in their previous settlements. As for a remedial option, one of them argued that: "*Our resettlement should be combined with financial support so that we can invest in small retail activities.*" Despite the problem of losing their sources of income, these households appreciate their integration into Kigali City through a formal resettlement, which has become a driver for their tenure security.

7.5.2. Re-established land tenure security

As stated above, the increased tenure security, reflected in the perceptions of the resettled informal urban dwellers has been identified among the outcomes of the recent operations related to the informal settlement management in Kigali City. This increased tenure security is actually connected with the pursuit of all forms of spatial justice, when municipal leaders and urban planners abide by their aspiration alongside the resettlement of displaced informal dwellers as

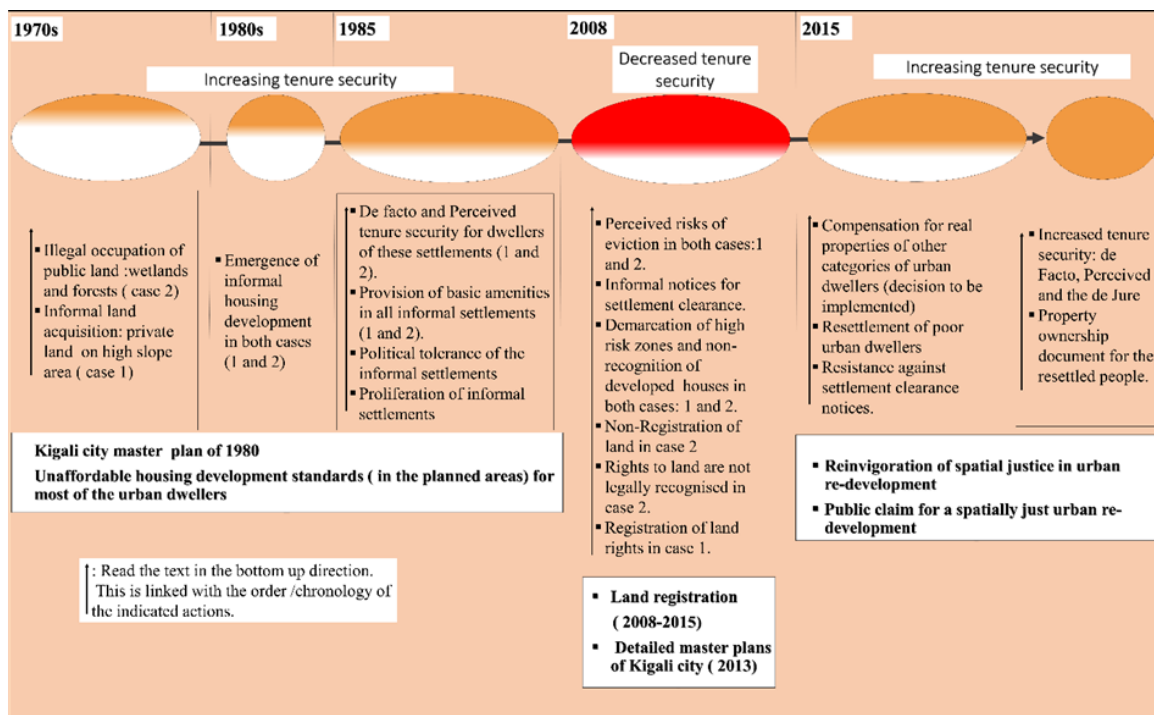
⁴⁰ Reports from Rwanda Housing Authority and Nyarugenge district

proven by Uwayezu and de Vries (2019b). In this section, we take stock and present the evidences identified from these operations which have been carried out in Kigali City since the last year. In the sake of clarity for our readership, we briefly attend to their background.

The first master plan in Kigali City was crafted in the 1980s. That time, it was covering a small urban area and strictly regulated all activities related to housing development. From that period, the poor and low-income urban dwellers had difficulties in accessing residential land in the planned areas, due to prohibitive land prices and intricate processes of acquiring a building permit. This resulted in informal land transactions among private landowners and housing development in marginal land, largely covering hazardous areas such as high slope areas (World Bank Group, 2017). Unplanned settlements were also developed on public land such as wetland and forests, through the illegal occupation.

In the 2000s, informal settlements were covering large parts of Kigali City. Their growth was tolerated since the 1985s by political leaders who supported the provision of basic urban amenities and services (water, electricity, road network, schools and health facilities) to their inhabitants, in recognition of their rights to these resources. These informal dwellers became therefore less fearful of eviction (World Bank Group, 2017). These feelings increased their perceptions about their rights to the city, from which the perceived tenure security concomitantly emerged. Additionally, the provision of basic urban amenities and services spurred the emergence of the facto tenure security (Bizimana et al., 2012) as Figure 38 shows.

Figure 38: Features of tenure (in)security associated with informal settlements development in Kigali City



Data source: Field survey, January-February, and June-July, 2019 and review of literature on Kigali City (re)development

As figure 38 shows, dwellers of informal settlements enjoyed the security of tenure until 2008. However, it was undermined from 2008 to 2015. During this period, a process-of land rights

recording at country level was carried out. It resulted in the provision of the certificates of property ownership for all landowners (Ngoga, 2016), except for people who developed their houses on public lands. Not registering their lands subverted the existing perceived and the facto tenure security and flourished tenure insecurity. This insecurity actually erupted from 2013, following the passage and implementation of Kigali City master plans. They recommend the clearance of all settlements and buildings located on steep slope areas (greater than 30 %) and wetlands (City of Kigali, 2013). Actually, these master plans triggered the forced displacement of all informal dwellers who illegally developed their houses in these areas, and therefore place them under insecure tenure from 2008.

In order to mitigate this problem of tenure insecurity and associated risk of forced displacement, the central government and Kigali City authorities adopted, in 2015, different strategies that aim at integrating informal dwellers in Kigali City (City of Kigali, 2016b). These strategies are twofold:

1. The resettlement of poor and low-income people whose houses are located in the flooded wetlands and high slope areas, as discussed in section 7.5.1.
2. The expropriation, combined with the in-cash compensation for other informal settlers, because the cost for their relocation is higher than the expropriation. The expropriated property owners can thereafter use the received compensation in developing new houses in suitable residential sites which will be provided by the government.

This second strategy has not been implemented yet. Thus, in this section we discuss the trends of tenure security by making reference to the first strategy, through which dwellers of informal settlements located in high-risk zones were resettled in planned areas. During our interviews, these people asserted that, “our resettlement reflects the political recognition of our rights to housing and living in Kigali City. Recognition of these rights is affirmed in the mobilisation of public funds allocated to the development of our residential apartments, connected to basic urban amenities⁴¹”. Inherently to the meaning of land tenure security and its three elements, the perceptions of these people reflect the reconstitution of their tenure security, nurtured by their formal integration in the urban space, reduced risks of eviction and provision of the ownership document for the new houses they received. Obviously, the fact that all of them affirmed that their settlements are officially and politically recognised within the city boundary becomes the spine for the de facto tenure security. Another element of land tenure security emerging from their resettlement is the perceived. It is connected with their increased feelings on the permanency of their current dwellings, and decreased likelihood of displacement, because they were resettled by the government⁴². As revealed by our findings, the de facto and perceived tenure security emerged from the recognitional, redistributive, and inter- and intra-generational justice which instilled a political decision⁴³ to displace households living in the high-risk zones and reconstitute their rights to housing through their resettlement. The two elements of tenure security are especially embedded in the remediation to the eviction (which relates much to the combined recognitional and redistributive justice) that the resettled people might have experienced if they were forcibly requested to vacate the land where they illegally developed residential houses.

⁴¹ Interviews and household survey

⁴² Ibidem

⁴³ Interviews with land managers, urban planners, head of social affairs units

While the de jure tenure security being conceived exclusively from the registration of property rights, this element is carved from the provision of housing ownership document to every resettled household. As 21 out of 27 interviewees asserted, it is distinctly embodied in the government directives related to the relocation of displaced people⁴⁴ and the current national policy (Ministry of Natural Resources, 2004). This policy provides that the resettlement of the displaced people has to be combined with the provision of property ownership document for the property. In other way, the de jure tenure security emerged from compliance by these rules, which is a strand of procedural justice. Generally, the resettlement of informal dwellers whose houses are located in high-risk zones, tandemly promotes the three elements of tenure security. Despite these trends of spatial justice and land tenure security, our findings revealed that relocation of all informal settlement dwellers in Kigali City can hardly be achieved, due to limited public funds as mentioned previously. Therefore, it is not enough to promote an urban (re)development which is spatially just. This study suggests the informal settlement upgrading as another option for promoting spatial justice in the processes of Kigali City (re)development.

7.5.3. Alternative approaches for informal settlements management in Kigali City

A survey on housing market demand conducted in Kigali City in 2012 recommends that 48.9 % of houses should be demolished, because they were developed in high risk zones and do not meet the required housing development standards (Planet consortium, 2012). Very recently, a survey on informal settlements developed on the land slope exceeding 30 % and along deep water drainage channels identified 55,621 households which should be relocated or expropriated (City of Kigali, 2016a). Nevertheless, recent reports on informal settlements status in this city conclude that it is not possible to relocate or expropriate all informal settlers. The government may be able to resettle the poorest and vulnerable categories of urban dwellers using public funds (Ministry of Infrastructure, 2015a; Rwanda Housing Authority, 2014). If we consider the number of the poorest families estimated at 4,300 households during the demarcation of high-risk zones, and the current capacity of resettling around 250 households every year⁴⁵, their resettlement may take more than 17 years and the cost can be estimated at 167,089,931 US dollars. If the expropriation of other categories of households is carried out, it can cost 580,792,574 US dollars. The total cost may therefore be 747,882,502 US dollars. This implies a lot of financial resources that the government may not find as stated by actors implementing the resettlement programme of informal dwellers in Kigali City⁴⁶. Other alternative should consist of informal settlement upgrading. This may be less expensive than clearing all houses located in the demarcated high slope areas (Rwanda Housing Authority, 2014, 2017; World Bank Group, 2017).

7.5.3.1. Informal settlement upgrading

Informal settlement upgrading is the most urban (re)development option that protects the rights to housing for informal settlement dwellers and promotes their inclusion in the urban space. As recommended by the existing studies on Kigali City (World Bank Group, 2017), this option can

⁴⁴ The 2018 instructions of the Ministry of Local Government on the relocation of households living in high-risk zone recommend the provision of property ownership documents to all resettled people in order to confirm their rights to new property

⁴⁵ Census reports of households living in high risk of Kigali City, 2018

⁴⁶ Interviews government officials from RHA and Kigali City

also enhance spatial justice in different ways. It can advance procedural justice, through a direct involvement of the informal settlement dwellers in urban (re)development processes, from the planning to the implementation of all activities related to upgrading their neighbourhoods, while the state plays the role of the warrantor and enabler (Magel, 2016). This participatory urban (re)development approach promotes recognitional justice through increased recognition of the informal dwellers' rights to housing, basic amenities and services. The recognition of these rights is materialised through redistributive and intra- and inter-generational justice which renders the provision of these basic resources and services in informal settlement neighbourhoods. The outcome is the decreased social marginalisation through the integration of informal settlement dwellers in the city, which becomes the pattern of inter- and intra-generational justice (Uwayezu & de Vries, 2018a, 2019b).

In this section, we demonstrate how the informal settlement upgrading option can be less expensive than relocating their dwellers or carrying out the expropriation for their properties. We used field data collected in Kimisagara zone which host 1543 households⁴⁷ on the landscape slope of > 30 %. While Kigali City suggests that all settlements developed on this land should be cleared (City of Kigali, 2016a), our field survey revealed most of these households whose houses were developed a land slope of 40 % have not experienced any related hazards during the last 20 years. We, therefore, assessed the possibility for upgrading their settlements up to the slope of 40 %, which is also acceptable for residential house development as stated in the current Rwandan building regulations (Government of Rwanda, 2015). The appendix 11 and 12 shows different areas which can be affected by the upgrading process and high-slope area whose houses should be cleared. The costs for these activities are estimated in Table 21.

Table 21: Estimated cost for upgrading Kimisagara informal settlements

Activities and infrastructure to be developed	Width in meters	Total	Unit cost (in US dollars)	Total cost (US dollars)
Covering the existing drains (with concrete)	3	1,401.27 M ³	395.10	553,641.78
Development of the new covered drains (with concrete)	2	3.7 Km	1176	4,351.20
Improvement of the existing earth road through cobblestone paving	6	1.87 Km	326	609.62
Development of the new road with cobblestone paving	6	2.37 Km	597	1,414.89
Development of the new footpath streets	3	8.55 Km	319	2,727.45
Improvement of the existing footpath street	3	16.54 Km	304	5,028.16
Development of new footpaths with pavers	3	3.25 Km	195	633.75
Resettlement of the households living in dangerous sites (slope > 40 %)	-	144 Households	40,477	5,828,688.00
Expropriation of the households affected by road construction	-	73 Households	11,316	826,068.00
Expropriation for the households affected by drainage system construction	-	41 Households	11,316	463,956.00
Total cost				7,687,118.85

Data source: Kigali City office and RHA (2018 and 2019), Budget rolls on the resettlement of slum dwellers in serviced sites and reports on expropriation and slum upgrading

Table 21 shows that the cost for upgrading these informal settlements is estimated at 7,687,118.85 US dollars. If the government decides to clear these settlements through the expropriation, the total cost can arise up to 17,460,588 US dollars. Clearing these settlements can also instigate other losses, such as public facilities, including primary schools and health center which have been operational for a long time within this zone. The cost for upgrading this zone

⁴⁷ This number was gathered from the local leaders reports during our field survey

can even decrease if it is carried out in wide collaboration with property owners and different stakeholders. The property owners can provide the in-kind contribution through the community works.

Public organisations can intervene in this process in different ways. For example, the Rwanda Defense Forces (RDF) can contribute to the construction of roads and drainage systems, during three-month community outreach activities, organised every year across the country with the local community⁴⁸. The RDF can also collaborate with the academic institutions, civil society organisations, real estate agencies and the local community in the establishment of informal settlement upgrading plans, including the estimation of the related costs. The government can contribute in acquiring the required construction materials and payment for other activities which cannot be undertaken through community work. Thus, this collaboration can be a more practical option for informal settlements management in Kigali City than planning the relocation and expropriation of all informal dwellers against high uncertainty in their funding. It is highly recommended because it can be supported by international organisations such as Un-Habitat, World Bank and various non-governmental organisations which finance informal settlements upgrading projects (Un-Habitat, 2009). Still, these projects steer the inclusive urban development which is highly promoted by these organisations (World Bank Group, 2017). Another alternative to informal settlements upgrading can be the progressive single houses demolition and the development of shared residential apartments, through the community-private investors partnership approach (Uwayezu & de Vries, 2019a). This section discusses this option.

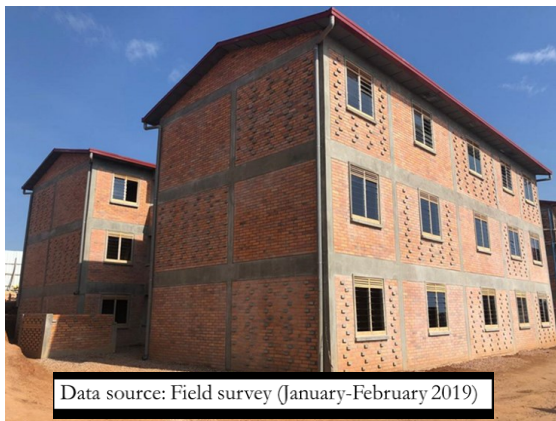
7.5.3.2. Development of shared residential apartments

Another approach for informal settlements management in Kigali City is the in-situ development of shared residential apartments. It is an option of co-production of the urban space, conceived in the sense of neighbourhood transformation, based on voluntary local community efforts to enhance the quality of their settlement and services they use (Parks et al., 1981). This option can remedy to property owners' displacement induced by the relocation or expropriation processes. During our interviews, it was supported by 84 % of Kimisagara inhabitants⁴⁹, by making reference to the ongoing project of resettling 1946 informal settlement dwellers in shared residential apartments (see Figure 39 below) developed on 7.2 Hectares (Ha) in one of the Kigali City neighbourhoods, called Busanza, in Gasabo district (Nikuze et al., 2019; Uwayezu & de Vries, 2019a).

⁴⁸ See <http://en.igihe.com/news/rdf-reserve-force-hands-over-infrastructures.html>, accessed on 12 August 2019

⁴⁹ Others (16 %) suggested the formation of housing development cooperatives, through which they can upgrade their houses according the current master plans.

Figure 39: Shared residential apartments under development in Busanza zone



During our survey, 83 % of Kimisagara inhabitants expressed their willingness to vacate their lands for the development of these type of shared apartments, provided that they directly collaborate with private investors, from the planning stage to their construction. This collaboration should be based on the consensus between property owners and investors, through the increased recognition of property owners to participate in the management of their neighbourhoods, as translated in both procedural and recognitional justice. If adopted in the realm

of procedural and redistributive, this option can result in sharing the developed houses based on the market values of each household properties. According to Kimisagara inhabitants this housing development arrangement can be fair if property owners are resettled in apartments which are relatively commensurate to the household sizes. In order to create jobs in the new residential areas, this study suggests a model of mixed-use housing, where the ground floors of the dense blocks of residential apartment can serve for shops, small bars and mini-supermarket in order to create employment opportunities in the developed residential neighbourhood. Figure 40 shows the proposed housing model that may be adopted.

Figure 40: Proposed model for shared apartments through a condominium tenure



Data source: Authors design

If these apartments are developed in the same framework of Busanza project, the 1543 households identified in Kimisagara zone can be resettled on less than 10 Ha. This size is very small compared to the buildable areas of 65.78 Ha (whose slope is < 40 %), as calculated based on our field data. Thus, this approach of shared apartment can attract private investors, because they may benefit from using the remaining big part of the land (55.78 Ha in this case) for their businesses. In addition, Kimisagara zone, as well as most of the informal settlements in Kigali City, is close to the CBD and other business centres which can be another factor for attracting private investors (Centre for Affordable Housing Finance in Africa, 2018). It is worth recalling that a just implementation of this informal settlement management option requires that government agencies do not play the roles of property owners. The key argument is that the

government agencies cannot be efficient and equitable if property owners are not allowed to take part in the pursuit of their social welfare and livelihood improvement (Ostrom, 1996). These agencies' roles would rather consist of moderating the negotiation between property owners and the investors, providing technical advices, monitoring the implementation of the designed housing plans, mediating conflicts that may arise alongside its implementation and providing the basic urban amenities.

7.6. Conclusion

This study contributes to debates on spatial justice and tenure security by shedding light on how the normative value of spatial justice, instilled by the local community claim, can influence changes in urban management processes. These changes consist of unjust trends of exclusionary urban development schemes to a just and inclusive city, recognising the rights to housing and urban amenities and services for informal urban dwellers. These changes have been instilled by the ideological aspect of spatial justice which urged political and municipal leaders to abide by the existing rules and laws related to Kigali City (re)development, which grant rights to housing and basic urban amenities and services. This aspect of spatial justice was pursued through the application of different forms of spatial justice which affirms the state's rhetoric of promoting inclusive urban (re)development. The application of the principle of positive discrimination has allowed for the resettlement of households which developed their dwellings in dangerous areas, with high exposure to different environmental hazards. This resulted in protecting their lives, and improving their living environment, which flows towards meeting the general aspiration of *intra- and inter-generational justice*. This study has also demonstrated that there exists a lineage between spatial justice and land tenure security in urban (re)development processes. Land tenure security emerges from these processes which abide to just rules or decisions and do not alter individuals' rights to spatial resources, such as land and housing.

Despite these positive outcomes, the study identified some odds to be addressed in order to improve the livelihoods of the resettled informal dwellers displaced from the high-risk zones. Some of these urban dwellers are very poor people with no source of income. Others had been relying on renting the annexes to their main houses in their former residential neighbourhoods. They were resettled in single apartments, which cannot be sub-rented for the sake of income generation, while access to income is very crucial in all processes of urban (re)development towards meetings the goals of sustainable development. However, sustainability also seeks for the welfare, in all aspects of human being life: social, economy, and security or safety (Eizenberg & Jabareen, 2017). By this token, the study suggests that observing all claims of procedural justice, including the partnership and interactions with the displaced people, helps to identify their needs, with respect to their previous livelihood conditions and provides them with possible supports required for the reconstitution of these conditions. It also suggests the application of informal settlement upgrading options, which can be less expensive compared to resettling or expropriating all property owners living in high-risk zones. However, the study acknowledges the limitations associated with the estimation of the costs for the implementation of this option, in the selected case study. Only mean prices references compiled from the recent reports on expropriation, informal settlement upgrading and resettlement processes of the displaced people in Kigali City during the last two years were used. These prices may not match with the real situations in the case study zone. Therefore, an in-depth feasibility study is recommended prior to the upgrading of any informal settlement in Kigali City. Such a study should identify the exact number of households living in geohazard-prone areas, based on the soil capability and suitability assessment. It should also establish detailed development plans providing information about road networks and storm drainage improvement, compensation of households which can be

relocated due to different construction works or because they live in steep-slope areas which cannot be upgraded. Adoption of housing development regulations and architectural designs which are compatible with the hilly landscape of Kigali City is also recommended.

Another informal settlement management option is the liberal development of shared residential apartments, through negotiation and collaboration between property owners and private investors. Kimisagara inhabitants believe that private investors interested in the real estate development in Kigali City can relocate informal settlers on a small part of their neighbourhood and develop the remaining part at their convenience. These inhabitants stressed on the need for the government to make this process more democratic by playing the roles of mediators and advisers so that private investments can make the management of informal settlements beneficial for both property owners and investors. In a nutshell, for any of the two approaches to promote spatial justice, citizens should be empowered and directly involved in designing and implementing the informal settlements (re)development plans. Thus, it requires citizen-centred urban (re)development approach, in the real (re)development practices of Kigali City.

Chapter 8: Are the so-called affordable houses under-development in Kigali City really affordable⁵⁰?

Abstract

The government of Rwanda recently passed the housing development regulations and funding schemes, which aim at promoting access to affordable houses for the low- and middle-income Kigali City inhabitants. The existing studies on housing affordability in this city did not yet discuss if this government supported programme is likely to promote access to housing for these target beneficiaries. This study applies the price-to-income (PIR) ratio approach and the 30-percent of household income standard through the bank loan to assess whether housing units developed in the framework of affordable housing schemes are, for the target recipients, affordable at all. It relies mainly on housing prices schemes held by the real estate developers, data on households' incomes collected through the household survey and review of the existing studies and socio-economic censuses reports. Our findings reveal that the developed housing units are seriously and severely unaffordable for most of the target beneficiaries, especially the lowest-income urban dwellers, due to the high costs of housing development, combined with high profits expected by investors in affordable housing programmes. The study suggests the policy and practical options for promoting inclusive urban (re)development and housing affordability for various categories of Kigali City inhabitants. These options include upgrading the existing informal settlements, combined with their conversion into shared apartments through collaboration between property owners and real estate developers, the development of affordable rental housing for low-income tenants, tax exemption on construction material, progressive housing ownership through rent to own approach, and incremental self-help housing development using the low-cost local materials.

Keywords: Housing development schemes, affordable housing, Kigali City, low- and middle-income groups, price-to-income ratio

8.1. Introduction

Access to housing has been on the urban (re)development agenda at the global level. It has also been envisioned among the key factors for promoting inclusive urban development which actually embraces the right to inhabit well for all urban dwellers (Fainstein, 2014; Soja, 2013). To promote this right, proponents of the rights to the city have largely reiterated the urgent need for the real estate agencies, government and municipal leaders to advance the habitability of the urban space through the inclusive approach of housing development schemes providing affordable houses for the low-income urban dwellers (Lefebvre, 1996, p. 79; Soja, 2013). Following this claim, the provision of affordable housing has been the crux of many contemporary urban (re)development schemes in various world cities (Sekoboto & Landman, 2019). The housing literature defines 'affordable house' as the house at or below a specified price threshold, whose price is relatively aligned with the households' incomes and permits the beneficiaries of the affordable housing programmes to meet other basic needs, required for sustaining their livelihoods (Mosha, 2013). Balancing housing prices with the incomes is an important approach to promote the living conditions of all urban dwellers. It allows for the

⁵⁰ This chapter is based on a published paper, as: Uwayezu, E. and de Vries, W.T., Access to Affordable Houses for the Low-Income Urban Dwellers in Kigali: Analysis Based on Sale Prices; *Land* 2020, 9(3), 85; <https://doi.org/10.3390/land9030085>

preservation of affordability proportionally to household incomes and advances the integration of various categories of urban dwellers into urban development processes (van den Nouwelant et al., 2015). Apart from being a basic human right, access to affordable housing has been introduced in the contemporary urban development programmes as a strategy for redressing the exclusion of the poor and low-income groups from the cities due to high cost of housing (Uwayezu & de Vries, 2018). This is operationalised when the developed housing units which are the products of any spatial re-organisation processes and primary spatial goods are equally distributed among all urban dwellers, especially the low-income group (Jonkman et al., 2018). Thus, the development of affordable housing for this category of people can counteract the competitive housing market from which they are excluded (Cowan, 2006; Radzimski, 2014). This problem is more crucial in African cities whose most dwellers are very poor and low-income people.

For example, in Kigali, the capital city of Rwanda, around 54 % of its inhabitants are the poor and low-income people who earn between 38.0 to 225.0 US dollars per month. Around 13 % of these urban inhabitants are very poor and earn less than 38 US dollars per month. The middle incomes, representing 21 %, range between 225.0 and 678.0 US dollars (Iyandemye et al., 2018; Planet Consortium, 2012). Generally, the housing market has been largely targeting the high-income households which represent less than 12 % of all urban dwellers. They earn more than 678.0 US dollars and can afford the housing prices which are greater than the purchasing capacities of other categories of urban dwellers (Gardner et al., 2019; Iyandemye et al., 2018). Access to decent houses has therefore been a pressing issue for the poor, low- and middle-income people in this city. As a consequence, most of Kigali City inhabitants who cannot afford the formal housing prices have informally self-developed their dwellings in unplanned areas which occupy the large part (60 %) of residential neighbourhoods in this city (Rwanda Environment Management Authority, 2017). Yet, this trend of informal settlements development is highly discouraged by the current urban development regulations. Recent studies mention that there is a dire need to produce 20,000 housing units every year to subvert to the current needs for decent housing in Kigali City (World Bank Group, 2019). To promote access to decent housing in this city, the government of Rwanda encourages the real estate agencies to invest in low-cost housing units which can be affordable for the low- and middle-income urban dwellers, through different incentives (Ministry of Infrastructure, 2015a). In this perspective, the law n° 06/2015 related to the investment promotion and facilitation in Rwanda entitles a preferential corporate income tax rate of zero per cent (0 %) to real estate agencies whose investment capital is equal to or greater than 10,000,000 dollars (Government of Rwanda, 2015a). In addition, the government of Rwanda established an affordable housing fund within the commercial banks which entitle low interest rates to bank loan for both affordable housing developers and buyers (Development Bank of Rwanda, 2015). The real estate developers can also be assisted by government agencies in the acquisition of land through expropriation which is carried out in the framework of public interest (Uwayezu & de Vries, 2019a). These government agencies are also responsible for the provision of basic infrastructure such as roads, electricity and water networks, waste water drainage and treatment systems in affordable housing sites (Government of Rwanda, 2015c). The key aim is to set the housing prices at the reach of the overwhelming number of Kigali City inhabitants and curb the problem of unplanned settlements. As stated in the current Rwandan affordable housing schemes, the beneficiaries of these affordable houses should not spend more than 30 % of their monthly incomes to purchase them (Rwanda Housing Authority, 2017a). They include the low- and middle-income households whose monthly income range between 220.63 US dollars (equivalent to 200,000 Rwandan Francs) and 1,323.78 US dollars (equivalent to 1,200,000 Rwandan Francs) and do not own any dwelling unit (Rwanda Housing Authority, 2017a). They are also eligible to apply for the low and long-term loans at 10 per cent interest rates (compared to 18 percent for the normal bank loans)

for 20 years, through the affordable housing fund, established by the Government of Rwanda in collaboration with the World Bank (Government of Rwanda, 2017).

In the existing studies, the Centre for Affordable Housing Finance in Africa (2018), Gardner et al. (2019), Manirakiza and Ansoms (2014) discuss the issues of access to housing, based on the housing demand, delivery and affordability at the general housing market. Some of these studies allude to the prohibitive prices of most affordable housing units developed by the real estate developers in Kigali City and suggest detailed studies ascertaining if Kigali City inhabitants can really afford these houses (Centre for Affordable Housing Finance in Africa, 2018; Gardner et al., 2019). Therefore, this study builds upon this call for evaluating if various housing packages under development in Kigali City, within the framework of developing affordable houses, are affordable for the prospective beneficiaries. More specifically, this study was motivated by the knowledge gap about the contribution of the affordable housing developments schemes in curbing the problem of access to housing in Kigali City, regarding affordability of the developed housing units and monthly incomes of various categories of the target beneficiaries. In this fashion, this study is guided by the following research questions: To what extent can the low- and middle-income Kigali City inhabitants afford housing units developed under the affordable housing schemes? Which strategies can be adopted for promoting housing affordability for all categories of Kigali City inhabitants? The findings to these questions will shed lights on the current trends in housing affordability, following the adoption of the above-mentioned housing schemes which are expected to make housing affordable for the large number of Kigali City inhabitants. This chapter draws also from its findings to suggest practical and policy strategies that may be applied towards improving the implementation of these affordable housing schemes and enhancing access to housing for various categories of urban dwellers in Kigali City. Before the presentation of the analytical approach applied in this assessment of housing affordability and data sources, we discuss the relevance of affordable housing schemes, within the broad contours of developing inclusive and just urban space, with respect to the aspirations of spatial justice.

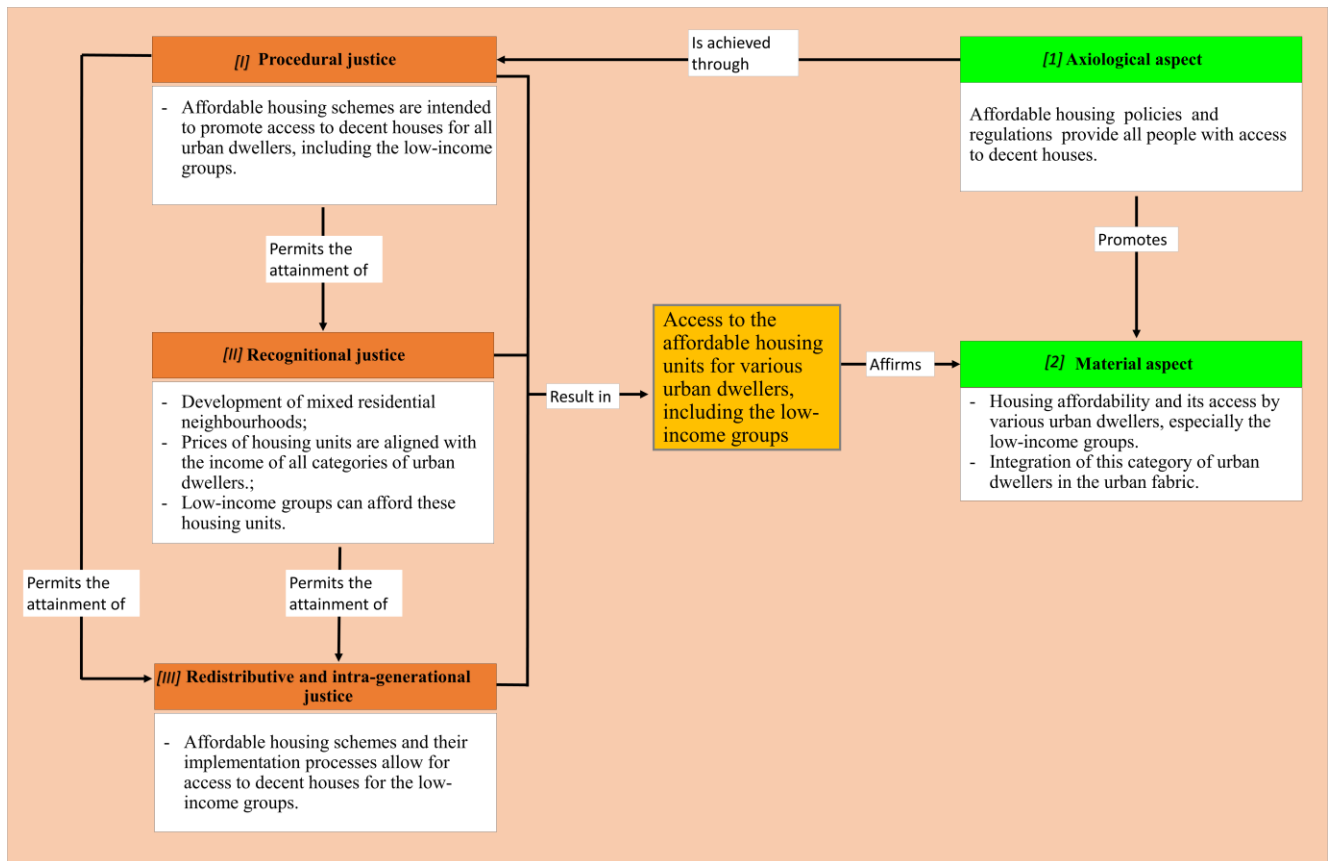
8.2. Access to affordable house as a spatial justice metric

Access Affordable housing schemes have been conceived from the perspective of the state obligation to promote access to decent houses and inclusion of all categories of urban dwellers in the urban space. In the contemporary literature on inclusive urban (re)development, the promotion of access to affordable housing for every person has been envisioned among spatial strategies to justice within any urban space (Lefebvre, 1991; Rawls, 1999; Soja, 2013). Along these lines, decision makers, urban planners and real estate organisations can develop and set up housing delivery strategies that enable the poor, low- and middle-income urban dwellers access to decent houses and secure their rights to urban space (Dikeç, 2001; Dikeç, 2009). In other words, access to decent houses and secure rights to various benefits of urban space (re)development link well with the aspirations of spatial justice in the broad sense of justice alongside urban (re)development (Kleinhans, 2004). These aspirations entail the promotion of pluralism and social mix in both rules and processes of urban space (re-)organisation in order to come up with a built environment which is socially and spatially lived by various categories of urban dwellers (Fainstein, 2009; Ferrari, 2012).

In this chapter, spatial justice is defined as equity in the allocation of socially valued resources such as basic urban amenities and services (including water, power, transportation networks, health and education facilities) and housing in such a way that every urban dweller can have

adequate access to them, with the disadvantaged communities being the first beneficiaries rather than last (Dikeç, 2001; Soja, 2009, 2010). Spatial justice aspirations are translated in housing delivery approaches, arranged in favour of economic efficiency to advance the redistribution equality within housing schemes. By making references to different aspects and forms of spatial justice discussed by Uwayezu and de Vries (2018, 2019b), access to affordable housing can exhibit the axiological and material aspects of spatial justice, attained through the pursuit of its various forms, mainly procedural, redistributive and recognitional justice as shown in Figure 41.

Figure 41: Linkages between housing affordability and spatial justice



Designed based on Uwayezu and de Vries (2018, 2019b).

- **[1]** Housing affordability is attained through the establishment of policies and regulations that provide strategies and practical options for the development of housing units which can be affordable for various categories of urban dwellers. These policies and regulations embrace the axiological aspect of spatial justice. As shown in Figure 41, the outcome of their implementation is the material aspect of spatial justice.

- **[2]** The material aspect of spatial justice affirms the sense of belonging to the city which is also an expression of the concept of lived place for each urban dweller (Harvey, 2003; Lefebvre, 1996; Rawls, 1999). In other words, housing affordability and its access embrace the material aspect of spatial justice since a housing unit is a material product of spatial re-organisation processes and a primary spatial good which has to be equally distributed among all urban residents (Basta, 2015; Jonkman et al., 2018; Rodman & Cooper, 1989). In practice, the material aspect of spatial justice is attained through the pursuit of different forms of spatial justice.

- **[I]** Procedural justice derives from the axiological aspect of spatial justice and stands for affordable schemes that promote the development of affordable housing units whose prices are aligned with the whole spectrum of income levels among the urban dwellers, including the low-income groups (Smets & van Lindert, 2016).
- **[II]** Recognitional justice is embedded in affordable housing schemes that promote mixed-income residential neighbourhoods through the development of housing units which are affordable for various categories of households based on their incomes (Fainstein, 2009). This form of spatial justice is pursued in combination with both procedural and redistributive justice, achieved when decision makers and actors who design and implement housing development projects define or predetermine who gets what type of housing unit, required to sustain every household livelihood (Jonkman et al., 2018). This implies that the combination of these forms of spatial justice helps to attain the material aspect of spatial justice that stands for all people's access to decent housing, a key condition to inhabit well in the urban space (Adegeye & Coetzee, 2019; Jonkman & Janssen-Jansen, 2018; Uwayezu & de Vries, 2019b; Van Wyk, 2015).
- **[III]** Redistributive and intra-generational justice embraces the redistribution approach of the developed housing units. It is pursued in combination with recognitional justice.

These three forms of spatial justice embrace the recognition of the right to decent houses (in both housing development regulations and their implementation processes) and their redistribution approach, with special consideration of the incomes of urban dwellers (the lowest and low-income groups) who cannot access these houses from the general, very competitive market (Mayer, 2012).

With respect to the aspects and forms of spatial justice, their patterns in the affordable housing schemes are ascertained in the equality of opportunities for all categories of households to access the available housing units, when crafting and implementing affordable housing schemes (Fainstein, 2009; Rawls, 1999; Soja, 2009). Since the main aim of these schemes is to decrease housing deprivation and the beneficiaries are defined based on their economic statuses, their procedural, redistributive and recognitional patterns are judged on the basis of the amount of housing units allocated to each income category, proportionally to their needs expressed in the number of housing units (Barry, 1997; Kaul et al., 2003; Soja, 2009; Uwayezu & de Vries, 2018). Some studies suggest that the great share in the housing packages should be allocated to the poor and low-income urban dwellers who are the most in need of affordable housing within any urban space (Bah et al., 2018b). By the same token, the affordable housing schemes are likely to promote spatial justice, if the affordability of housing units under development is proportionally distributed among various categories of the prospective buyers based on their incomes (Uwayezu & de Vries, 2018). As mentioned in the introduction, the question in this study is whether the current affordable housing development schemes under implementation advances this spatial justice aspiration. The next section discusses the approaches applied in assessing this affordability in this case study of Kigali City.

8.3. Evaluative approach for the housing affordability

This study uses the income and the housing price, which is largely termed housing price-to-income ratio (PIR) suggested in most literature for the analysis of housing affordability (Bertaud, 2019; Turk, 2019). The PIR is applied in analysing trends in housing affordability and housing cost burdens for the households based on the share of income spent on housing (Acolin & Green, 2017). The affordability is referred to as “purchase affordability” when the assessment

consists of measuring if the households can bear the cost for their houses using their incomes (Gopalan & Venkataraman, 2015). The evaluation approach is tailored on the housing cost index developed by the United Nations Human Settlements Programme (UN-Habitat) in its urban indicators tool kit guide (UN-Habitat, 2011). This index is also applied by the Organization for Economic Cooperation and Development (OECD), the International Monetary Fund (IMF) and different international financial agencies when they carry out studies on housing affordability for the low- and middle-income urban dwellers in various countries, in order to reflect on changes in households living conditions over time and in a comparative way (Milligan et al., 2004).

The affordability is calculated using the following formula:

$$\text{Housing Price to income Ratio (PIR)} = \frac{HP}{HI} \quad (1)$$

In this equation (1), the HP refers to the total sale price of each housing unit, while HI refers to the annual household income. This equation is commonly used in assessing the household ability to afford available housing units within an area, based on the purchase affordability (Zhang et al., 2016). In this analytical approach, the low PIR index reflects a good housing affordability, while the high index portrays the high degree of unaffordability (UN-Habitat, 2011; Zhang & Tan, 2013). Generally, the affordability rates have been identified as follows:

- The PIR below 3 reveals the general situation of “affordability” in which the household is sufficiently able to purchase the house, without difficulties in covering other basic needs.
- The PIR beyond 3.0 to 4.0 shows that the house is “moderately unaffordable”, but its cost does not have much negative impacts on other household consumptions.
- The PIR beyond 4.0 to 5.0 shows that the house is “seriously unaffordable”. Households must adjust the housing type to their income levels, otherwise the cost for housing can seriously affect their living conditions.
- The PIR beyond 5.0 portrays a situation where the housing is “severely unaffordable”, even if the household may extend the loan period.

Since affordable housing programmes address the question of access to housing for the low-income people, the affordability trends are ascertained by referring to 30 % of the household monthly income that should be spent of the housing. This standard is applied in assessing housing affordability from the perspective of public policy on housing to estimate the housing cost-burden in the case the monthly carrying costs of a home exceeds the 30 % of the households’ incomes (Jewkes & Delgadillo, 2010). It is also a threshold suggested by the Rwandan affordable housing schemes in assessing if a housing unit is affordable or not (Government of Rwanda, 2015c; Rwanda Housing Authority, 2017a). In addition, it is the benchmark that banks consider in approving mortgage capacity of people who apply for housing loans (Centre for Affordable Housing Finance in Africa, 2018; Kopanyi, 2015). Still, most of the households rely on the bank loan which involves a regular repayment until the end of the loan term. In this case, the calculation of the affordability includes the loan dimension and the related variables (Sheng, 1989). Therefore, it is assessed based on the cost repayment, using the following formula:

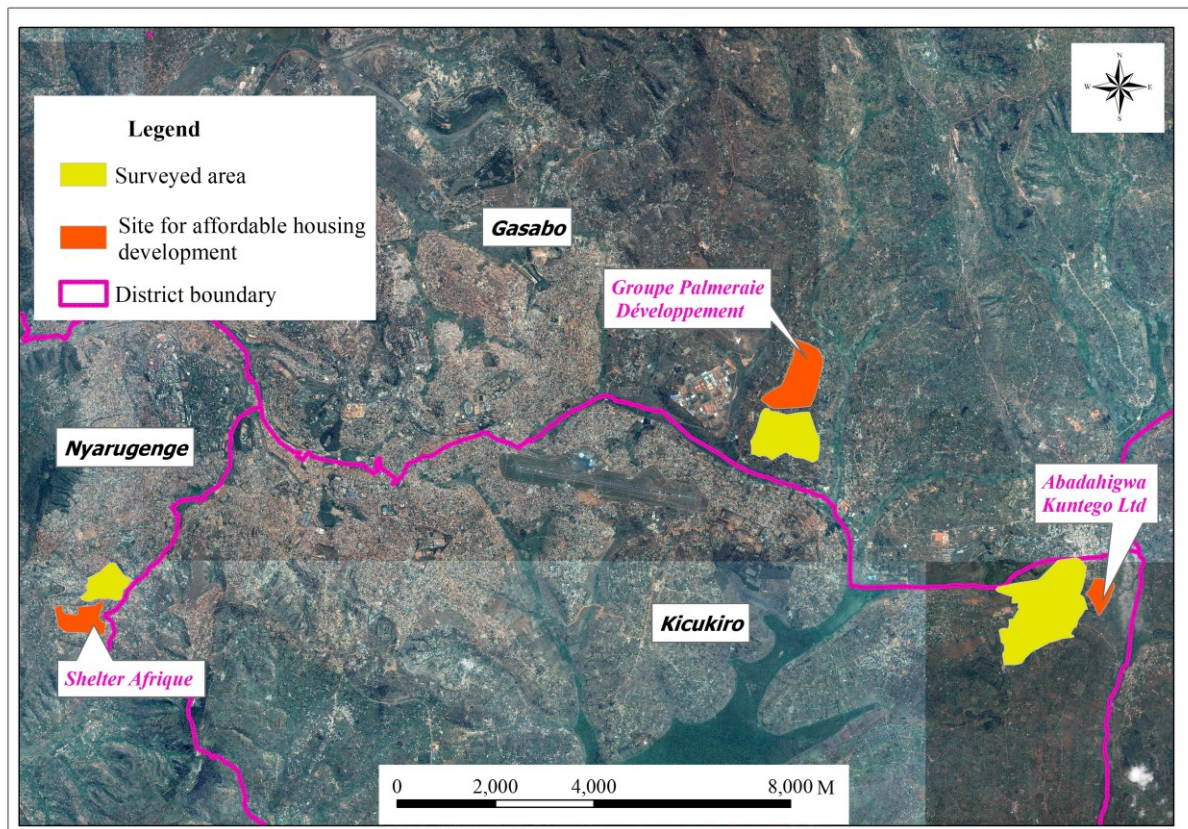
$$AI = \frac{P * (i + \frac{i}{(1+i)^n - 1})}{I} \quad (2)$$

In the equation (2), **AI** is the affordability index (which is also to the monthly repayment amount), **P** the housing price (which is equal to the mortgage amount), **i** is the bank loan interest rate, **n** is the loan term (or duration in months) and **I** the monthly income (Napoli et al., 2016; Zhang et al., 2016). In applying this formula, we used the down payment ratio corresponding to 30 % of the household income, the loan term or repayment period of 20 years, and the loan interest rate of 10 % as set in the current affordable housing schemes of Rwanda (Government of Rwanda, 2015c). In this model, the affordability is judged good if the households can spend less than 30 % of their monthly income to buy the house. It is moderate if they pay between 30 % and 40 %, and severely unaffordable if they pay more than 50 % (World Economic Forum, 2019). Households that pay more than that share are said to be “*cost-burdened*.” Families that spend more than 50 percent of their household income on housing are considered “*severely cost-burdened*” (Acolin & Green, 2017). Beside these indices, the analysis of housing affordability is largely extended to its redistributive equality which requires balancing the affordability rates among the target beneficiaries, based on their income ranges, to decrease the affordability gap among all categories of people who are in need of decent houses (Schwartz, 2014). In this case study, the redistribution equality is assessed based on the percentage of low-income households which can afford the available housing units, produced under the affordable housing schemes which are supported through public funds (Bah et al., 2018a; Un-Habitat, 2009, 2011; Uwayezu & de Vries, 2018). In the next section, we present the sources of data used for this study.

8.4. Data sources

This study is based on the exploratory approach to ascertain trends in housing affordability in Kigali City, following the adoption of government-supported affordable housing programmes to promote access to the low- and middle-income people and understand if the housing affordability burden for these urban dwellers is really being mitigated. Primary data for this chapter were collected during two periods: from July to September 2018 and from January to March 2019, on the ongoing three projects of affordable housing development in Kigali City. During the first period, some projects had not yet been approved, and their proposal and related data could not be disseminated. We, therefore, had a second field work to collect these data. These projects are equally distributed in the three constituent districts of Kigali City. Figure 42 shows the study area.

Figure 42: Location of the study area



Data source: Field survey (July to September 2018 and January to March 2019) and proposals for housing development projects approved by RHA

Figure 42 shows the spatial distribution of the sites for the affordable housing projects approved during the last three years, on which this study is grounded. The identification of these projects was based on the reports accessed from Rwanda Housing Authority (RHA) which foresees the implementation of all activities related to affordable housing development in Rwanda. These three projects are owned by different real estate developers, namely Abadahigwa Kuntego Ltd (in Kicukiro district), Groupe Palmeraie Développement (in Gasabo district) and Shelter Afrique (in Nyarugenge district). The Abadahigwa Kuntego Ltd is a local real estate developer which operates in this project of affordable housing. Other agencies are foreign firms which collaborate with the Development Bank of Rwanda (BRD), one of the leading commercial banks that support the development of affordable houses in Rwanda. It is worth noting that, at the time of our survey, the projects were under development in two sites and some houses were already sold to the public (this applies for the Abadahigwa Kuntego Ltd). The Groupe Palmeraie Développement had not yet started the construction works, although its project was approved by RHA and the site was already cleared after the expropriation of the former landowners. To assess the housing affordability for Kigali City inhabitants, we conducted household surveys in three low- and middle-income residential neighbourhoods, close to these project sites. We believed that their inhabitants were aware of these projects and could respond to questions related to the types, prices and affordability of housing units delivered to the public by the projects' owners. In addition, these residential neighbourhoods were the targets for our survey because their inhabitants comprise two income categories: the tenants (who live in rented houses) and landlords who reside in their own houses, mostly developed through self-constructions (World Bank, 2018). The former are among the target for the affordable housing

projects as prospective buyers (Government of Rwanda, 2015c; Rwanda Housing Authority, 2017a). The survey was administered to 196 heads of households. They represent the population of 214 households counted in the neighbourhood of Shelter Africa, 187 households recorded in the neighbourhood of Groupe Palmeraie Développement and 193 households recorded in the neighbourhood of Abadahigwa Kuntego Ltd as Figure 41 shows. The above sample population was randomly selected using sampling formula applied in selecting the sample from the finite population as suggested by Krishnaswamy et al. (2006) as follows:
$$n = \frac{z^2 \cdot p(1-p) / e^2}{1 + (z^2 \cdot p(1-p)) / z^2 \cdot N} \quad (3)$$

In formula 3, Z= is the value assigned for the confidence level of 95 %, with 1.96 as a confidence level score; p is the desired proportion for the sample size n, which is 0.5; e is the tolerable error (10 % in this study); and N the population size (for the whole study area).

In this study we used the face-to-face questionnaire to collect empirical data on housing costs (through self-help development and purchase from the real estate developers), households' incomes, access to bank loans and different options that Kigali City inhabitants apply to have access to housing and various strategies that they find potential for promoting housing affordability in this city. Other data were collected through the interviews conducted with 23 key informants from public and private agencies intervening in affordable housing development in Kigali City. These interviewees include urban planners, civil engineers, architects, and heads of units and their collaborative officers from RHA, Rwanda Development Board (RDB) and Kigali City who approve different proposals related to affordable housing development presented by different investors. Other interviewees include civil engineers and marketing officers and managers from the real estate developers, and loan agents from different banks who finance the affordable housing projects. The interviews covered the following topics: (i) goals of affordable housing projects, (ii) cooperation between the government and housing developers, (iii) target beneficiaries of affordable houses, (iv) housing packages under development, (v) housing prices and the payment models, (vi) access to bank loans for housing purchase, (vii) affordability of housing units developed under the affordable housing schemes, and (viii) possible options to promote housing affordability for Kigali City inhabitants. Data on housing prices were compiled through the review of the existing studies on housing market and finance in Kigali City, different housing designs and price lists held by engineers and architects, affordable housing development proposals held by the real estate developers, and some government agencies such as RHA, RDB and Kigali City which approve (or monitor the implementation of) different proposals related to affordable housing development, presented by private investors in the real estate sector. Other agencies include *Banque Rwandaise de Développement* (BRD) or the Development Bank of Rwanda (DBR), which is among the loan providers for affordable housing development, and RSSB, which is the front runner in the real estate development. Through triangulation approach, we also reviewed socio-economic census reports and government reports to validate data on households' incomes collected during the household surveys. The assessment of the affordability was undertaken based on the affordability indices generated through the analysis of collected data that consisted of calculating the ratio between each housing unit price and household income, by applying the formulae presented in section 8.3. Qualitative data compiled through the household survey, interviews and literature review were analysed using the content analysis approach. Our findings are presented and discussed in the section that follows.

8.5. Results presentation and discussion

In this section, we present and discuss first the main findings on the analysis of housing affordability in Kigali City. Thereafter the different options which can be adopted to promote

housing affordability for all categories of dwellers in this city is discussed. As for the housing affordability, our results reveal that the housing units which are being developed alongside the affordable housing schemes are not affordable for the overwhelming number of the target beneficiaries. Table 22 shows the distribution (in percentage) of households which can afford a housing unit from different packages proposed by the three real estate developers which constitute the unit of analysis in this study.

Table 22: Trends in housing affordability based on household incomes in summary

Real estate developer	Housing package	Housing price in US dollars	PIR: ≤3.0 (Affordable)		PIR: >3.0 ≤ 4.0 (Moderately unaffordable)		PIR: >4.0 ≤ 5.0 (Seriously unaffordable)		PIR: > 5.0 (Severely unaffordable)	
			% of households	Income range	% of households	Income range	% of households	Income range	% of households	Income ranges
Abadahigwa Kuntego Ltd	3- bedroom house	30,535	19.62	902.93-1,354.41	15.89	677.20-846.50	9.35	564.33-620.77	55.14	225.73-507.90
Groupe Palmeraie Développement	2- bedroom, 1st and 2nd floor	32,500	19.62	902.93-1,354.402	15.89	677.2-846.5	9.35	564.33-620.77	55.14	225.73-507.9
	2- bedroom, 2nd and 3rd floor	36,500	15.17	1015.8-1354.402	12.15	790.07-959.37	13.54	620.77-733.63	60.75	225.73-564.33
	2- bedroom, ground floor	39,000	10.28	1128.67-1354.402	13.08	846.5-1072.23	12.15	677.2-790.07	64.49	225.73-620.77
	3- bedroom, 1st, 2nd & 3rd floor	42,500	8.41	1,185.11-1,354.41	11.21	902.93-1,128.67	12.15	733.63-846.50	68.23	225.73-677.20
Shelter Afrique	1- bedroom	22,953	35.51	677.20-1,354.41	14.02	507.90-620.77	14.02	395.03-451.47	36.45	225.73-338.60
	2- bedroom	42,627	8.41	1,185.11-1,354.41	11.21	902.93-1,128.67	12.15	733.63-846.50	68.23	225.73-677.20
	3- bedroom	55,743	0.00	-	8.41	1185.11-1,354.41	23.36	733.63-1,128.67	68.23	225.73-677.20
	4- bedroom	68,859	0.00	-	0.00	-	31.77	1,185.10-2-1,354.41	68.23	225.73-1,128.67
Mean			16.7		12.73		15.32		60.54	

Trends in housing affordability

Affordable	Moderately unaffordable	Seriously unaffordable	Severely unaffordable
16.7 %	12.73 %	15.32 %	60.54 %

Data source: Field survey (July to September 2018 and January to March 2019) and review of housing price lists held by real estate developers

As stated in section 8.3, the affordability index which is equal to or below 3 (PIR= \leq 3) unfolds a good situation in which different housing units, available on the market, are affordable for the

buyers. The PIR between 3.0 and 4.0 shows a situation where households can moderately afford these housing units, without compromising other needs required in their daily livelihoods. A PIR which is above 4.0 shows an alarming situation where the households cannot afford the housing units proposed by the real estate developers. These results presented in Table 22 exhibit very low trends in affordability since less than 30 % of households can afford a house from the housing packages proposed by the real estate developers in Kigali City. In contrast, these results show a drastic increase in the percentages of the households which cannot afford these houses, with a drop from 15.32 % for the situation of serious unaffordability to 60.54 % of severe unaffordability. This means that the affordable housing schemes under implementation in Kigali City are not solving the problem of housing affordability for the low-income people, though they have been conceived in the realm of promoting their access to decent housing. In the next sub-section, we discuss in detail these trends of housing affordability and factors associated with the unaffordability for most target beneficiaries.

8.5.1. Trends in housing affordability based on households' incomes

Results summarised in Table 22 are presented in detail in Table 23 below. These detailed results reveal that a good affordability index, which is equal to or less than 3.0, starts from the households which earn 902.9 US dollars per month. It shows that only 19.62 % of the low- and middle-income people who participated in our survey can afford the 3-bedroom developed by the Abadahigwa Kuntego Ltd or a 2-bedroom on the 1st or 2nd floor among the housing units proposed by Groupe Palmeraie Développement. This percentage falls to 15.17 % of households whose monthly income of is greater than 1,000.00 US dollars. They can afford the 2-bedroom house proposed by the same investors. For the remaining housing units (2- and 3-bedroom apartments), proposed by Groupe Palmeraie Développement and Shelter Afrique, the percentage of households which can afford them falls between 8 and 10 %. They are households whose monthly income is relatively high, ranging between 1,015.8 and 1,354.41 US dollars. Yet, 38 % of households whose monthly incomes vary between 677.20 and 1,354.41 US dollars can afford a 1-bedroom housing unit. Although this percentage seems to be higher than the percentage of household which can afford a 2- or 3-bedroom house, most surveyed households representing 50 %, cannot afford a 1-bedroom housing unit. Even if a large number of people can afford the 1-bedroom house, it is not attractive to most of Kigali households (more than 85 %) whose family size varies between 4 and 5 people in average (MINICOFIN & NISR, 2014; National Institute of Statistics of Rwanda, 2015). During the discussion on the affordability of this type of housing unit, 87 % of our respondents argued that it is attractive for single tenants only. This imbalance between the number of rooms in a housing unit on sale and the household size has been largely mentioned in housing studies among the factors which inhibit housing attraction to low-income families, even if these houses can be affordable (Ram & Needham, 2017). Therefore, most of large families are much interested in purchasing housing units whose bedroom number is proportional to the family size. Unfortunately, between 64.49 % and 80.38 % of them cannot afford neither a 2- nor a 3-bedroom housing unit. They are among the households with a monthly income ranging between 225 and 900 US dollars.

Table 23: Trends in Housing affordability based on 30 % of household income

Household details				Housing developer								
				Abadahigwa Kuntego Ltd			Groupe Palmeraie Développement				Shelter Afrique	
Percentage of surveyed households	Monthly income in the US \$	Annual income in the US \$	Cumulative percentage of surveyed households ⁵¹	3-bedroom	2-bedroom, 1st and 2nd floor	2-bedroom, 2 nd floor and 3rd floor and parking	2-bedroom, ground floor and parking	3-bedroom, 1st, 2nd & 3rd floor	1-bedroom	2-bedroom	3-bedroom	4-bedroom
				Number of units and unit price in the US \$								
				54	264	246	234	566	866	982	719	107
				30,535	32,500	36,500	39,000	42,500	22,953	42,627	55,743	68,859
15.89	225.73	2,708.80	100.00	11.27	12.00	13.47	14.40	15.69	8.47	15.74	20.58	25.42
11.21	282.17	3,386.00	84.11	9.02	9.60	10.78	11.52	12.55	6.78	12.59	16.46	20.34
9.35	338.60	4,063.21	72.9	7.51	8.00	8.98	9.60	10.46	5.65	10.49	13.72	16.95
7.48	395.03	4,740.41	63.55	6.44	6.86	7.70	8.23	8.97	4.84	8.99	11.76	14.53
6.54	451.47	5,417.61	56.07	5.64	6.00	6.74	7.20	7.84	4.24	7.87	10.29	12.71
4.67	507.90	6,094.81	49.53	5.01	5.33	5.99	6.40	6.97	3.77	6.99	9.15	11.30
5.61	564.33	6,772.01	44.86	4.51	4.80	5.39	5.76	6.28	3.39	6.29	8.23	10.17
3.74	620.77	7,449.21	39.25	4.10	4.36	4.90	5.24	5.71	3.08	5.72	7.48	9.24
3.74	677.20	8,126.41	35.51	3.76	4.00	4.49	4.80	5.23	2.82	5.25	6.86	8.47
4.67	733.63	8,803.61	31.77	3.47	3.69	4.15	4.43	4.83	2.61	4.84	6.33	7.82
3.74	790.07	9,480.81	27.10	3.22	3.43	3.85	4.11	4.48	2.42	4.50	5.88	7.26
3.74	846.50	10,158.01	23.36	3.01	3.20	3.59	3.84	4.18	2.26	4.20	5.49	6.78
2.80	902.93	10,835.21	19.62	2.82	3.00	3.37	3.60	3.92	2.12	3.93	5.14	6.36
1.87	959.37	11,512.42	16.82	2.65	2.82	3.17	3.39	3.69	1.99	3.70	4.84	5.98
2.80	1,015.80	12,189.62	14.95	2.51	2.67	2.99	3.20	3.49	1.88	3.50	4.57	5.65

⁵¹ These percentages are counted from the bottom of the table

Household details				Housing developer								
				Abadahigwa Kuntego Ltd		Groupe Palmeraie Développement			Shelter Afrique			
Percentage of surveyed households	Monthly income in the US \$	Annual income in the US \$	Cumulative percentage of surveyed households ⁵¹	3-bedroom	2-bedroom, 1st and 2nd floor	2-bedroom, 2nd and 3rd floor and parking	2-bedroom, ground floor and parking	3-bedroom, 1st, 2nd & 3rd floor	1-bedroom	2-bedroom	3-bedroom	4-bedroom
				Number of units and unit price in the US \$								
				54	264	246	234	566	866	982	719	107
				30,535	32,500	36,500	39,000	42,500	22,953	42,627	55,743	68,859
1.87	1,072.23	12,866.82	12.15	2.37	2.53	2.84	3.03	3.30	1.78	3.31	4.33	5.35
1.87	1,128.67	13,544.02	10.28	2.25	2.40	2.69	2.88	3.14	1.69	3.15	4.12	5.08
1.87	1,185.102	14,221.22	8.41	2.15	2.29	2.57	2.74	2.99	1.61	3.00	3.92	4.84
2.80	1,241.535	14,898.42	6.54	2.05	2.18	2.45	2.62	2.85	1.54	2.86	3.74	4.62
1.87	1,297.968	15,575.62	3.74	1.96	2.09	2.34	2.50	2.73	1.47	2.74	3.58	4.42
1.87	1,354.402	16,252.82	1.87	1.88	2.00	2.25	2.40	2.61	1.41	2.62	3.43	4.24

Affordability rate

Affordable	Moderately unaffordable	Seriously unaffordable	Severely unaffordable

Data source: Field survey (July to September 2018 and January to March 2019) and review of housing price lists held by real estate developers.

Table 23 shows that a high percentage of households which cannot afford the housing units proposed by real estate developers in Kigali City have low incomes, compared to the small percentage of households which can afford these houses: more than 70 % of households in our case study are in the situation of serious and severe unaffordability, with an unaffordability index which is greater than 5.0. The results presented in Tables 22 and 23 reveal a significant degree of unevenness across the income ranges. A great proportion of developed affordable housing units are not affordable for most of the target beneficiaries. As stated previously, people who cannot afford them are the lowest-income groups (47 %) whose income is below 400 US dollars per month. Consequently, these people are excluded from the housing market, because their incomes are incommensurate with the prices of all housing units proposed in the current affordable housing schemes. This unveils some trends of inequity in the access to housing in Kigali City. Inequity issues related to the limited access to affordable housing units whose development is legally backed by the government, through various funding schemes and public policy, have been decried to be the patterns of spatial injustices in housing sectors (Arundel & Hochstenbach, 2019). In Kigali City development context, these trends show that the national aspirations of promoting inclusive cities through the development of mixed-income urban neighbourhoods as stated in the national urbanisation policy (Ministry of Infrastructure, 2015a, 2015b) cannot be achieved. The reason being that most of the low-income people in need of decent housing are still disintegrated into the planned settlement from this perspective of affordable housing schemes which are supported through the public funds. These people cannot afford any of the 1- to 3-bedroom housing units. Our results also reveal that the 4-bedroom houses proposed by Shelter Afrique are not affordable for all low- and middle-income households in Kigali City. However, such a housing unit is suggested among the affordable houses in the current affordable housing packages under development. Though it represents 2.6 % in these packages in our unit of analysis, it should not be out of reach for these categories, since its accessibility can help in curbing the problem of housing in Kigali City where the size of a parent family can go up to 6 people or more (MINICOFIN & NISR, 2014; National Institute of Statistics of Rwanda, 2015).

In the analysis of affordability, the above discussed results were obtained using the housing-price-to-income ratio, based on the total prices of a house unit and the median household annual income. Since most of the households in Kigali City use the bank loans to fund and purchase their houses, as confirmed by 73 % of our respondents and the existing studies (Centre for Affordable Housing Finance in Africa, 2018), we undertook an in-depth analysis on affordability, using the bank loan at 30 % of the household incomes and for 20 years as the bank loan term, as stated in the current Rwandan affordable housing schemes (Government of Rwanda, 2015d). The results of the analysis reveal similar trends, portraying a high degree of unaffordability indices, as presented in Table 24 below. As suggested in this analytical approach, a good affordability index should be equal to or below 30 %. However, our results show that the percentage of households which can afford any housing unit among the house proposed by all real estate developers is very low. In the housing package of the *Abadabigwa*

Kuntego Ltd, this percentage is less than 15 %. These households earn more than 1,000 US dollars per month. The percentage of people who can enjoy the moderate affordability index is 12.15 % only. Generally, these figures show that less than 28 % of households in Kigali City, which earn more than 790.07 US dollars per month, can afford the housing units proposed by *Abadabigwa Kuntego Ltd*. This percentage is even lower than the percentage (35.51 %) of households which can afford these housing units using the gross annual income as shown in Table 24. This is linked with increase in each housing unit price, driven by the loan interest rate and various transaction costs associated with the bank loans. Thus, the number of people who can afford the housing unit in this case decreases (Iyandemye et al., 2018). These trends of housing unaffordability for the large number of Kigali City inhabitants is observed through the housing units proposed by *Groupe Palmeraie Développement* and Shelter Afrique as Table 24 shows.

Table 24: Housing affordability indices based on bank loan at 30 % of the household monthly income

Household details					Housing developer								
					Abadahigwa Kuntego Ltd		Groupe Palmeraie Développement			Shelter Afrique			
Percentage of surveyed households	Monthly income in US \$	Annual income in US \$	Percentage of surveyed households	Cumulative percentage of households ⁵²	3-bedroom	2-bedroom, 1st and 2nd floor	2-bedroom, 2nd and 3rd floor and parking	2-bedroom, Ground floor and parking	3-bedroom, 1st, 2nd & 3rd floor	1-bedroom	2-bedroom	3-bedroom	4-bedroom
					Number of units and unit price in the US \$								
					54	264	246	234	566	866	982	719	107
					30,535	32,500	36,500	39,000	42,500	22,953	42,627	55,743	68,859
17	225.73	2,708.80	15.89	100	130.68	139.11	155.94	166.57	181.63	98.35	182.08	238.34	294.60
12	282.17	3,386.00	11.21	84.11	104.55	111.28	124.75	133.25	145.31	78.68	145.66	190.67	235.67
10	338.60	4,063.21	9.35	72.9	87.13	92.74	103.96	111.05	121.087	65.56	121.38	158.89	196.39
8	395.03	4,740.41	7.48	63.55	74.68	79.48	89.11	95.18	103.78	56.20	104.04	136.19	168.34
7	451.47	5,417.61	6.54	56.07	65.35	69.55	77.97	83.28	90.82	49.17	91.04	119.17	147.30
5	507.90	6,094.81	4.67	49.53	58.08	61.82	69.31	74.03	80.73	43.71	80.92	105.93	130.94
6	564.33	6,772.01	5.61	44.86	52.28	55.64	62.37	66.63	72.65	39.34	72.83	95.34	117.84
4	620.77	7,449.21	3.74	39.25	47.52	50.58	56.71	60.57	66.05	35.76	66.21	86.67	107.13
4	677.20	8,126.41	3.74	35.51	43.56	46.37	51.98	55.53	60.54	32.78	60.69	79.45	98.19
5	733.63	8,803.61	4.67	31.77	40.21	42.81	47.98	51.25	55.88	30.26	56.03	73.34	90.64
4	790.07	9,480.81	3.74	27.1	37.34	39.74	44.56	47.59	51.89	28.09	52.03	68.09	84.17
4	846.50	10,158.01	3.74	23.36	34.85	37.09	41.58	44.42	48.44	26.23	48.55	63.56	78.56
3	902.93	10,835.21	2.80	19.62	32.67	34.77	38.98	41.64	45.41	24.58	45.52	59.58	73.65

⁵² Similar as for 3

Household details					Housing developer								
					Abadahigwa Kuntego Ltd		Groupe Palmeraie Développement				Shelter Afrique		
Percentage of surveyed households	Monthly income in US \$	Annual income in US \$	Percentage of surveyed households	Cumulative percentage of households ⁵²	3-bedroom	2-bedroom, 1st and 2nd floor	2-bedroom, 2 nd and 3 rd floor and parking	2-bedroom, Ground floor and parking	3-bedroom, 1st, 2nd & 3rd floor	1-bedroom	2-bedroom	3-bedroom	4-bedroom
					Number of units and unit price in the US \$								
					54	264	246	234	566	866	982	719	107
					30,535	32,500	36,500	39,000	42,500	22,953	42,627	55,743	68,859
2	959.37	11,512.42	1.87	16.82	30.75	32.73	36.69	39.19	42.74	23.14	42.85	56.08	69.32
3	1,015.80	12,189.62	2.80	14.95	29.04	30.91	34.65	37.02	40.36	21.85	40.47	52.97	65.46
2	1,072.23	12,866.82	1.87	12.15	27.52	29.28	32.83	35.06	38.24	20.71	38.34	50.18	62.03
2	1,128.67	13,544.02	1.87	10.28	26.14	27.82	31.18	33.32	36.33	19.67	36.42	47.67	58.92
2	1,185.102	14,221.22	1.87	8.41	24.89	26.49	29.71	31.73	34.59	18.73	34.68	45.40	56.12
3	1,241.535	14,898.42	2.80	6.54	23.76	25.29	28.35	30.28	33.03	17.88	33.11	43.34	53.57
2	1,297.968	15,575.62	1.87	3.74	22.73	24.19	27.12	28.97	31.58	17.11	31.67	41.45	51.24
2	1,354.402	16,252.82	1.87	1.87	21.78	23.18	25.98	27.76	30.27	16.39	30.35	39.73	49.10

Affordability trends

Affordable	Moderately unaffordable	Unaffordable
Less than 30 % of household income	Between 30 and 40 % of household income	Over 40 % of household income

Data source: Field survey (July to September 2018 and January to March 2019) and review of housing price lists held by real estate developers

As Table 24 shows, the percentage of households which can afford the housing units proposed by *Groupe Palmeraie Développement* varies between 12.15 % and 27.1 %, if we consider the good and moderate affordability indices. As for *Shelter Afrique*, its housing units are mostly not affordable for Kigali City dwellers, except for the 1-bedroom house, which can be afforded by 44.86 % of the city households. Nevertheless, this type of housing unit does not attract buyers, since it cannot fit the large family size as mentioned previously. Generally, these figures demonstrate that the percentage of households which can afford the housing units developed under the affordable houses schemes is very low. They also show that the very-low-income households cannot afford any housing unit, since it requires that they pay more than 100 % of their incomes for all housing units proposed by the real estate developers. Therefore, the affordable housing schemes under implementation in Kigali City do not solve the problem of housing for the people who should be the most beneficiaries of these schemes.

Our findings concur with the opinions of most participants to this study. They contend that the total cost of most of housing units developed under the affordable housing schemes is very high and this makes them unaffordable. This was stated by our key interviewees and 76 % of the heads of households who participated in the survey. In commenting on these costs (and by referring to the use of bank loans), they argued that the high price of each housing unit is driven by the loan interest rate and other bank charges paid by the buyers. As they stated, they find the price of any unit of the so-called affordable houses very prohibitive when compared to the cost of a housing unit developed through self-help construction approach. In criticising the costs of these affordable houses, some of our respondents maintained that *“it is surprising to hear that a 4-bedroom house is being sold at the price of 68,000 US dollars or more, while it may cost less than 40,000 US dollars, land price included, through self-help construction”*. Departing from this argument, 100 % of the respondents stated that *“besides being unaffordable for most of Kigali City inhabitants, these houses are very expensive, when compared to the costs of housing units built-up using similar material and which are on sale on the general local market”*. Based on this trend of unaffordability, participants to our household survey have suggested that the government and the real estate developers should find another term to use, instead of calling it *“affordable”*. These respondents stated that *“the prices for most of these houses are very high, if one could relate these prices to what affordability really means.”* They went on and asserted that *“affordability means that someone can purchase a housing unit, using part of his/her income and reserve another part for other needs. However, even if most of Kigali City inhabitants should use their entire incomes, they cannot afford these houses. They are being developed for rich people”*. Yet, these respondents pointed out that the housing units developed by the *Abadabigwa Kuntego Ltd* (one of the three agencies under study) are affordable for some categories of Kigali City dwellers as Tables 23 and 24 show. This was stressed by six respondents who mentioned the names of people that they know and who live in houses purchased from this real estate developer.

The question of housing unaffordability was not pointed by Kigali City households only. Through our interviews, 4 out of 6 government officials who follow up the implementation of

the affordable housing schemes were also cognisant of the high prices of the housing units developed throughout these schemes. They asserted that the low-income groups cannot afford these houses. They commended that other options for promoting housing affordability in Kigali City should be investigated. Apart from the high cost for construction material, these key informants contended that other factors of unaffordability include the expensive internal installations, comprising the kitchen and bathroom. This concurs with findings of the existing studies echoing that the high costs of imported construction materials and internal installations are among factors for housing unaffordability in Kigali City (Centre for Affordable Housing Finance in Africa, 2018; World Bank Group, 2019). The investment profit set by the real estate developers was also questioned by our key informants. Based on data we collected from the real estate developers and through the review of the existing studies on housing affordability in Kigali City, this profit varies between 18 % and 20 % of the construction cost of each housing unit (Centre for Affordable Housing Finance in Africa, 2018; Planet Consortium, 2012). Our informants critically maintained that this profit expected by the real estate developers makes the cost of each housing unit very expensive. In addition, the high salaries of the foreign engineers and local experts employed in the construction of these houses is also a factor of increases in the current housing prices.

In the discussion about the triggering effect of this factor on the sale price of each housing unit, our interviewees referred to *Abadabigwa Kuntego Ltd* which employs local experts only, while the experts and technicians hired by other agencies include foreigners whose salaries are relatively high as stated by these informants. This effect is captured in the prices of their houses, which are relatively higher than the prices of houses developed by *Abadabigwa Kuntego Ltd* as Table 24 shows. The issue of prohibitive prices of the affordable housing units received much momentum during our interviews with researchers and policy makers. Like participants in our household surveys, these interviewees contended that *“the concept of affordability is abused. The housing schemes under implementation should be termed differently, because they deliver housing units which are not affordable for most Kigali City inhabitants”*. This problem of unaffordability was stressed by one of participants to the interviews who had been a University Lecturer. He is currently a consultant for urban development, planning and management. He stated as follows: *“how can these houses be affordable since none of the more than 74 % of public servants can afford any housing unit among them?”* He was referring to the incomes of most of Kigali City dwellers who are employed in education and health sectors and security forces (police, military) and whose salaries varies between 109.92 and 329.75 US dollars per month. Together with other participants in this study, he suggested different options through which the current high housing prices in Kigali City could be decreased to promote access to housing for all categories of its inhabitants. The next section presents and discusses these options, based on qualitative analysis of data collected through these discussions and the literature review on housing affordability.

8.5.2. Strategies to promote housing affordability in Kigali City

Curbing the problem of housing affordability in Kigali City is very crucial since the prices of the available housing units on the market are very prohibitive. This is mainly due to the very low monthly wage of most households which is 253.00 US dollars in average (World Bank Group, 2019). This section foregrounds on the above findings to suggest various approaches for promoting housing affordability, not only from the perspective of the affordable housing schemes under implementation, but also from the general framework of enhancing access to decent houses for all Kigali City inhabitants. These approaches include the development of low-cost housing units which can be rented by the low-income people, progressive housing ownership rights acquired through rent-to-own approach, self-help construction using local construction materials, improving the existing housing units through informal settlements upgrading. Other approaches can consist of decreasing the costs of the so-called affordable houses through tax exemption on the imported construction materials and housing sale and setting low-profit interests in combination with increased supply of the low-cost housing units to various income categories. Decreasing housing costs should generally consist of developing various housing units which can be afforded by the lowest-income urban dwellers who are interested in acquiring decent houses from the affordable housing schemes (Gurran & Whitehead, 2011). It also provides this group of urban inhabitants with the possibility of living well and enjoying the city life from a spatial justice perspective.

8.5.2.1. Access through private low-cost rental housing

The development of the low-cost houses that can be afforded by low-income people through rent arrangement has been conceived among possible options to promote access to housing for these categories of households. This option was supported by our key informants during the survey. They suggested that Kigali City authorities and the Government of Rwanda should set up housing schemes that facilitate the development of a large number of housing units that Kigali City dwellers can access through long-term rent. This approach is largely applied in many countries that support the rental housing development project and therefore promote long rental tenancies for the poor and low-income groups who are unable to own their dwellings due to limited financial resources. For instance, various European countries have housing development regulations which require real estate developers to reserve at least 20 % of the zoned for residential land for the low-cost houses, that can be rented by the poor and low-income people (Norris, 2006). It also requires setting up regulations which permit the preservation of the affordability at the reach of these people, at or below the 30 % of the household income (O'Sullivan & de Decker, 2007; O'Dell et al., 2004). This approach for low-cost housing development is commonly referred to as inclusionary housing which tends to maintain housing units at the reach of the low-income groups, and therefore promote their integration in the growing urban fabric (de Kam et al., 2014; Klug et al., 2013; Mulligan, 2010). In any country, the inclusionary housing approach can be a government choice, by making it

mandatory or voluntary for the real estate developers, with respect to the existing housing policy or affordable housing schemes (Mukhija et al., 2015; Schuetz et al., 2009). Respondents to our survey questionnaires and participants to our interviews suggested that the government of Rwanda can introduce this affordable housing development option in collaboration with real estate developers. Some of the most applied options include the release of government-owned land within the urban footprint and provision of housing development subsidies in order to curtail the costs of each housing unit (van den Nouwelant et al., 2015). In Kigali City context, our key informants suggested that the government should apply the housing subsidies approach and collaborate with different agencies such as RHA, RSSB and BRD which are among the key actors in housing sector, to develop affordable houses which can be accessed by low-income households.

8.5.2.2. Progressive housing ownership through rent-to-own

The rent-to-own option is also among other practical alternatives for the low-income households whose financial resources are very limited and do not allow them to directly purchase their own houses through a down payment. It is applied in the sake of enhancing access to housing for a large number of households, within the limits of their employment contracts or incomes which are the main conditions for the rent-payment (Szüdi & Kováčová, 2016; Turk, 2019). It may be introduced in Kigali City through the public housing funding schemes. This housing schemes is also encouraged by the Rwandan national housing policy which highlights the crucial role of the government in supporting the housing market to foster access to housing for all income groups, with specific consideration of the lowest income earners (Ministry of Infrastructure, 2015a).

However, the introduction of the rent-to-own approach can require the revision of the current affordable housing loan schemes so that the real estate developers may be granted long-term loans at low-interest rates, since it will also take long for the buyers to cover the total cost of the house. Participants to this study suggested that RSSB, which manage pension contribution paid by all public and private employees, as well as the BRD, which manages large funding schemes related to country development, may contribute to the development of these houses, which could be sold to the low-income earners through the rent-to-own approach. To promote housing accessibility for the large number of households through the rent-to-own housing ownership approach, a long-term affordability period is suggested (Speck, 2018). In developed and countries with emerging economies the affordability is generally set at 30 years to provide different low-income groups with enough period to cover the cost of housing (de Duren, 2018). In fact, the long affordability duration increases the likelihood that households can be able to pay for their housing units, within the limit of their incomes

8.5.2.3. Decreasing housing costs and change in investment strategies

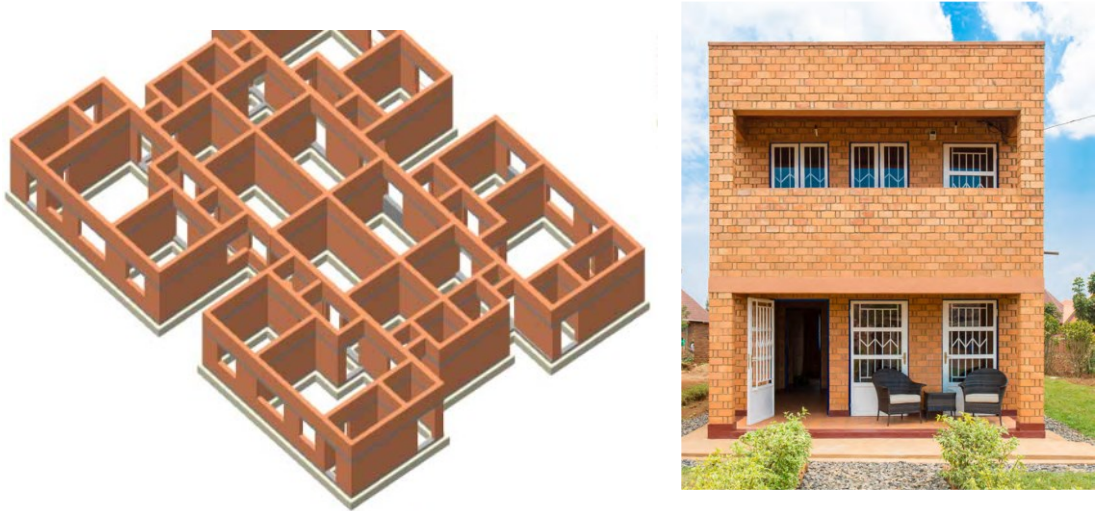
As suggested by different studies on housing market in Kigali City (Gardner et al., 2019; Tsinda & Mugisha, 2018) and our key informants, real estate developers should shift from developing very expensive houses to low-cost houses which can be purchased at reasonable prices. For instance, 86 % of the participants to this study criticized the RSSB, which is the main actor in real estate development, and its partner called the Ultimate Developers Ltd (UDL) for developing very expensive and luxury houses whose prices are out of reach for most Rwandans. Based on data collected from the offices of these organisations, the prices of some of their houses are set as follows: 71,600 US dollars for a 2-bedroom apartment, 107,600 US dollars for a 3-bedroom apartment, 208,600 US dollars for a 3-bedroom apartment, and 226,460 US dollars for a 4-bedroom apartment. The analysis of their affordability using the PIR ratio suggests that to obtain a good affordability index which is equal to or less than 3, the buyer should have a monthly income ranging between 2,000 and 6,300 US dollars. Notwithstanding, less than 4 % Kigali City households earn a monthly gross income which is greater than 1,000 US dollars (Centre for Affordable Housing Finance in Africa, 2018; Iyandemye et al., 2018). This means that Kigali City inhabitants cannot afford these luxurious housing units.

This problem of unaffordability has been already experienced by these agencies which reduced their prices at 60 % for the developed housing units, but vainly remain unaffordable for Kigali City dwellers. Based on these non-promising experiences, these agencies were largely criticised by our interviewees. One of them stated that: “*Decision makers from RSSB are aware of the incomes of employees in public and private agencies through their contribution to pension schemes*”. However, this (RSSB) agency develops housing units that none of these employees can afford, not even a one-bedroom apartment among the developed housing units”. Around 78 % of our informants recommended that the RSSB and UDL should revise their business models so that they can develop low-cost houses which are affordable for most of employees in public and private sectors since they (these employees) are among the target clients, for whom these houses are developed. Our informants went on and stated that Kigali City inhabitants use their own incomes to develop their houses through self-help construction so that real estate developers should invest in low-cost houses, affordable for the low and middle incomes, otherwise the investments of these agencies will vanish due to lack of buyers.

As suggested in many studies, there is a need of a shift from high-cost housing units to the development of massive and low-cost residential buildings (at low profit, like 10 % or less, as suggested by our interviewees) which can be sold to a large number of Kigali City inhabitants. The cost of the construction material also inhibits housing affordability. As stated by the World Bank, the cost for a housing unit is 20 to 30 percent higher in Rwanda than in Nairobi (Kenya) and Johannesburg (South Africa). The reason being that some of the construction materials are imported from East and South Africa, UAE and China. The most imported materials are

cement, steel products, porcelain, and many interior installations such as plumbing and electrical goods (Centre for Affordable Housing Finance in Africa, 2018; Planet Consortium, 2012; World Bank Group, 2019). These materials are generally more than 50 percent more expensive than the same products in East and South Africa (World Bank Group, 2019). This requires strategies that can help to decrease their cost, in order to make the produced housing units affordable. For instance, there can be options for the substitution of the cement through the use of cheaper alternatives. Some studies have estimated the substitution of the cement by the fly ash or pozzolana material up to 35 % without compromising the quality of the houses (Shinde & Karankal, 2013). Studies carried out by Skat Consulting Rwanda, a Swiss company operating in housing sector in Rwanda, have demonstrated that using the modern brick duplex, comprising the RCC-reinforced Rowlock-Bond made of modern bricks (see Figure 43 below) can contribute to the decrease of the cost of each housing unit (Skat Consulting Rwanda Ltd, 2017).

Figure 43: Modern brick duplex and model houses proposed by Skat



Data source: Skat Consulting Rwanda Ltd (2017)

Skat Consulting Rwanda proved that these construction materials can be used in constructing both single houses and apartments up to 4 floors. Their experiments show that the construction of a 3-bedroom unit can cost less than 13,544 US dollars and a 5-bedroom unit can cost 28,216 US dollars, including all installations, tax and profits, but land excluded (Skat Consulting Rwanda Ltd, 2017). If compared to the prices of housing units developed by real estate developers using the cement blocks or burned bricks, the cost for these housing units vary from 28,950 to 42,500 US dollars and from 68,000 and 68,859 US dollars for the 3- and 4-bedroom housing units respectively (field survey, January-March 2019). These prices are very high indeed so that changes in construction material need to be adopted in order to decrease housing prices. As suggested in the existing studies, decreasing the cost of construction materials should also consist of promoting the local construction industry through strengthened professionalism and skills that can result in the increased local material

production at moderate prices. Employing the local professionals during the construction works has also been suggested among these mechanisms for decreasing the price of each housing unit (Ministry of Infrastructure, 2015a; Tsinda & Mugisha, 2018; World Bank Group, 2019).

Along these lines, participants to our survey have suggested the exemption of the tax levy on construction materials imported by real estate developers who actively participate in the implementation of affordable housing schemes. As stated in the introduction, the investment law grants the preferential corporate income tax rate of zero per cent (0 %) to real estate agencies whose investment capital is equal to or greater than 10,000,000 dollars (Government of Rwanda, 2015a) to encourage the investment in different sectors of socio-economic development in Rwanda. This tax exemption may also be applied to all investors in affordable housing (including companies whose capital is lower than the above-mentioned amount), in order to encourage investment in housing and promote its affordability for the low-income people. Tax exemption can also result in increased incentives for real estate developers to invest in affordable housing programmes in Kigali City. Based on our field survey data, by the year 2018, more than 14 agencies had registered with the RDB for investment in affordable housing development. They intended to launch the development of 25,000 housing units by 2016 (Tsinda & Mugisha, 2018). However, 8 of these agencies have been discouraged by the high cost of housing construction and therefore have not yet started their projects, due to fear of not selling the developed houses since they cannot be affordable for Kigali City inhabitants as stated by our key-informants during the field surveys. Other currently operational real estate developers have been running their projects since the year 2015 are expected to produce 5,598 housing units. While the annual demand is 20,000 housing units (World Bank Group, 2019), the current rate of housing production is very insufficient to satisfy this demand. Therefore, tax exemption should be highly applied for real estate developers who are interested in producing low-cost housing units which can be accessed by lowest-income segments either through sale or long-term rent. It has a further advantage of preventing informal settlement growth, if the beneficiaries can no longer use the informal housing development as an alternative to access housing in the urban areas (Hansmann, 1991; Sara, 2018).

Taxation can significantly affect the cost of a housing unit in Kigali City. For example, the proposals on affordable housing development accessed from two of the agencies which participated in this study show that a tax levy of 14.80 % of the total project budget is included in the housing cost. Similarly, the World Bank mentions that a value-added tax of 15 % is included in the housing cost (World Bank Group, 2019). This tax has been mentioned among the factors contributing to the high cost of each affordable housing unit. If this tax is exempted, the price for each housing unit can decrease. Yet, the tax exemption may raise many debates. Still, it may be discussed from the compromise of win-lose or lose-win approach asserting that one can attain the desired positive outcomes at the expenses of the other interests in order to solve crucial social problems (Dettmer, 1997, p. 125; Nielsen, 2009). It is

in this context that various developed countries adopt this tax exemption approach in order to meet the housing needs of the low-income people and achieve the national aspiration of the social welfare (Sara et al., 2018). Political leaders and decision-makers in Rwanda may choose the lose-win approach, through tax exemption, in order to achieve the national goals of inclusive urban development, and promoting access to housing for all categories of Rwandans as stated in the current urbanisation and housing policies (Ministry of Infrastructure, 2015a, 2015b). Yet, this can be combined with the adoption of zoning regulations which can permit the poor and low-income households to develop their houses through self-help construction approach. Tax exemption strategy has been applied in developed countries through tax exempt bonds which allow for the development and supply of low-cost housing units. However, its application requires strict regulations and control so that the recipient agencies cannot invest in the luxury houses which are not affordable for the low- or moderate-income groups (Randolph, 1982).

8.5.2.4. Access through self-help housing development using local materials

To curb the problem associated with the financial burden for Kigali City inhabitants in accessing decent houses, other options should be considered. This can consist of using low-cost materials such as the adobe bricks, and self-help construction, in combination with the incremental housing development approach as shown in Figure 44. This approach can improve the distribution of material resources, through land-use planning approach that creates the room for the urban space users to have access to housing, since ensuring the adequate mechanisms for lower-income households to access housing is a prime objective of the regulatory urban (re)development (Fainstein, 2014; Uwayezu & de Vries, 2018).

Figure 44: Model for single family houses under development in Kigali City



Data source: Field survey (July-September 2018 and January-March 2019)

Figure 44 shows that it is possible to develop a single-family house using local materials like adobe bricks and improve it until it looks as good as a house constructed using the cement blocks or burned bricks. Based on our field data, the cost of the construction of the former is estimated at 19,785.02 US dollars, against 32,975.12 US dollars for the latter. The cost analysis using the housing-price-to-income ratio approach shows that this low-cost house (in adobe bricks) can be affordable for all households whose earning is at least 400.00 US dollars per month. However, this self-help housing construction option using the local material has limitations that can inhibit its application by most Kigali City inhabitants. It requires large tracks of land while the buildable land in Kigali City is very limited. The current master plan of Kigali City allocates a ratio of 12 % of the buildable urban land to these low-cost houses (City of Kigali, 2013). This study, therefore, suggests other options that may consist of developing multi-storey houses, over a limited space. These houses may be developed by the middle-income and rich people, through a condominium approach as suggested in Figure 45.

Figure 45: Self-help construction using durable material in a condominium approach



Data source: authors design

Figure 45 proposes a model for shifting from the single houses to multi-storey houses for the sake of promoting densification and access to decent houses for most urban dwellers. This approach is also encouraged in the current master plan of Kigali City. Based on our findings, which revealed that the prices for the so-called affordable houses proposed by real estate developer are very prohibitive, this study suggests that different families can buy one plot of land and develop such model of multi-storey houses using their funds, in the framework of the condominium ownership arrangements. This option is grounded on the analysis of the price of

a 3-bedroom apartment housing unit, proposed by two real estate developers (Groupe Palmeraie Développement and Shelter Afrique). The mean price is 49,121.50 US dollars. If three families buy a land at 10,991.67 US dollars (based on the land prices collected during our survey and Uwayezu and de Vries, 2019), they can develop a two-floor house at 113,799.87. If we add the cost for the land, the total cost can, therefore, be 124,791.54 for 3 housing units, against 147,364.5 US dollars that they should pay if each of them purchases a single house from these real estate developers. For a three-floor house, self-constructed by 4 families, the total cost is estimated at 179,702.22 US dollars, against 196,486.00 US dollars that they should pay to private developers if each family purchases one apartment unit⁵³. In each of these two scenarios, one family can occupy the housing unit on the ground floor. It is also worth noting that this study found that the price for a 3-bedroom apartment sold by real estate developers operating on the general housing market in Kigali City can culminate up to 74,607.05 US dollars (see also⁵⁴).

Generally, our study reveals that Kigali City dwellers can develop their own houses through self-help construction of these forms of multi-storied houses at the prices which are lower than those proposed by most private real estate developers who are also among the providers of the so-called affordable houses. Therefore, the self-help housing development option, through the condominium form of tenure, can be cost-effective for Kigali City inhabitants if they collaborate towards meeting their needs in housing. Besides, this form of tenure is supported by the current Rwandan land and condominium law and urban development policies. These legal instruments promote the condominiums to counter the shortage of residential land and promote the urban densification that would result in optimal use of the limited residential land (Government of Rwanda, 2010, 2015b; Ministry of Infrastructure, 2015b). However, this option requires change in the individuals' tenure structure, through a shift from private to common property system which also spurs the social mix in the urban (re)development. In this fashion of promoting the social mix, this study recommends the improvement of the existing residential housing units through informal settlement upgrading in a bid to promote the integration of the poor and low-income people in the urban fabric.

8.5.2.5. Improving the existing houses through informal settlements upgrading

Since more than 70 % of Kigali City inhabitants live in informal settlements and constitute the number of people who are highly in need of decent houses (Ministry of Finance and Economic Planning, 2013), the practical option to mitigate their problem of access to decent houses should consist of upgrading the existing houses in these settlements. Clearing most of these

⁵³ These costs were calculated based on different housing designs and estimates of their costs collected from different engineers and architects operating on the housing market in Kigali City

⁵⁴ <https://www.newtimes.co.rw/news/prices-vision-city-homes-slashed-60-civil-servants>

settlements as recommended in the current master plan of Kigali City can result in another burden, consisting of increased demand in new houses whose supply has remained very limited (Manirakiza & Ansoms, 2014; Michelon, 2009; Tsinda & Mugisha, 2018). Still, many studies have proved how informal settlements upgrading operations in various countries have contributed to the curbing of the housing affordability problem, for the poor and low-income urban dwellers in developing cities (Muchadenyika & Waiswa, 2018; Tian *et al.*, 2018). In Kigali City, this operation would consist of providing some basic amenities, such as good road networks, public lighting, sanitation and drainage systems and the protection of hazard-prone areas, preceded by the relocation or expropriation of the affected people. It should also consist of setting up urban renewal regulations which allow the property owners to improve or consolidate their houses. This option of informal settlement upgrading is propelled by the increasing demand in affordable housing that the current housing supply does not satisfy as stated in various studies on housing market in Kigali City (Gardner *et al.*, 2019; Rwanda Housing Authority, 2014, 2017a, 2017b). On the government side, upgrading informal neighbourhoods can be cheaper than developing new urban neighbourhoods which require many investments in the provision of basic infrastructure in the new residential areas.

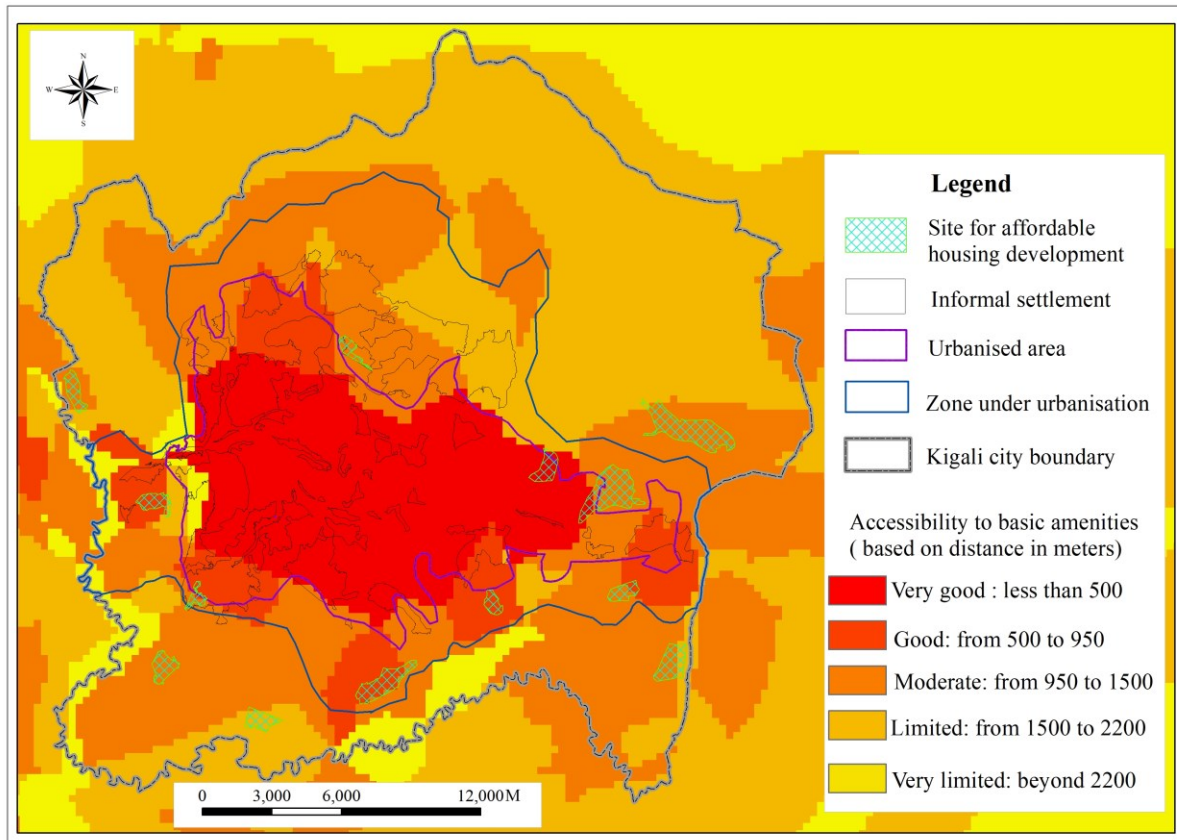
As stated by housing development scholars, realizing new housing development requires many investments from the government in term of providing infrastructure and other public services such as roads, water, electricity, waste management systems, health and education facilities and other services which become a public burden (Smets & van Lindert, 2016). Some of these scholars estimate the cost for land and infrastructure at 60 % of the total cost of any large-scale housing development project (de Duren, 2018; World Economic Forum, 2019). To decrease this cost, it would be better to upgrade the existing houses when some of these basic facilities such as water, electricity, public transportation services exist. Therefore, this should be applied in Kigali City informal settlements, since more than 80 % of the existing houses have connections to water and electricity supply systems, with access to education and health facilities, and road networks in most of these neighbourhoods (Ministry of Finance and Economic Planning & National Institute of Statistics of Rwanda, 2014; National Institute of Statistics of Rwanda, 2015; Uwayezu & de Vries, 2019a). Informal settlement has also an added advantage of promoting participatory approach of urban space co-production (Cole & Goodchild, 2000), where informal settlements' dwellers take part in the transformation of their neighbourhoods, improving their conditions and feeling integrated in the urban fabric (Nunbogu *et al.*, 2018). Central to the implementation of these options suggested in this study is the increased recognition of the rights of the poor and low-income dwellers to housing and their integration into the urban fabric which become also the driver sustainable and inclusive cities.

8.5.2.6. Slum conversion into shared residential apartments

As stated in the previous section, one way of minimising the costs of basic amenities and services required for the implementation of affordable housing projects would be the transformation of the existing informal settlements which are close to these amenities and services. As an alternative to their upgrading processes, these settlements can be converted into modern houses, in the form of shared apartments. This option for affordable housing development can be attractive to real estate developers since most of the informal settlements are located in the proximity of urban employment centres which generally are inevitable locations for low-income groups who are the prospective buyers of affordable houses (Gopalan & Venkataraman, 2015; Smets & van Lindert, 2016). Some experiments that consisted of converting informal settlements in affordable houses were successful in Maputo (Mozambique), Nairobi (Kenya), and Ahmedabad (India), through land adjustments and the development of multi-storey apartments. Property owners were provided with units of houses built on their plots based on the market values, while the other units were sold to other urban inhabitants at the prices determined according to the requirements of affordable housing schemes (Bah *et al.*, 2018a; Centre for Affordable Housing Finance in Africa, 2018; Mahadevia *et al.*, 2018).

Reducing the costs for basic amenities and services may therefore result in low housing prices and thus increased opportunities for many low-income dwellers to afford decent houses. Yet, the existing amenities and services may need to be upgraded, while the cost for land can be exchanged against the provision of new housing units to the existing informal settlers. If this housing development option is implemented through the partnership between the government, real estate developers and property owners, the balance of funds which could be allocated to the provision of the basic amenities and services may be allocated to property owners whose properties values are lower than the cost of the developed houses in order to help them access new housing units within the developed apartments. Its implementation can be done according to the resources allocation theory (Bower, 2018; Chichilnisky, 1996), which suggests the following main steps: (1) temporal evacuation of a limited number of the affected property owners in other areas through rent tenure in other urban neighbourhoods, (2) development of a part of the neighbourhoods under conversion, (3) return of the displaced property owners and their resettlement in new houses as well as for other property owners who were not displaced, (4) development of the other part of the neighbourhood whose housing units will be sold to other urban dwellers. We suggest this approach among possible options for developing affordable houses in Kigali City. In fact, currently the sites identified by RHA and Kigali City for the development of affordable houses are all located in the urban fringes, with limited availability of basic amenities and services which are already developed in informal settlements as shown in Figure 46.

Figure 46: Spatial distribution of the affordable housing projects and informal settlements in Kigali City



Data source: Field survey (July to September 2018)

Figure 46 shows that the current informal settlements are located in the core urban area, where access to basic amenities and services such as water, electricity, transportation networks, education, and health facilities is very good and decreases towards the urban fringes where some of the affordable housing units are planned. By referring to Figure 46, we believe that the conversion of informal settlements into multi-storied affordable housing has also the advantage of reducing the consumption of residential land through densification. In studies carried out by Skat, the average number of housing units recorded in informal settlements in Kigali City is 55 per Ha, while the current building regulations recommend a minimum of 120 units per Ha (Government of Rwanda, 2015b). The same studies demonstrated that if informal settlements are converted into multi-storey houses with at least two floors, 120 housing units with parking places and basic facilities can be developed on 1 Ha. This approach can, therefore, be a possible option for developing high-rise residential houses, which can accommodate many an urban inhabitant. Their development can be conceived in a mixed property regime approach where a single land parcel is divided horizontally (and often vertically) into separate and specific residential units, which are individually owned by diversified households (from the socio-economic statuses), while the ownership of the land and other common properties is shared (Harris, 2011).

Additionally, it has also an advantage of decreasing the risk of displacement associated with informal settlement clearance. We acknowledge that this option of developing affordable housing through the conversion of informal settlements is not easy. However, it has been successfully implemented in some countries as mentioned previously. Its application requires structural changes in urban planning and (re)development, including fair negotiation of the compensation options, with due consideration of social and economic conditions of the informal settlement dwellers, and close collaboration between the government actors, the real estate developers and these urban dwellers (Dikeç, 2001; Makhzoumi & Al-Sabbagh, 2018; Takeuchi *et al.*, 2008).

These options also exhibit the need for policy intervention and practical strategies to ensure that affordable housing schemes as well as various urban (re)development programmes promote spatial justice in the urban space and permit to integrate the urban poor and low-income in the urban fabric. Their connection to different forms of spatial justice is established in Table 25.

Table 25: Synthesis of options proposed option for enhancing access to housing in relation with spatial justice forms

Strategies	Forms of spatial justice			References
	Procedural	Recognitional	Redistributive and intra-generational	
Rental housing approach	<ul style="list-style-type: none"> - Housing schemes include low-cost housing units to be rented to poor and low-income urban dwellers. - Housing policy and related regulations set the maximum rent cost within the boundaries of each household income. 	Rights to decent housing for the poor and low-income people are recognised in both housing development schemes and their implementation processes.	Housing schemes provide the poor and low-income urban dwellers with the opportunities to access decent housing through affordable rental houses.	(Jonkman <i>et al.</i> , 2018)
Progressive housing ownership through rent-to-own	<ul style="list-style-type: none"> - Inclusion in the housing schemes of the low-cost housing units that the low-income people can own through long-term rent-to-own contracts. - This requires affordable housing funding schemes that grant real estate developers the housing development loans at low interest rates. 			
Decreasing housing costs and change in investment strategies	<ul style="list-style-type: none"> - Tax exemption on imported construction materials and housing sale. - This requires a government decision in order to enable the real estate developer to produce low-cost housing units, affordable for various households. - Setting profit interests at low rates and increasing the number of affordable housing units for sale. 	<ul style="list-style-type: none"> - Increased recognition of the rights to housing for the low-income people by the government and real estate developers. - Decreased housing cost burden and promotion of access to decent houses for the low-income people. 	Tax exemption is generally recommended for housing units whose target beneficiaries are the lowest-income groups. Sale of these houses must be restricted to other income categories like the middle and rich classes.	(Gardner <i>et al.</i> , 2019; Shinde & Karankal, 2013)
Self-help housing development	<ul style="list-style-type: none"> - Inclusion of low-cost housing residential zones into the master and local development plans. - Housing development standards are aligned with the household incomes. - This requires also participatory planning and community involvement in devising housing development standards. 	<ul style="list-style-type: none"> - Increased recognition of poor and low-income people's rights to housing. - Integration of these categories of urban dwellers in the urban fabric. 	<ul style="list-style-type: none"> - Mixed-income residential neighbourhoods. - Land plotting includes residential plots allocated to the poor and low-income people. 	Amoako & Frimpong Boamah, 2017; Hamid & Mohamed Elhassan, 2014
Informal settlement upgrading or conversion into modern apartments	<ul style="list-style-type: none"> - Inclusive and participatory urban redevelopment schemes include the options for upgrading the large number of informal settlements, regarding the physical conditions of the landscape. - The local community is engaged in these activities and provided with the permissions to upgrade their dwellings. - Housing improvement through self-help and community partnership can be less expensive than clearing the existing housing units and developing new ones. 	<ul style="list-style-type: none"> - Informal settlements are formally recognised among the urban neighbourhoods. - Increased opportunities for the poor and low-income people to maintain their access to housing, through housing improvement. 	Housing improvement decreases the risk for eviction and homelessness that may result from informal settlement clearance.	Gurran <i>et al.</i> 2008; Muchadenyika & Waiswa, 2018; Nunbogu <i>et al.</i> , 2018, Tian <i>et al.</i> , 2018.

In Table 22 various options for decreasing the cost of housing in Kigali City are suggested. These options exhibit some patterns of spatial justice, in both housing development regulations (procedural and recognitional justice), the implementation of the suggested options (recognitional and redistributive justice) and their outcomes which embrace redistributive justice and material aspect of spatial justice discussed in section 2 of this chapter. Central to these features of spatial justice is the increased recognition of the rights of the poor and low-income dwellers to housing and their integration into the urban fabric.

8.6. Conclusion

Through this study, we have proven that the current prices for housing units developed for the affordable housing schemes are out of reach for the low-income people who face the burden associated with their prohibitive prices. This has been demonstrated through the analysis of the affordability, using the housing-price-to-income ratio approach, based on the gross households' incomes and the use of the long-term bank loans at 30 % of the household monthly income. Results from our analysis revealed that none of the lowest income households in Kigali City can afford these housing units. Ironically enough, this income category is the main target among the households' groups for which the affordable housing schemes have been conceived. These results show that the current housing development projects are rather responsive to the housing needs of the middle- and high-income households whose incomes are relatively aligned with the prices for their houses. Virtually, in most cases, these low-income households do not afford these housing units. Therefore, they are excluded from the housing market and deprived of opportunities to access decent housing, while the affordable housing schemes supported by the government funds do not help them to access decent housing. To the question posed in the title of this chapter, whether the so-called affordable houses under development in Kigali City are really affordable, the answer is No. A number of factors driving the unaffordability of these housing units for the low-income categories include the high cost of construction materials, and the high profits expected by the housing developers.

Against these backdrops, this study suggests different strategies for boosting access to housing in Kigali City, through the revision of affordable housing development approaches and setting up housing development regulations that can promote self-help housing construction. These strategies include: the decrease of housing cost through taxation exemption on the imported construction materials and housing sale, decrease in the profit interest rate and the increase in the number of low-cost housing units (in the real estate developers' proposals for affordable housing development) which can be afforded by a large number of urban dwellers. The self-help housing construction approaches can consist of using the low-cost materials through incremental housing development and the condominium approach which can allow the middle-income groups to develop their houses in the form of multi-storey residential houses. Informal settlement upgrading is also suggested among the options that can be applied to curb the problem of housing shortage in Kigali City. It can open the room for a shift from the neoliberal to co-production approach of the urban space development which advances the integration of the poor and low-income people in the urban

fabric. Generally, findings of this study shed lights on the limits of the affordable housing schemes regarding access to decent housing for the lowest-income urban dwellers. This issue is not specific to Kigali City, since it is largely discussed in various studies on the question of housing affordability in other cities across the world. Therefore, some of the strategies suggested for decreasing the costs of housing units developed under the affordable housing schemes in Kigali City can be applied in other cities which are implementing similar schemes in a bid to promote access to decent houses for this category of urban dwellers.

Chapter 9: General conclusion and recommendations

9.1. Introduction

The main goals of this study were to unfold the connection between spatial justice and land tenure security and to demonstrate how the pursuit of the former advances the later alongside the urban (re)development processes, in developing countries. In line with these goals, this study aimed at developing spatial justice indicators that can be applied to evaluate, whether urban (re)development schemes deliver on the promises of spatial justice and promote land tenure security for all urban dwellers, especially the poor and low-income people. This study applied case study research methods, using different processes of urban (re)development from Kigali (the capital city of Rwanda) as study area. This chapter recaps the key findings, based on the specific research objectives, formulated as follows:

1. To assess the potential of different forms of spatial justice to promote land tenure security for poor and low-income urban dwellers;
2. To assess the potential of different aspects of spatial justice to promote land tenure security for poor and low-income urban dwellers;
3. To develop indicators for measuring trends of spatial justice and land tenure security for poor and low-income urban dwellers.
4. To ascertain trends of spatial justice in the current Rwandan expropriation law and its implementation processes and outcomes in Kigali City;
5. To evaluate if the in-kind compensation for the expropriated real properties in Kigali City promotes spatial justice and land tenure security;
6. To ascertain patterns of spatial justice and land tenure security from the processes of clearing informal settlements and resettling the affected urban dwellers in Kigali City.
7. To evaluate if the affordable housing schemes under implementation in Kigali City promote access to housing for low and middle-income inhabitants who are the prospective beneficiaries.

Section 9.2. summarises the main findings to these research objectives. Thereafter, this chapter discusses the contribution of this study to scientific knowledge, various programmes related to Kigali city (re)development, their significance to various domains of spatial management (including urban planning, land administration) and other cities which may be undertaking similar urban (re)development processes. At the end, it suggests future research opportunities.

9.2. Main findings

Findings of this study are summarised below, following the order of the above-mentioned research objectives:

1. *Objectives 1 and 2: To assess the potential of different forms and aspects of spatial justice to promote land tenure security for the poor and low-income urban dwellers*

The formulation of these objectives was steered by a large number of spatial justice scholars such as Harvey (2010), Lefebvre (1991), and Purcell (2011) who submit that the urban space management processes embedded in the aspirations of spatial justice, promote the social value of the land, from which land tenure security can emerge. Therefore, the research inquiry was to deconstruct the connection between spatial justice and land tenure security, by probing whether urban (re)development schemes meant to promote spatial justice advance land tenure security as well. This inquiry relied on the rigorous meta-synthesis, narrative and content analysis of the literature on the concepts of spatial justice and land tenure security and the framework for urban (re)development adopted in the city of Recife, in Brazil, in the realm of promoting spatial justice alongside its management. This was conducted throughout chapters two and three of this thesis. Both chapters document changes in urban (re)development processes in Recife, from an exclusive to an inclusive city. These changes were brokered by the urban forum and public emancipatory movements instilling government authorities and municipal leaders to reinvigorate spatial justice in both rules and processes underlying the (re)development of this city. Though, both chapters demonstrate how this claim for spatial justice brought out these changes and enhanced land tenure security for the poor and low-income dwellers, they differently explore the connection between these two concepts.

Chapter two unpacks and connects the main forms of spatial justice, (procedural, recognitional and redistributive justice) to the three elements of land tenure security: the de facto, the perceived and the de jure, as presented in Table 2. Both the de facto and the perceived tenure security elements are connected with procedural justice, embedded in the institutionalisation of inclusive urban (re)development rules and processes which are crafted and implemented in a participatory manner. Such inclusive and participatory urban (re)development has resulted in increased recognition of the rights of all categories of urban dwellers to use their lands, improve their dwellings and other urban resources in a bid to meet their needs. The de facto and the perceived tenure security has also emerged from the pursuit of procedural, recognitional and redistributive justice which allowed for the integration of the Favelas (the poor and low-income dwellers' neighbourhoods) into the urban fabric, following their conversion into the ZEIS (“*Zonas Especiais de Interesse Social*” or “Special Zones of Social Interest”). The creation of these zones confirmed the protection of these urban dwellers against the exclusion and their integration into the urban space, coupled with the provision of basic amenities. This applies also for all people who are displaced and resettled in other residential areas throughout the implementation of different urban (re)development projects. The de jure tenure security has also been enhanced through the implementation of the guidelines of the current urban (re)development framework, which instils the political and municipal leaders to undertake the

formalisation of all land rights of the dwellers of Favelas through their registration, alongside these processes of urban (re)development.

Chapter three unfolds the conceptualisation of spatial justice, as a theory and a concept embracing different aspects. From the theoretical settings, spatial justice is conceptualised in the epistemological context as set of logical frames, including its different forms and principles which can be applied to redress different forms of spatial injustices depriving poor and low-income urban dwellers of their basic rights to live in the city and use its resources. As a concept, spatial justice embraces the axiological and ideological aspects through which this form of justice can be established alongside the urban space management, whose just outcomes are manifested in material aspect. The axiological aspect stands for the inclusive urban development schemes which grant all urban dwellers the rights to inhabit the city and use its resources. This aspect relates to the urban reform movements (inspired by the epistemological aspect) that claims for the local community participation in crafting and implementing these inclusive urban management schemes, to attain the material aspect. In praxis, this aspect embraces the integration of all urban neighbourhoods and their dwellers in the city. The interrelations between these aspects of spatial justice are discussed in chapter three. Using the specific case of Recife city, it demonstrates how these interactions spurred the de facto and the perceived security through the establishment of inclusive urban (re)development schemes (related to the axiological aspect) which recognise and enforce the respect of all urban dwellers' rights to land, housing and basic urban amenities. As also stated in chapter two, the establishment of these schemes were driven by the emancipatory movements (ideological aspect) that instilled their institutionalisation by the political and municipal leaders.

Chapter three has also demonstrated how the de facto and the perceived security have emerged from the material aspect of spatial justice, the tangible outcome of the claimed changes in both rules and processes related to the (re)development of Recife. As mentioned in the previous chapter, these two elements of tenure security are connected to this aspect of spatial justice, through the creation of the ZEIS which confirm the protection of their dwellers against eviction, the resettlement of urban dwellers displaced through the implementation of the local development plans, and the provision of basic urban amenities into their residential areas. The key message from these two chapters is that, the embeddedness of spatial justice claims in the urban (re)development, through direct inclusion of all categories of urban dwellers in the design and implementation of the related rules and plans is the key driver for land tenure security. This security is first steered by this participatory approach of urban (re)development which makes the poor and low-income urban dwellers feel a sense of belonging in the city, their formal recognition and integration of their neighbourhoods in the urban fabric. Yet, in this case of Recife city, the role of emancipatory movements claiming this legal and spatial embeddedness has also been an important factor for redressing land wrongs and promoting land tenure security.

Objectives 3: To develop indicators for measuring trends of spatial justice and land tenure security for the poor and low-income urban dwellers

To pursue this objective, findings presented in chapters 1 and 2 can be used, as well as the existing indicators measuring land tenure security and progresses in urban development in its broad aspects, to decipher the confluence between spatial justice and land tenure security. Relying on the meta-analysis and conceptual modelling, coupled with research synthesis, helps to connect spatial justice and land tenure security and identify various aspects of urban (re)development that could be evaluated to ascertain if it promotes spatial justice and land tenure security. The aspects covered by the developed indicators include citizen engagement in urban (re)development programmes; recognition and protection of all individuals' rights to land resources; equality of opportunities to use or develop their land resources; promotion of access to land and/or housing for poor and low-income groups; fair compensation for any urban (re)development programme that infringes on the rights of property owners; decreased spatial inequalities and promotion of access to urban amenities for all people; and, integration of all people into the urban fabric and a decreased risk of eviction. A set of 60 indicators connects the three dimensions of spatial justice: rules, processes and outcomes and its four forms consisting of procedural, recognitional, redistributive, and intra and inter-generation justice, through which, if pursued alongside the urban (re)development, just outcomes can be attained. These indicators were validated through different experts' opinions and comments provided by researchers in the urban management in Rwanda during the field works in Kigali City. Since they address the questions of spatial justice and land tenure security in cities of developing countries, it was necessary to seek opinions and comments from other experts in other African cities, such as Nairobi, in Kenya and Kumasi, in Ghana, and also Port Harcourt, in Nigeria. Still, they went through a review process before their publication in the peer review journal. The complexity of urban (re)development processes in the developing countries cities does not allow for the application of all these indicators to cover all the related aspects at a time. Thus, their application can focus on specific aspects, depending on the urban (re)development context, the related projects and desired outcomes. In this regard, these indicators were applied on specific aspects of urban (re)development in Kigali City. Through their application, it was possible to assess the processes of expropriation of the real property and related compensation practices, the operations of slum clearance and the resettlement of the affected urban dwellers which have recently attracted the attention of the local community, media and various scholars who largely published on these aspects. These assessments were undertaken following the next research objectives.

Objective 4: To ascertain trends of spatial justice in the current Rwandan expropriation law and its implementation processes and outcomes in Kigali City

This objective is addressed in chapter 4 of this thesis and consisted of applying the developed indicators in assessing whether rules and practices related to the real property expropriation in Kigali City promote spatial justice. The expropriation is a critical aspect in the urban

(re)development since it involves compulsory acquisition of individual properties, which if not just carried out, may result in spatial injustices, reflected in material resources deprivation, coupled with spatial exclusion and deepened poverty. To prevent these problems, a just compensation is always desired and becomes a significant indicator of spatial justice alongside the implementation of urban development programmes which affect private property rights. In this sense, the procedural, recognitional and redistributive forms of spatial justice require just legal provisions, and implementation processes which allow all actors in the expropriation to interact and bargain on the compensation options and values, in participatory arena, to come up with fair outcomes. Just outcomes are the compensations options and values which permit the expropriated property owners to have access to other material resources and reconstitute their livelihoods. Through the application of relevant indicators, it has been possible to derive the following aspects: relevance of public agencies in Kigali City to undertake expropriation, negotiation with property owners on compensation options, and their participation in valuation, and the compensation at market prices to ascertain if the payment of the compensation (in the monetary form or commonly termed the in-cash compensation) has potential remedy to real property deprivation. These aspects are connected to the above-mentioned three forms of spatial justice and its three dimensions consisting of rules, processes and outcomes. The findings reveal very good patterns in these forms of spatial justice at the rules dimensions as follows:

- The expropriation law abides by the claims of recognitional and redistributive justice since it promotes the compensation regardless of tenure status (for all people in both formal and informal tenure systems);
- It advances procedural, recognitional and redistributive justices since it allows for sharing the power of eminent domain: private investors can carry out the expropriation if the implementation process of the law opens room for these investors to negotiate with property owners and make consensus of the compensation options and values;
- Through these three patterns, it grants property owners the rights to use the counter-valuation process, in order to claim for just compensation, if they are not satisfied with the outcomes of the first valuation carried out by the valuers hired by the expropriating agencies.

Despite these good patterns of spatial justice identified at the rules dimension, this study identified dissimilar trends at the processes dimension, due to non-compliance with the law by expropriating agencies and valuers. In fact, deficiencies in spatial justice are reflected in the non-negotiation of the expropriating agencies with property owners on the compensation option, the use of outdated reference prices in the calculation of the compensation values due the insufficiency of budgets encountered by these agencies, which coalesces to negative outcomes, reflected in the unfair and dissatisfactory compensation. Findings have also indicated the ambiguous definition of the public interest, since public agencies carry out the expropriation in most of urban (re)development projects, most of which being out the scope of public interests. Furthermore, these findings indicate that even if a just compensation is paid after the counter-valuation, it is not determined using the cost replacement approach so that the expropriated people face difficulties in acquiring new properties in the same city. The study makes recommendation on how to improve the expropriation processes to attain outcomes which can be spatially just. Highlighted points include: the use of the cost replacement approach for the expropriated property that may help to reconstitute the socio-spatial positions of the expropriated people, rethinking of the appropriate in-kind compensation option such as the participatory resettlement of these people, in the attempt to decrease the

displacement effect associated with the in-cash compensation. In addition, the expropriation law needs revision to clarify the public interest and provide legal guidance on the participation and negotiation with property owners on the values of compensation for their properties which are affected during the expropriation processes.

Objective 5: To evaluate if the in-kind compensation for the expropriated real properties in Kigali City promotes spatial justice and land tenure security

Following the recommendations of the previous chapter, this objective addresses the suggested in-kind compensation, already adopted by the expropriating agencies in Kigali City, to assess if it is applied in the ways that promote spatial justice. Kigali City authorities have been recently adopted this form of compensation for the expropriated real properties in a bid to counteract the proliferation of informal settlements through the resettlement of the expropriated property owners, which may advance spatial justice if effectively applied. For this form of compensation to result in outcomes which are spatially just, it has to be implemented through a participatory approach, embedded in procedural justice. This form of spatial justice appeals for a vivid collaboration between the actors in urban (re)development with the expropriated people, from the design of the resettlement plans to their implementation. Along this process, they identify the basic needs of these people and take consideration of their living conditions (recognitional justice), and ensure that these needs are met and their livelihoods are reconstituted or ameliorated throughout this resettlement (redistributive and intra- and inter-generational justice). This chapter 5 assessed whether these aspirations are being attained through the resettlement of the informal settlement dwellers in the shared apartments in Kigali City, using the evaluative indicators connected to the expropriation and the resettlement of the displaced property owners, as suggested in chapter 3.

Findings reveal that the adopted in-kind compensation portrays good patterns of procedural and recognitional justice, transcending from the increased political recognition of the rights of the expropriated people to housing and basic urban amenities when government actors implement the expropriation law and make decisions related to the compensation. It also unfolds some patterns of redistributive and inter- and intra-generational justice, associated with the allocation of quality houses, whose market value is higher than the value of the expropriated property and the increased access to basic urban amenities and services in new settlement. Moreover, the implementation of this form of compensation has been a vector for the promotion of land tenure security, especially for the property owners who developed their dwellings through encroachment on state land whose use is not residential according to the by law. Despite these just outcomes, this study identified some deficiencies in procedural justice, which is the key element for the operation of urban space re-organisations to result in just outcomes. These deficiencies are connected with the lack of negotiation on the compensation option and the non-involvement of the property owners in the planning and implementation of their resettlement process, which inhibits the low acceptability of the developed houses. While the habitability of these houses is also an important feature of spatial justice, from its procedural and recognitional forms, this feature has scrapped out the sizes of most houses developed during this resettlement process. Their sizes and number of their rooms are actually incommensurate with the number of people in each household, which further curtails their

acceptability. In the essence of procedural and intra- and inter-generation justice, this resettlement process has eviscerated the rights to incomes for the expropriated people after their resettlement. This study revealed that they are displaced from the neighbourhoods which provide them with the employment opportunities and resettled in remote areas, deprived of these opportunities and without palliative measures to employment deprivation. This leads to conclude that the implementation of the in-kind compensation option does not effectively promote spatial justice, since it risks to jeopardise the livelihoods of the affected people. To curb this problem this study suggests a co-production approach of urban (re)development, based on the collaboration between expropriating agencies and property owners in the planning and implementation of the in-kind compensation. Alongside this collaborative urban (re)development, the application of the in-situ resettlement or relocation in the neighbourhoods which offer various income generation opportunities can be among the practical options that minimise the impoverishment risks encountered by the displaced property owners.

Objective 6: To ascertain patterns of spatial justice and land tenure security from the processes of clearing informal settlements and resettling the affected urban dwellers in Kigali City

This objective is addressed in chapter 6 of this thesis. In the previous chapter, trends of spatial justice were investigated from the processes of resettling dwellers of informal settlements as a compensation option, based the expropriation law and the use the power of eminent domain that allows public agencies to compulsorily take the private properties. In this chapter, trends of spatial justice are investigated from the processes of resettling dwellers of informal settlements located in the high-risk zones. These zones were delimited and placed under the environment protection areas by the current master plan of Kigali City which prohibits the development of residential houses on steep slope land and wetlands. The resettlement of these inhabitants followed their passive resistance against political decision compelling them to vacate their neighbourhoods, without compensation or relocation options. This resistance is naturally rooted in the ideological aspect of spatial justice (as an emancipatory approach) that the local community or users of spatial resources can use in a bid to claim from the recognition of their rights to basic urban resources and their inclusion into the urban (re)development processes.

As stated in chapter 2 and 3, and by referring to spatial justice proponents, this emancipatory approach informs us about the consciousness of the local community of their rights to inhabit the city and how they influence changes in rules or processes related to urban space re-organisation, from which spatial justice is established (Lefebvre, 1996 and Rawls, 1999). These rights are not simply about to live in the city, but the rights to hold their land and housing which are the key elements for their integration in the city and pursue their livelihoods. This influential aspect confirms the arguments of spatial justice scholars. They contend that the roles of community struggle to secure their ownership of the urban resources and the political recognition of the rights of all categories of urban dwellers to inhabit the urban space is an essential pathway to reinvigorate spatial justice in the urban space (re)development (Harvey, 2012; Fainstein, 2014; Lefebvre, 1996;

Marcuse, 2010; Rawls, 1999; Soja 2010). It is in this fashion that dwellers of informal settlement in Kigali City passively resisted to vacate their lands and houses and claimed the recognition of their rights to these properties. This resistance and claim instilled the government actors to abide by the existing urban management rules (such as national urbanisation policy and land policy of Rwanda) which support the promotion of the inclusive cities and adopted the process of resettling these urban dwellers as a palliative measure to their eviction. This study has identified different aspects and forms of spatial justice alongside the implementation of the resettlement of these people and whose outcomes include also the re-establishment of land tenure security. Like the findings of chapters 1 and 2 which demonstrate how spatial justice is established and promote land tenure security in practices and based on the literature review, findings of this chapter serve for empirical evidences that corroborate with the main aim of this research, consisting of investigating how the pursuit of spatial justice alongside the urban (re)development can promote land tenure security for the poor and low-income dwellers.

In this case of resettling the informal dwellers living in the high-risk zones in Kigali City, this study has identified main patterns of spatial justice associated with land tenure security, which are inter-related as follows:

1. The ideological aspect embraces the property owners' resistance to vacate their properties and their claim for recognising and respecting their rights to land and housing, either through the in-cash compensation or resettlement options. However, this study did not identify any inference about the inspiration for this resistance. From the epistemological aspect of spatial justice, the findings revealed that these people are conscious of their rights to live on their lands as the "spatial landmarks of births and deaths" that they inherited from their forebears. In addition, these people are conscious of their rights to use their lands in the sake of meeting their needs in housing. Though these ideas are not directly expressed in the sense of the Right to the City ideology, this study found that they are therein unfolded and linked with the epistemological aspect of spatial justice as well. This concurs with Harvey (2012) and Soja (2010) who acclaim the roles of populism in achieving spatial justice through a claim for new form of regulations and strategies which affirm every urban dweller's fundamental rights to live in the city.
2. The axiological aspect relates to changes in informal settlement clearance strategies, through the compliance of the decision makers with the urbanisation policy, land policy, the national strategy for transformation which provide the guidelines for the promotion of inclusive urban (re)development, including the promotion of access to housing for all urban dwellers and the respect of their land rights;
3. Procedural justice consisted of designing the resettlement plans meant to relocate the informal settlement dwellers from the high-risk zones to planned and serviced sites;
4. Recognitional justice embraces the political recognition of the rights of dwellers of informal settlement in high-risk zones to their land and housing;
5. Redistributive justice has consisted of deploying public funds in order to develop new residential neighbourhoods, provided with basic urban amenities and services, and designed for

the resettlement of these urban dwellers. In the essence of spatial justice aspects, this resettlement is associated with the material aspect which confirms the integration of these people in the urban fabric. As for the land tenure security, the findings reveal that it is connected to this formal integration in the city and the provision of housing ownership document to each of the resettled households.

6. Intra- and inter-generational justice is associated with the welfare metric of a just urban (re)development. In this case study, this form of spatial justice is portrayed in the creation of a good social and spatial environment which protects informal dwellers against natural disasters and allows them to enjoy quality life through the increased access to quality housing and basic urban amenities. This follows their displacement from hazards prone areas which are derived of these amenities.

Like the previous chapter discussing the resettlement processes of the expropriated property owners as a form of compensation for their properties, findings of this chapter reveal that these people are exposed to the economic hardship and impoverishment risks. These constitute some patterns of spatial injustices associated with their displacement and a kind of impediment to the attainment of welfare aspirations that spatial justice strives for. In fact, they are linked with the displacement of these people which results in the loss of employment opportunities or the main sources of their incomes, aggravated by the lack of these opportunities and income generation activities in the new settlements. In this regards, and from the perspectives of all forms of spatial justice (procedural, recognitional, redistributive and intra- and inter-generational justice), two main recommendations were formulated: a participatory resettlement approach which helps to identify all the basic needs of the displaced people during and after their resettlement, which should be combined with a financial support in order to help them reconstitute their economic livelihoods. Another action should consist of slum upgrading projects, which can counteract the displacement of all urban (re)development operations.

Objective 7: To evaluate if the affordable housing schemes under implementation in Kigali City promote access to housing for the low and middle-income inhabitants who are the prospective beneficiaries.

Access to affordable housing has been largely conceived among the strands of spatial justice from various urban (re)development settings. From both the material aspect and redistributive pattern of spatial justice, access to a housing unit which is among the primary products of spatial re-organisation, advances the equality of opportunities to inhabit well the urban space for all urban dwellers and equally enjoy the benefits that accrue from the urban (re)development. The spatiality of justice is more reflected in different programmes meant to promote housing affordability for the poor and low-income people and the proportion of housing units that these people can afford among the housing units delivered at the housing market alongside the implementation of these programmes. This chapter has consisted of evaluating how these programmes, which have been recently introduced in Kigali City in a bid to curb the shortage of decent houses and mitigate the problem of informal settlements (discussed in previous chapters), are promoting access to

affordable housing for the low and middle-income people who are the prospective beneficiaries. Using the income and housing prices ratio approach to assess the affordability of housing units produced by various real estate developers, findings reveal that the sale prices of these housing units are very prohibitive for most of the target beneficiaries and none of these unit is affordable for the low-income people. Therefore, from the perspective of redistributive pattern of spatial justice, the study concludes that the related programmes are far from reaching their goals of promoting access to decent houses for all the prospective beneficiaries. It suggests alternatives for promoting access to housing in Kigali City in accordance with the general aspiration of spatial justice for promoting inclusive urban (re)development and land tenure security for the poor and low-income urban dwellers.

9.3. Relevance of the key findings on scientific knowledge and different aspects of spatial management

This section provides reflections on the implications of the main findings of this study, their relevance to scientific knowledge and different aspects of spatial management.

9.3.1. Connection between spatial justice and tenure security

In this respect, this study has framed the connection between spatial justice and land tenure security which has not been distilled in the existing studies yet. This was demonstrated through the study of the existing literature on both concepts of spatial justice and land tenure security. Findings are presented in chapters 2 and 3 which prove that land tenure security does not have to be dissociated from the desired outcomes of urban planning and (re)development processes. Since these processes are expected to result in the development inclusive cities, this cannot be attained if the rights of all categories of urban dwellers, especially poor and low-income people, to hold their land and dwellings are neither recognised, respected nor enforced. Based on these findings, this research frames the relationship between spatial justice, based on the inter-connections between both its four aspects and forms and land tenure security, summarized in Figure 47, below:

Figure 47: Connection between spatial justice and land tenure security: model synthesis

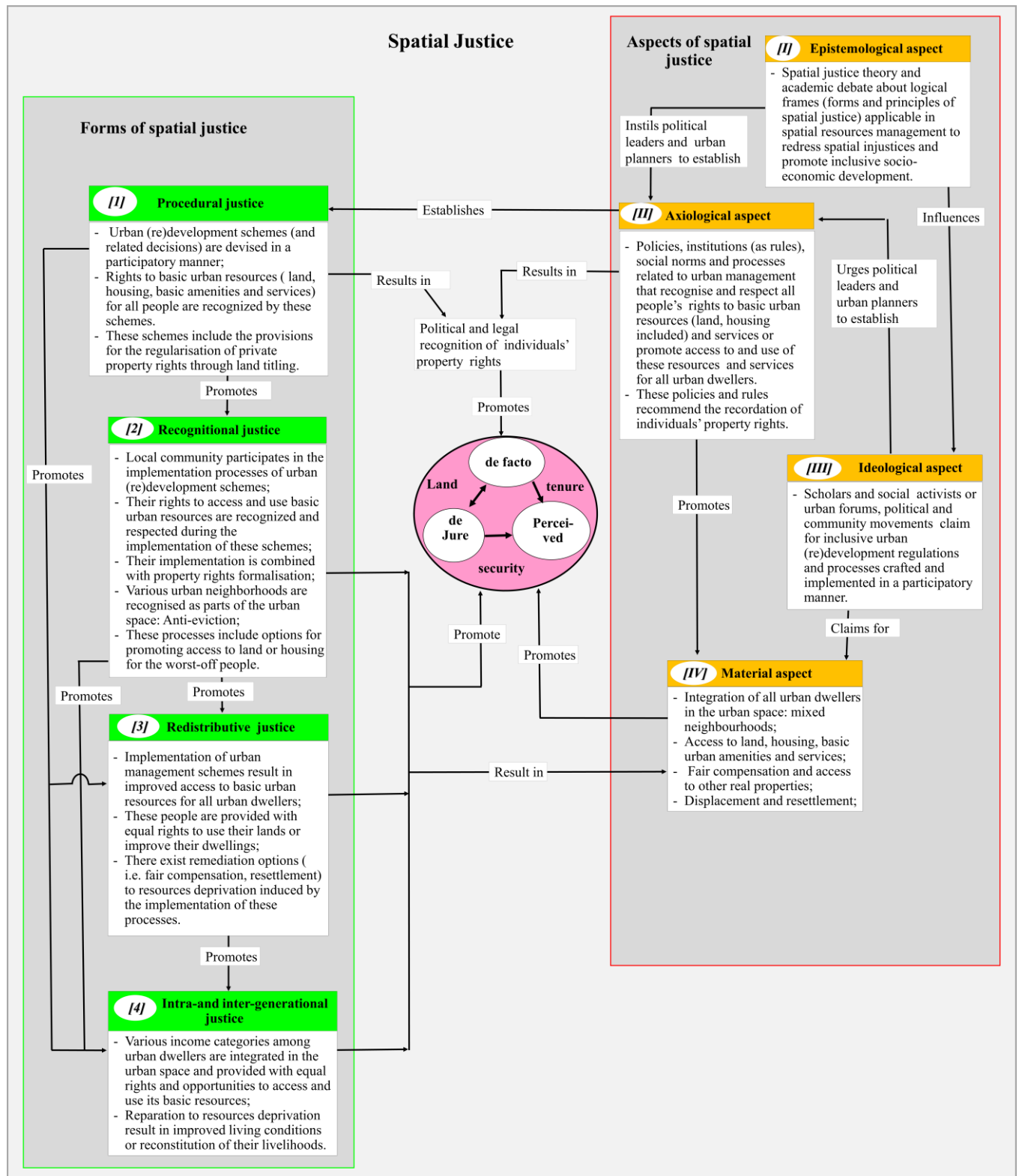


Figure 47 illustrates this study's findings on how the pursuit of spatial justice, in both its aspects and forms, advances land tenure security. This figure shows that there are two ways for this to happen: spatial justice can emanate from the good will of the political leaders and urban planners inspired by the epistemological aspect [I], to embed spatial justice into policies, rules and urban (re)development schemes which embrace the axiological aspect [II] as shown in Figure 47. Once established, this aspect flows towards different forms of spatial justice [1,2,3,4] and the material aspect [IV], from which land tenure security emerges. Yet, the security of tenure can emerge from the axiological aspect of spatial justice [II], embracing the institutionalised policies, rules and urban (re)development schemes which promote the integration of all urban neighbourhoods and their inhabitants in the urban space, and provide the framework for regularisation of property rights for these urban dwellers. However, spatial justice proponents argue that the political leaders and urban planners hardly aspire to spatial justice claims so that another option to pursue spatial justice in the urban (re)development comes into play. As discussed in chapter 3 and shown on Figure 47, this consists of the emancipatory movements or community struggles, embracing the ideological aspect of spatial justice [III], that urges the political leaders and urban planners to establish these inclusive policies, rules and urban (re)development schemes which stand for the axiological aspect [2]. Once established, it still flows towards these forms of spatial justice [1,2,3,4] and the material aspect [4] as mentioned above. The role of these emancipatory movements in the institutionalisation of the framework of urban (re)development grounded on the claims of spatial justice was proved by this study, using the literature on the experience of changes in the urban (re)development in Recife city. Similarly, this was empirically proved using the process of resettling the dwellers of informal settlement in high-risk zones in Kigali City. However, the emancipatory aspect of spatial justice consisted of instilling the political and municipal leaders to abide by the existing rules which already recognise all Kigali City inhabitants' rights to access and use the basic urban resources and promote their integration in the processes of urban (re)development. Yet, this study connects both theory and practice and proves the general hypothesis of spatial justice scholars who conceive the emancipatory movements or the ideological aspect of spatial justice (public struggles or claims for justice over geographical space) as the essential pathway to establish spatial justice in the processes of urban (re)development. From the theoretical settings of spatial justice, this ideological aspect pledges for political and legal consciousness of the existence of validly different identities within any geographical space, conveying that the urban space that political leaders aspire to redevelop transcends from differentiated social and economic human structures that have co-existed since long-ago and shaped the current configuration of the urban space. Having been the mental and physical spectrum of all urban dwellers' daily lives, this study has demonstrated how their claim for the accommodation of all group differences in the current urban development results in spatial justice, which therefore becomes the driver for land tenure security.

9.3.1.2. Spatial justice in various domains of spatial management and public administration

A part from the promotion of tenure security, the pursuit of spatial justice promotes the realisation of human rights into the broad range of spatial management, including better public services delivery towards improving the living conditions of all categories of spatial resources users, as well as their engagement in all politics and activities related to social-economic development (United Nations Educational Scientific and Cultural Organization, 2014; United Nations Secretariat, 2016). Thus, various aspects of spatial justice discussed in this dissertation relates to different domains of sciences and spatial development, such as land management, urban planning, land administration, and public administration in different ways.

❖ Land management

Land management is the process by which land resources are put to good effect (United Nations Economic Commission for Europe, 1996, p. 13). It covers different activities which are meant to fulfil the established goals for the efficient use of land within the existing land use patterns and substantial changes in these patterns or significant investments in land development and related techniques (Larsson, 1997). These changes are part of land reform, which includes also changes in land tenure and land restitution or redistribution schemes (United Nations Economic Commission for Europe, 1996). Land management activities are carried out through well organised and non-discriminatory decision-making processes to ensure that both access to land and its use as environmental, economic and social-cultural resource address the global goals of sustainable development and good land governance, with respect to various aspects of land tenure, land policy, land administration and land use planning, in both rural and urban areas (Enemark, 2006; Magel & Wehrmann, 2002). Globally, these activities intend to promote human welfare and quality of life, reduce inequalities between individuals and/or groups of people (within their living areas), address or prevent the environmental, economic, and social consequences that may result from the non-sustainable use of land (Houghton, 2014). They also aim at preventing inequalities that may result from the unfair allocation of land resources or rights related to their access and use among different users of any geographic space (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2016; United Nations Economic Commission for Europe, 1996; Wisborg, 2013). Achieving these objectives of land management requires to adhere to global norms pertaining to sustainable use and good land governance, such as sustainability, transparency and accountability, equity in access and allocation of resources or rights to use them, civic engagement and citizenship, and security (Enemark, 2006). As mentioned in the introduction and different chapters of this thesis, pursuing spatial justice in its different forms can support meeting these aspirations of land management in different ways, as follows:

- *Procedural justice* is associated with public participation (civic engagement and citizenship), well informed rules and fairly applied and accountable decision-making processes

(transparency and accountability) in relation to access to and use of various resources of the built and natural environments.

- *Recognitional justice* is linked to the respect of the rights of landowners and users to participate in making decisions (civic engagement and citizenship) related to the use of land resources from which can the land tenure security emerge. Since good land management cannot be achieved without well sounding land law and policy, and good land use regulations, both procedural and recognitional justice underpin the processes of crafting and implementing these legal and political instruments, based on the inputs of all actors in land management and users of land resources. In addition, the pursuit of these two forms of spatial justice has been acclaimed to advance an inclusive urban and spatial planning, which can be a driver for tenure security.

- *Redistributional justice* embraces the reparation measures which are intended to remedy to spatial injustices driven by historical land wrongs which embrace the non-respect of the rights of some categories of people like socially and economically disadvantaged groups, to access and use spatial resources. Pursuing redistributive justice helps to attain the aspirations of equity in the allocation of land use rights among all categories of spatial resources users. Combining redistributional and recognitional justice can instil politicians and decision makers on how to adopt good strategies for land redistribution that aims at remedying to land deprivation for landless people or devise land development options that permit various categories of landowners to use their land resources. The equity strand of spatial justice has also to be embedded in land policy and land use regulations which govern the use of land resources within any geographic space to achieve the general goals of land management (Deutsche Gesellschaft für Internationale Zusammenarbeit, 2016; Magel & Wehrmann, 2002).

- The pursuit of *inter-generational justice* spurs the sustainable use (sustainability issue) of land resources. Its combination with procedural justice helps to establish and implement rules and land use options that prevent resource degradation, and ensure the quality of the environment as well as bio-diversity protection. This can provide future generations with opportunities to access and use natural resources (including land) or reap the benefits resulting from their current use (Venn, 2019). As discussed in chapters 6 and 7 of this study, inter-generational justice is also concerned with a remedy for spatial resource deprivation or spatial management measures which promote the access to basic resources such as land and housing, and basic amenities and services for people who are deprived of their access. Promotion of access to these resources constitutes a strategy for improving the living conditions of these people and their offspring. In this regard, sustainability as well as inter-generational justice are linked to the welfare dimension of all members of the society (Eizenberg & Jabareen, 2017; Fritz & Koch, 2019).

- *Intra-generational justice* is more connected to recognitional justice. Its pursuit in land management can promote access to land resources through land allocation or redistribution processes that poor, vulnerable and historically marginalised groups can greatly benefit

from, towards improving their living conditions (Seghezzi, 2009). As discussed in chapters 3,4,5 and 6 of this study, combining intra-generational justice with both recognitional and redistributive justice also permits the allocation of other spatial resources such as basic infrastructure and services in the deprived areas.

Generally, the legal and political aspects of land management and related activities are in concert with general aspirations of spatial justice (Magel, 2015, 2016). Therefore, various claims of spatial justice discussed in this study can pave a way towards achieving different activities and goals of land management. In Kigali City, some activities of land management which require the consideration of spatial justice claims include the revision of expropriation law, its implementation processes and a participatory decision making in the planning and implementation of various urban (re)development projects. These include informal settlement clearance or upgrading and the relocation of the affected urban dwellers, affordable housing development, and the provision of basic urban infrastructure which involve the implementation of the expropriation law. More generally, indicators to measure spatial justice and land tenure security developed during this study can also be applied in assessing whether these activities are performed according to the general aspirations of spatial justice.

❖ Land administration

Land administration refers to as the processes of determining, recording, and disseminating information about ownership, value, and use of land when implementing land management policies (United Nations Economic Commission for Europe, 1996). Initially, it has been focusing on the provision of land information with a specific focus on security of tenure (Enemark et al., 2014), and thereafter has evolved towards the fulfilment of various functions pertaining to land management, such as land tenure and land value (Enemark, 2006; Zevenbergen, 2004). Pursuing different aspirations of spatial justice discussed in this thesis can contribute to the good attainment of these functions in different ways:

- Land tenure is defined as a complex of social institutions which govern the relationship among people with regard to land and related resources such as water bodies and forests. These institutions also regulate land use through the definition and enforcement of rights that users of these resources can enjoy (Enemark, 2006; Feder & Feeny, 1991). These rights are determined through institutional arrangements which include laws, regulations, and property rights in land. Spatial justice considerations such as procedural and recognitional justice can play an important role in establishing and enforcing these institutional arrangements (Feder & Feeny, 1991), with respect to fair allocation of these rights to access and use land resources. Redistributive and intra-generational justice can be applied in the allocation of land use rights which allow all categories of property owners to put in use their land and meet their basic needs (Nel, 2016a, 2016b).

- The function of land value relates to the processes and institutions applied in the assessment of the value of land and properties for different purposes, including expropriation and taxation, and the management and adjudication of related disputes (Enemark, 2006; Enemark et al., 2014;

Williamson et al., 2010; Zevenbergen, 2004). Preventing or decreasing these disputes requires compliance to ethical principles which are consistent with different forms of spatial justice. As discussed in chapters 4, 5 and 6, the pursuit of procedural and recognitional justice opens room for collaboration between the expropriating agencies and property owners in the calculation of the values of their properties, including the negotiations on the compensation options. Yet, this has to be allowed by the rules in use, which establish these metrics of spatial justice. The payment of fair compensation is also framed in the claim of procedural, recognitional and redistributive justice if such compensation allows the expropriated property owners to access other properties in the same geographical settings. This flows towards inter-generational justice which seeks for the reconstitution of their livelihoods after the expropriation.

Land administration systems are also expected to be effective by catering to all landowners and users, with regard to enhancing the tenure security in all forms of tenure, through land rights recordation. As demonstrated in chapters 2 and 3 of this thesis, the accomplishment of this activity in Recife city has been attained through the pursuit of spatial justice, instilled by the emancipatory movements (related to the Ideological aspect of spatial justice) that claimed for the institutionalisation of urban management rules recognising the rights to land for all urban dwellers. This claim resulted in the passage of the City Statute (Caldeira & Holston, 2015; Rolnik, 2013) which provides the guidelines for the adoption of inclusive urban (re)development schemes. The provisions of these legal documents (the City Statute and urban (re)development schemes) which embrace the axiological aspect of spatial justice) recommend the formalisation of land rights for all slum (or favela) dwellers. The compliance with these provisions (through procedural and recognitional justice) has brought changes in the management of Recife city, including the registration of land rights. The process of recording these rights has resulted in the de jure tenure security for the poor urban dwellers in the Recife city (Uwayezu & de Vries, 2019), within the continuum of land rights, from informal land holding (without secure tenure) to land rights recordation. Similar empirical example is discussed in chapter 8, based on the provision of housing ownership to the resettled urban dwellers who had been displaced from high-risks zones where they illegally developed their houses (in Kigali City). In these two cases, the processes of recording individuals' land rights or provision of property ownership documents during the implementation of urban re-organisation programmes are actually instilled by spatial justice aspiration. Therefore, it can be argued that some urban (re)development programmes which are carried in a bid of promoting spatial justice can play a stimulus effect on land administration functions.

❖ Urban planning

Urban planning consists of activity related to the design of new cities or neighborhoods and re-organisation of the existing urban areas. They also include the urban regeneration, improvement and protection of the urban environment (Williamson et al., 2010). The designed urban plans and related regulations can vary from the basic means of controlling urban land use to the complex systems of allocating urban resources and services to different users, which can have various social,

economic, and environmental concerns (Campbell, 2012a; Campbell & Marshall, 1999; Williamson et al., 2010). This requires that the urban planning activity be concerned with making choices about good and bad, right and wrong in relation to rules and processes related urban space (re)development, including the allocation of land to different uses and activities (Beatley, 1991). Making good and right choices is about due consideration of ethical frames when devising and implementing these rules and processes (Campbell & Marshall, 2006). Therefore, in this study, I argue that spatial justice is well connected to urban planning activity. Patterns of spatial justice relate to the passage and implementation of just urban (re)development rules and plans, and their fair implementation processes that lead to good or just outcomes (Campbell & Marshall, 1999, 2006). Just outcomes are those that improve the social-economic situations and well-being of all urban inhabitants (especially the least advantaged urban dwellers (Lefebvre, 1991; Rawls, 1999), relative to their needs and rights to access and use basic urban resources (such as housing) and services (including education, health). Meeting these outcomes requires a participatory and communicative approach of urban planning and (re)development by attending to all forms of spatial justice (procedural, recognitional, redistributive, inter- and inter-generational justice), discussed in different chapters of this thesis.

Procedural and recognitional justice embrace a direct dialogue through which actors in urban planning and (re)development like the urban planners and municipal leaders meet and listen to various categories of urban space users in order to discuss and craft urban (re)development rules and make consensus on their implementation processes which accept plurality in the urban space (Fainstein, 2009, 2014). This approach of urban planning helps to listen to what different users of the urban space care about and identify special needs of the poor, vulnerable groups and other categories of people who have been excluded from the urban development process (Healey, 1992, 1997; Innes, 1995). Through *redistributive justice*, urban planning permits to remedy to deprivation in basic urban amenities and services through specific measures that privilege the allocation of these resources in their respective neighbourhoods of these urban dwellers (Lewin-Epstein et al., 2003). This results in improving their living conditions, which is also connected to the aspirations of inter- and intra-generational justice (Uwayezu & de Vries, 2018). Another aspect of *redistributive justice* is vividly captured in continuous justice claim for investing more efforts in providing services and infrastructure in the residential areas located in the urban outskirts. This acts as a compensation measure to structured remoteness from the central business centers that affects the living conditions of urban fringe inhabitants (Alfasi & Fenster, 2014). Along this line, the nexus between spatial justice and urban planning incorporates two main ethical frames: (1) inclusive and participatory urban planning and (2) equality of rights and opportunities in access and use of basic urban resources and services.

Inclusive and participatory urban planning (which emulates from procedural and recognitional justice as discussed in chapter 2, 3, and 4), allows for the needs of all urban space users to be recognised. Local community, municipal leaders and urban planners establish plans which help to meet these needs through redistributive justice. Yet, for these users of urban space to participate in

the planning processes, they have to be recognised (recognition justice). This means that both *procedural* and *recognition justice* are very important for the processes of urban planning and development to result in just outcomes aligned with the needs of the local community. However, in chapters 2, 3 and 6 of this study, it was demonstrated that urban planners and municipal leaders do not abide by these principles of spatial justice as per se. Using the cases of urban (re)development in Recife and Kigali cities, the findings of this study demonstrate that the community emancipatory movement and claim for justice (embedded in the ideological aspect of spatial justice) in both rules and processes of urban (re)development resulted in the institutionalisation of a participatory and collaborative urban planning in Recife city. Thereafter, different forms of spatial justice emerged from this ideological aspect of spatial justice. In Kigali City, community claim for spatial justice has also instilled decision makers and urban planners to comply with the existing rules and respect of their rights to land and housing during the processes of informal settlement clearance. This resulted in the resettlement of the displaced informal settlers, thanks to the embeddedness of spatial justice criteria in these processes. These two examples affirm the manner spatial justice is consistent with the processes and outcomes of planning function. Yet, in the contemporary urban (re)development processes, concern about spatial justice is not only reduced to a need for various professional bodies to review their codes of ethics and/or for urban planners to abide by spatial justice principles or apply its forms in their activities (Campbell, 2012b). These actors can be the actors for reinvigorating spatial justice, through instilling changes in urban space management rules or policies as discussed in chapter 2 and 3, using the experiences of changes in urban (re)development in Recife city.

❖ **Public administration**

Public administration embraces the organisational structures, managerial practices, and institutionalised values undertaken by government agencies to implement public policies in order to produce some goods and services (Carey & Friel, 2015; Sharma & Sharma, 2006). These agencies constitute the main interface between individuals and the State. They are also responsible for various activities and decisions that are fundamental to the development and peacebuilding goals, including property rights and land management, business licenses and regulations, health and education services, and allocation of social benefits (Organisation for Economic Co-operation and Development; United Nations Development Programme Bureau for Policy and Programme Support, 2015). Along these lines, public administration is concerned with how to efficiently pursue government policies' goals through various administrative systems, procedures and activities undertaken by public agencies and their officials at different levels of government, in collaboration with each other and the public (O'Flynn, 2009). The effectiveness of public administration agencies is associated with crafting good regulations and performing their activities in transparent settings with respect to well established procedures to attain the desired outcomes (Durant & Durant, 2017; Organisation for Economic Co-operation and Development; United Nations Development Programme Bureau for Policy and Programme Support, 2015). The expected efficiency and effectiveness of public administration agencies are consistent with spatial justice aspirations. These

include the perceived fairness in relationship to how public administration services are delivered, with regard to the principle of rule of law, respect of the human rights and responsiveness to citizens' expectations (Bergling et al., 2010; Tolbert & Mossberger, 2006).

Spatial justice aspirations are expected in the applied rules, including statutory, constitutional and regulatory laws, and administrative actions which are the applied decision-making models at the organisational and individual levels (Culiberg & Mihelič, 2016). These rules and decision-making models are profoundly related to procedural justice (Theodorakopoulos et al., 2015). With regard to urban (re)development, municipalities and their various administrative units through their regulations and decisions determine the access of individuals and groups to certain fundamental means and resources towards different ends (United Cities and Local Governments, 2014). These regulations determine the types of material resources and services which can be allocated to urban space users, and their allocation strategies. These regulations and decisions can significantly affect citizens' opportunities and well-being (Fainstein, 2009). Practical examples include the allocation of housing development permits or affordable housing development subsidies, and the provision of basic infrastructure and services. During these processes, *procedural justice* is combined with other forms of spatial justice, namely recognitional and redistributive justice, which are significantly connected with the equity in the allocation of land development permits to users of land resource, or housing subsidies and provision of basic infrastructure and services in all urban neighbourhoods (Jonkman et al., 2018). As discussed in chapter 7 of this thesis, the allocation of public funds for the resettlement of the displaced poor informal settlement dwellers in Kigali City is a practical example of how public administration agencies pursue different aspirations of spatial justice. This activity exhibits all forms of spatial justice and features more specifically the patterns of *recognitional*, *redistributive* and *inter-generational justice* towards improving the housing conditions of the resettled urban dwellers.

However, spatial justice frames are not limited to material resources and services allocation. The compliance with the aspiration of *procedural justice* embraces the ethical judgement which requires government officials to do self-evaluation on the degree to which their behaviours and the course of their actions abide by different principles of spatial justice, such as the principles of need, equality and equality of rights (Clasen & Van Oorschot, 2002; Sparks & Pan, 2010). Other patterns of spatial justice consist of voice hearing and citizen engagement in budget planning processes which are consistent with procedural and recognitional justice. This provides the local community with opportunities and communication channels through which the members of this community can express their opinions on how government agencies operate and the extent to which these agencies are responsive to their needs (Wailoo & Anand, 2005). Public officials within their respective organisations and their professionals can socialise with these patterns of spatial justice, which guide their ethical decisions (Hunt & Vitell, 1986, 2006). In this respect, they can adopt regulations and procedures which clarify the acceptable actions and outcomes when they deliver services to the public or performing some activities of public interests (Leventhal, 1980; Pops & Pavlak, 1991). Generally, the aspirations of spatial justice in the field of public administration relate to moral

attentiveness to the community needs, and consideration of ethical values in public organisations working procedures through compliance to two ethical dimensions: the reflective and perceptual (Reynolds, 2008). Thus, claim for spatial justice is consistent with the performance of public agencies, from the public administration lens.

❖ **Civil/geo/environmental engineering**

The development of different types of infrastructure within any built environment is also tied to the agenda of spatial justice. For instance, Enright (2019) points out that the mass urban transit, comprising the light rail, trams, metros, and bus rapid transit networks has become the panacea for the faults of the current urban planning processes and feature of a sustainable urban future, which can exhibit both patterns of spatial justice and injustice. Similarly, Golub et al. (2013) argue that the provision of various types of infrastructure has always been pursued for different purposes and benefits of some urban dwellers to the detriment of others. This means that different civil engineering activities can result in some forms of inequalities and exclusion which affects various urbanites, such as the poor, the elderly and the disabled. Therefore, compliance to spatial justice aspirations is required to overcome various forms of injustices in the contemporary planning and provision of infrastructure and services towards promoting more inclusive and sustainable lived geographical spaces. The general claim is a fair spatial distribution of infrastructure and services, their accessibility and affordability for all categories of inhabitants in the designed geographic space (Beyazit, 2011). Spatial justice is more concerned with the incorporation of the marginalized people into the spatial and social system of urban and rural spaces. With respect to civil engineering and infrastructure provision, spatial justice claim related to the increased consideration of what has to be provided and how (Durrant, 2017). The general argument is a fair provision of hard infrastructure that ensures access to sanitation, power, transport and communication services and the soft infrastructure that provide access to health and education facilities which play a great role in raising the standards of living for the least well-off in many parts of the world (Durrant, 2017).

As Enright (2019) and Beyazit (2011) argue, the main goal in their allocation of these material resources and services is not necessarily the equal treatment for all people, but differentiated supports to individuals and different users of any geographic space so that those who have been disadvantaged can gain greater access to them. This argument is consistent with the aspirations of different forms of spatial justice, discussed in different chapters of this thesis. *Procedural, recognitional, redistributive and intra-generational justice* require that urban planners and civil engineers allocate basic infrastructure and services in all neighbourhoods including the poor and low-income areas. By the same token, these infrastructure and services should be designed in a user-friendly way so that all people, including the disabled groups, can access and use them. Both procedural and recognitional justice also require a direct collaboration between the local community, civil engineers and spatial planners in all processes of planning and designing the built environment in a bid to significantly minimise different impacts or patterns of spatial injustices which can harm the livelihoods of all members of this community (Fadeyi, 2017).

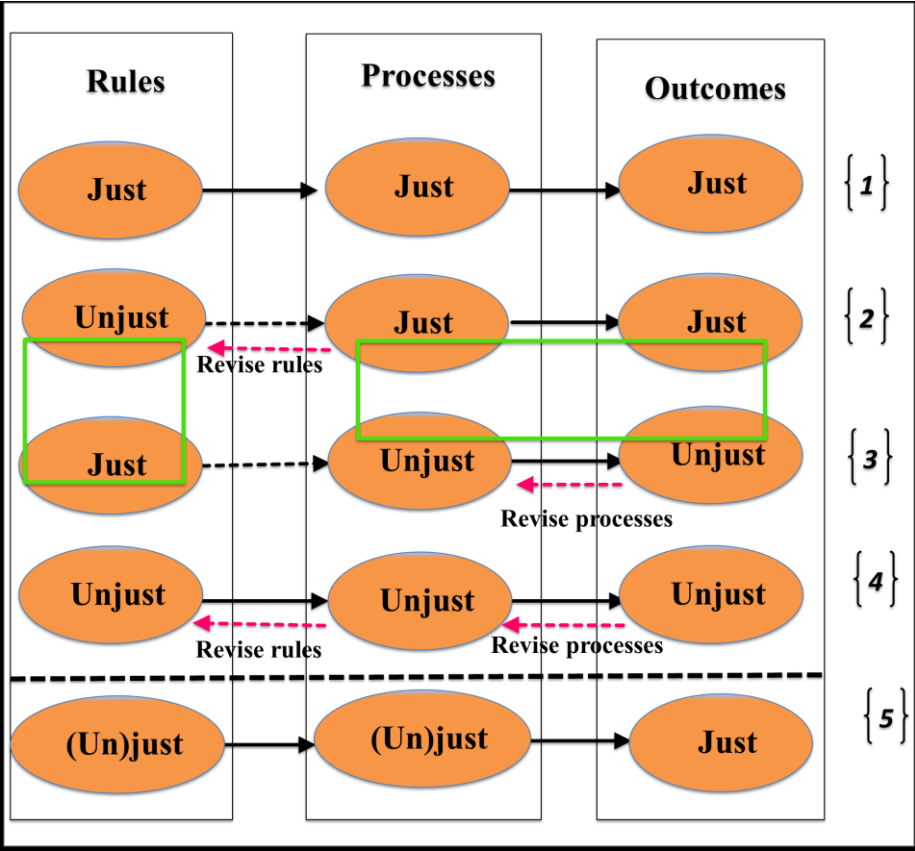
Spatial justice is also concerned with environmental engineering. This form of justice is central in decreasing the impacts of negative externalities such as pollution resulting from development activities or others which make the neighbourhood less desirable (Been, 1994). It is also expected from all processes and activities related to the planning of infrastructure and services, environmental conservation, and improvement and/or protection (Schlosberg, 2009, 2013). This concern attends to the goal of sustainability and more specifically the claim of *inter-generational justice*. Therefore, various actors in environmental engineering are expected to adopt strategies which are meant to reduce adverse health and environmental effects on minority, poor, low-income populations (Meerow et al., 2019). This can permit these populations to benefit from these processes and activities equitably and pursue their livelihoods in the respective affected spaces. Spatial justice is also concerned with fair distribution of burdens and benefits resulting from engineering activities (Arnstein, 1969; Fainstein, 2014; Lefebvre, 1996; Rawls, 1999). In this facet, the environmental engineers have the tasks to ensure that they design and apply good processes assuring the restitution of the environmental and material conditions so that the living conditions of surrounding local community should not be disrupted (Vallée, 2002). Simply put, spatial justice is vital for all activities of civil and environmental engineering to the overall well-being of spatial resources users, and prevents or minimises various harms resulting from these activities. Since these activities are viewed from the economic, social and environmental domains of spatial resources management they can be just and effectively completed if the implementing agencies and professionals observe all forms of spatial justice whose aspirations are discussed in this thesis.

9.3.2. Relevance of the key findings on urban space (re)development and recommendations

One of the outcomes of this study is the framework of indicators that evaluates trends of spatial justice and land tenure security for the poor and low-income dwellers. These indicators were applied to evaluate whether the current rules and processes of Kigali City (re)development promote spatial justice and land tenure security. They were applied to analyse the interactions and collaboration between the actors in the expropriation processes and the compliance to laws governing the expropriation in Kigali City. This analysis also helped to examine if these processes result in fair compensation and permits the expropriated people to access new properties and to integrate themselves in the city of Kigali. Findings reveal some patterns of spatial injustice in both law and its implementation practices, in both cases of the in-cash and in-kind compensation, connected with the lack of negotiation and collaboration arena between the expropriating agencies and property owners. This results in unfair compensation in the case of the in-cash compensation, and inability to access other properties in the same city for the expropriated property owners. In the case the compensation consists of the resettlement option, findings show the expropriated people are provided with housing units which do not fit with the households' sizes. These people are also placed under the risks of impoverishment, due to the displacement and resettlement in remote areas which result in the loss of their former jobs and income generation activities without palliative measures in the new residential areas. This economic hardship is also experienced by the informal

settlement dwellers who are relocated from the high-risk zones to planned and serviced sites. Generally, and with regards to the spatial justice matrix developed in chapter 3 of this study, the findings demonstrate that rules related to Kigali City (re)development, including the expropriation law, are moderately good (with scores ranging between 3 and 4 out of 5 for most of the aspects of these rules which were evaluated during this study). However, decision makers partially abide by these rules during their implementation processes. This results in the outcomes which are partly just and unjust, as illustrated by the green colour in Figure 48 below:

Figure 48: Overview of trends of spatial justice in rules, processes and outcomes of Kigali City (re)development



As figure 48 shows, the rules in use in Kigali City (re)development are generally just. Yet, they reveal how some features of spatial injustices can lead to trends of spatial injustices in the rules dimension, as well as in both processes and outcomes. This applies, for instance, for the expropriation law, which does not clearly define the public interest and the circumstances during which public agencies can carry out the expropriation on behalf of the private investors. Moreover, it does not create the room for negotiation and collaboration among the expropriating agencies and property owners. As discussed in chapter 4 and 5, trends of spatial injustices observed in the processes and outcomes are connected with the non-compliance with the provisions of the rules (which exhibit various aspects of spatial justice) by actors who implement various projects related to Kigali City development. Therefore, the study suggests policy and practical options to remedy to these drawbacks, with

specific emphasis on the embeddedness of procedural justice in both rules and their implementation processes. The key elements of spatial justice which are generally missing in these rules and processes are the negotiation and direct collaboration between government agencies implementing the current Kigali City (re)development schemes and the affected property owners. Their deficiency has been found to be the main causes of unjust outcomes, identified in the expropriation processes and other operations related to the resettlement of the displaced dwellers of informal settlements. Yet, as mentioned in chapter 4, the expropriation law should be substantially revised to bridge the above-mentioned gaps. Apart from these operations related to the expropriation and informal settlement management, this study has drawn some recommendations on how to improve the processes of resettling urban dwellers displaced during the operations of informal settlements clearance in Kigali City. Improvement should consist of collaborative planning, through direct involvement of the local community, in order to design resettlement plans which cater for the basic needs and sources of incomes for the affected urban dwellers. In addition, this study has formulated different suggestions on how to promote access to housing in Kigali City, based on findings from the assessment of the affordability of housing units produced under the affordable housing schemes. These recommendations include some options for decreasing the costs of housing construction, the preservation of the existing houses through slum upgrading which was proved to require less financial resources than the clearance of all informal settlements through the expropriation and the use of local material in housing construction. These options can promote spatial justice as well as land tenure security if well applied in Kigali City (re)development processes. The problems related to urban (re)development processes discussed in this study are not specific for Kigali City. Therefore, recommendations which have been drawn towards these problems can be relevant to other cities (in developing countries) which under-go various processes of re-organisation. Some critical issues which requires attention, with regard to spatial justice aspirations include the following:

1. *The expropriation or compulsory purchase of private real property*: generally, this processes results in the loss of basic social and economic assets, such as land, houses, employment, and social network. This endangers the livelihoods of the affected people, especially the poor and low-income people who hardly access other assets even if a fair compensation due to low market values of the expropriated properties. It is therefore important to rethink of the compensation options which can place the expropriated property owners in conditions which are similar to (or better than) these they have been living in, so that they can benefit from the benefits expected from the projects which are the cause for this expropriation. In a more non-ambiguous language of spatial justice, Sevatald (2002, pp.6) argues that the expropriation processes should consist of “doing evil things in a decent way” through application of fair and decent procedures that makes the whole process less painful for both parties. For instance, the cost-replacement or the in-kind compensation may be applied among the compensation approaches. In all case, the expropriation processes should be based on good planning (in both procedures and budget), including negotiation and bargaining with the affected property owners in order to determine compensation that permits to re-establish their living conditions. As a matter of justice, the expropriator should bear the cost for fair

compensation, since this process is not carried out at the will of the alienators who lose their properties.

2. *Resettlement processes*: they should be based on good planning, public participation and negotiation, including adequate compensation option that caters with financial assistance or other form of supports, required for the restoration of the livelihood for the affected property owners. If the resettlement implies the displacement of the affected people, possible, the displacement distance should be minimised in order to prevent the loss of employment opportunities or disruption in social networks of exchange which are central for the livelihoods of most of poor and low-income urban dwellers.

3. *Promotion of tenure security*: the urban development schemes which are designed in a bid to improve the living standards of the residents in their existing dwellings through the provision of basic infrastructure and services should not disrupt tenure or rental conditions of some of these urban dwellers or result in their displacement. They should also promote the formalisation of the existing land rights.

4. *Affordable housing*: it is a common trend that the affordable housing schemes under-implementation in various countries do not solve the problem of access to housing for the poor and low-income categories, who should be the most beneficiaries as stipulated in the related policies or regulations. Since access to housing is a human right and one of the main targets of the sustainable development goals, rethinking of the strategies to promote access to decent and affordable housing for these people should be among crucial issues in the current social and economic development agendas.

5. *Inclusive and participatory urban (spatial) planning*: this principle of good governance in spatial resources management is central to inclusive and sustainable development. Through procedural justice, active participation of different categories of urban (spatial)resources users in the planning and implementation of all kind of urban (and/or spatial) (re)development programmes or projects has been acclaimed to be the driver for their just outcomes which respond to the needs of various categories of users of these resources. In addition, it is the prerequisite for effective implementation and just outcomes of different processes of urban (re)development discussed in this study.

9.4. Further research

In this section, further studies which may consist of enlarging or applying the developed framework of indicators measuring spatial justice and land tenure security are suggested. Firstly, a research that investigates the potential of land tenure security to promote spatial justice may be carried out. In this study, the connection between spatial justice and land tenure security was investigated from one direction: assuming that promoting spatial justice alongside the urban space management can advance land tenure security. Yet, the promotion of land tenure security from the lens of good and effective system of land tenure may advance also spatial justice. However, this study did not find any contention. Therefore, further studies that may explore the connection between land tenure security and spatial justice can be conducted from this direction.

Secondly, an extended application of the developed indicators measuring spatial justice and land tenure security in other areas of Kigali City (re)development is suggested. Field data for this study were collected when the Kigali City authorities and their partners had approved various studies related to informal settlement upgrading in this city. During the time we were collecting data used in this study, one project consisting of upgrading of Agatare, an informal residential neighbourhood located in Nyarugenge District was at its initial implementation stage, through the World Bank funding. Based on limited data collected about this project through interviews with the local inhabitants and various stakeholders, and the project document review, its first phase aimed at constructing roads, streets, drainage and sewerage networks, pedestrian pathways, installation of the public lightning and the creation of small-scale green spaces in order to improve the physical conditions and quality of life in this neighbourhood. However, there was no indication about the collaboration with the local residents, although their participation is among the key elements for the success of any informal settlement upgrading project. The review of this project document and the interviews held with the representatives from the implementing agencies revealed that it was designed in a way which does not provide options for properties owners to improve or upgrade their houses, which can play a significant role for the promotion of spatial justice and land tenure security. Since this study was carried out at a time that the project was not fully implemented yet, and therefore was not part of our research, we suggest further studies which should investigate whether these initiatives of informal settlement upgrading are likely to promote spatial justice and land tenure security in Kigali City.

As for the access to affordable housing, which is discussed in one of the chapters of this thesis, further research would consist of designing housing models which can be aligned with incomes of various categories of Kigali City inhabitants. In the same fashion, other studies may explore trends of spatial justice and land tenure security, from zoning regulations, which are proposed in the current master plan of Kigali City. These regulations, have been designed in a bid to prevent the growth of informal settlements, since they suggest different categories and standards of housing that landowners must comply with, in all residential areas which are yet to be developed. However, they have been subject of critics in the existing studies which argue that the proposed housing standards are out of the reach of most of Kigali City inhabitants. Therefore, this may result in their spatial exclusion, driven by the non-compliance with these standards. Due to limited time, this study did not explore this problem, which can be a topic for further research.

10. References

1. Abdul-Aziz, A. R. and Jahn Kassim, P. S. (2011). "Objectives, success and failure factors of housing public-private partnerships in Malaysia." *Habitat International* 35(1): 150-157.
2. Abdulai, R. T. (2006) "Is Land Title Registration the Answer to Insecure and Uncertain Property Rights in sub-Saharan Africa ?" RICS Research Paper Series, 6, 28.
3. Abu-Lughod, J. and Hay, R. J. (2013). *Third World Urbanization*. London and New York, Routledge.
4. Adams, D., Disberry, A., Hutchison, N. and Munjoma, T. (2001). "Managing Urban Land: The Case for Urban Partnership Zones." *Regional Studies* 35(2): 153-162.
5. Adegeye, A., & Coetzee, J. (2018). Exploring the fragments of spatial justice and its relevance for the global south. *Development Southern Africa*, 1-14. doi: 10.1080/0376835X.2018.1495062
6. Adegeye, A., & Coetzee, J. (2019). Exploring the fragments of spatial justice and its relevance for the global south. *Development Southern Africa*, 36(3), 376-389. doi: 10.1080/0376835X.2018.1495062
7. Afsar, B., Shahjehan, A., Afridi, S. A., Shah, S. I., Saeed, B. B., & Hafeez, S. (2019). How moral efficacy and moral attentiveness moderate the effect of abusive supervision on moral courage? *Economic Research-Ekonomska Istraživanja*, 32(1), 3431-3450. doi: 10.1080/1331677X.2019.1663437
8. Akkar Ercan, M. (2011). Challenges and conflicts in achieving sustainable communities in historic neighbourhoods of Istanbul. *Habitat International*, 35, 295-306.
9. Alemie, B.K., Bennett, R.M. & Zevenbergen, J. (2015). A socio-spatial methodology for evaluating urban land governance: the case of informal settlements. *Journal of Spatial Science*, 60, 289-309.
10. Alemu, B. Y. (2014). *Expropriation, Valuation and Compensation in Ethiopia*. (PhD Doctoral thesis), KTH Royal Institute of Technology, Stockholm. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:kth:diva-144623>
11. Alexander, E. R. (2002). "The Public Interest in Planning: From Legitimation to Substantive Plan Evaluation." *Planning Theory* 1(3): 226-249.
12. Alfasi, N., & Fenster, T. (2014). Between socio-spatial and urban justice: Rawls' principles of justice in the 2011 Israeli Protest Movement. *Planning Theory*, 13(4), 407-427. doi: 10.1177/1473095214521105
13. Amoako, C. and Frimpong Boamah, E. (2017). "Build as you earn and learn: informal urbanism and incremental housing financing in Kumasi, Ghana." *Journal of Housing and the Built Environment* 32(3): 429-448.
14. Andersen, H.S. (2003). *Urban Sores: On the Interaction between Segregation, Urban Decay and Deprived Neighbourhoods*, Ashgate, Aldershot, England
15. Andersson, K. (2006). Understanding decentralized forest governance: an application of the institutional analysis and development framework. *Sustainability: Science, Practice, & Policy* 2(1), 25-35.
16. Andrew, C., & Doloreux, D. (2012). Economic Development, Social Inclusion and Urban Governance: The Case of the City-Region of Ottawa in Canada. *International journal of urban and regional research*, 36(6), 1288-1305. doi: 10.1111/j.1468-2427.2011.01025.x
17. Anguelovski, I., Irazábal-Zurita, C., & Connolly, J. J. T. (2019). Grabbed Urban Landscapes: Socio-spatial Tensions in Green Infrastructure Planning in Medellín. *International journal of urban and regional research*, 43(1), 133-156. doi: 10.1111/1468-2427.12725
18. Armstrong, C. (2003). "Equality, Recognition and the Distributive Paradigm." *Critical Review of International Social and Political Philosophy* 6(3): 154-164.

19. Arneson, R. (2013). Equality of Opportunity: Derivative Not Fundamental. *Journal of Social Philosophy*, 44(4), 316-330. doi: 10.1111/josp.12036
20. Arnstein, S. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners*, 35(4), 216-224. doi: 10.1080/01944366908977225
21. Arthurson, K. (2010). Operationalising Social Mix: Spatial Scale, Lifestyle and Stigma as Mediating Points in Resident Interaction. *Urban Policy and Research*, 28(1), 49-63. doi: 10.1080/08111140903552696
22. Arthurson, K., Levin, I. & Ziersch, A. (2015). What is the Meaning of 'Social Mix'? Shifting perspectives in planning and implementing public housing estate redevelopment. *Australian Geographer*, 46(4), 491-505. doi: 10.1080/00049182.2015.1075270
23. Ash, A. (1999). An Institutional Perspective on Regional Economic Development/Ash Amin. *International Journal of Urban and Regional Research*, 2.
24. Asiama, K., Lengoiboni, M. and van der Molen, P. (2017). "In the Land of the Dammed: Assessing Governance in Resettlement of Ghana's Bui Dam Project." *Land* 6(4): 80.
25. Asian Development Bank. (2014). *Lose to gain: Is involuntary resettlement a development opportunity?* (J. Perera Ed.).
26. Assies, W. (1994). Reconstructing the meaning of urban land in Brazil: The case of Recife. In J. Gareth & P. Ward (Eds.), *Methodology for Land and Housing Market Analysis* (pp. 102–119). London: Taylor & Francis.
27. August, M. (2008). Social Mix and Canadian Public Housing Redevelopment Experiences in Toronto. *Canadian Journal of Urban Research*, 17(1), 82-100.
28. Auzins, A. (2004). Institutional Arrangements: A Gate Towards Sustainable Land Use. *Nordic Journal of Surveying and Real Estate Research*, 1, 57-71.
29. Average, C. (2019). Contestations for urban space: informality and institutions of disenfranchisement in Zimbabwe_The case of Masvingo City. *GeoJournal*. doi: 10.1007/s10708-019-10022-4
30. Aznar, S. N. (2016). *New Trends in Condominium Law and Access to Housing in Post-crisis Spain. Private Communities and Urban Governance: Theoretical and Comparative Perspectives*. A. Lehavi. Cham, Springer International Publishing: 165-190.
31. Bah, E., Faye, I., & Geh, Z. (2018). Slum Upgrading and Housing Alternatives for the Poor Housing Market Dynamics in Africa (pp. 215-253). London: Palgrave Macmillan, UK.
32. Barbieri, G., Benassi, F., Mantuano, M., & Prisco, M. R. (2019). In search of spatial justice. Towards a conceptual and operative framework for the analysis of inter- and intra-urban inequalities using a geo-demographic approach. The case of Italy. *Regional Science Policy & Practice*, 11(1), 109-121. doi: 10.1111/rsp3.12158
33. Barry, B. (1997). "Sustainability and Intergenerational Justice." *Theoria* 44(89): 43-64.
34. Beatley, T. (1991). A set of ethical principles to guide land use policy. *Land Use Policy*, 8(1), 3-8. doi: [https://doi.org/10.1016/0264-8377\(91\)90048-N](https://doi.org/10.1016/0264-8377(91)90048-N)
35. Beebejaun, Y. (2017). "Gender, urban space, and the right to everyday life." *Journal of Urban Affairs* 39(3): 323-334.
36. Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, 2, 8-14. doi: <https://doi.org/10.1016/j.npls.2016.01.001>
37. Bergling, P., Wennerström, E., & Sannerholm, R. Z. (2010). Rule of Law in Public Administration:

- Problems and Ways Ahead in Post-Conflict Peace-Building. *Hague Journal on the Rule of Law*, 2(2), 171-202. doi: 10.1017/s1876404510200039
38. Berke, P. (2016). Twenty Years After Campbell's Vision: Have We Achieved More Sustainable Cities? *Journal of the American Planning Association*, 82, 380-382.
 39. Bernt, M. (2009). Partnerships for Demolition: The Governance of Urban Renewal in East Germany's Shrinking Cities. *International Journal of Urban and Regional Research*, 33, 754-769.
 40. Berrisford, S. (2014). The challenge of urban planning law reform in African cities. In: Africa's urban revolution. (eds. S. Parnell, S & Pieterse, E). Zed Books Ltd, London Cape Town, University of Cape Town Press, pp. 167-183.
 41. Bertaud, A. (2019). Annual demographia international housing affordability survey (2018: 3rd Quarter) (pp. 62). New York, London and Los Angeles.
 42. Beyazit, E. (2011). Evaluating Social Justice in Transport: Lessons to be Learned from the Capability Approach. *Transport Reviews*, 31(1), 117-134. doi: 10.1080/01441647.2010.504900
 43. Beyers, C. (2016). "Reconciling competing claims to justice in urban South Africa: Cato Manor and District Six." *Journal of Contemporary African Studies* 34(2): 203-220.
 44. Beyers, C. (2017). Rights struggles over "development": land, shelter and citizenship in urban South Africa. *Canadian Journal of Development Studies / Revue canadienne d'études du développement*, 38(2), 234-252. doi: 10.1080/02255189.2017.1289078
 45. Bizimana, J.B., Mugiraneza, T., Twarabamenye, E. & Mukeshimana, M.R. (2012). Land Tenure Security in Informal Settlements of Kigali City. Case study in Muhima Sector. *Rwanda Journal*, 25.
 46. Bodnar, J., & Molnar, V. (2010). Reconfiguring Private and Public: State, Capital and New Housing Developments in Berlin and Budapest. *Urban Studies*, 47(4), 789-812. doi: doi:10.1177/0042098009351188
 47. Booher, D. (2004). "Collaborative governance practices and democracy." *National Civic Review* 93(4): 32-46.
 48. Boone, C. (2019). Legal Empowerment of the Poor through Property Rights Reform: Tensions and Trade-offs of Land Registration and Titling in Sub-Saharan Africa AU - Boone, Catherine. *The Journal of Development Studies*, 55(3), 384-400. doi: 10.1080/00220388.2018.1451633
 49. Börzel, T. A., Hofmann, T. & Panke, D. (2012). Caving in or sitting it out? Longitudinal patterns of non-compliance in the European Union. *Journal of European Public Policy*, 19(4), 454-471. doi: 10.1080/13501763.2011.607338
 50. Bottazzi, P. & Hy Dao, H. (2013). On the road through the Bolivian Amazon: A multi-level land governance analysis of deforestation. *Land Use Policy* 30, 137- 146.
 51. Boyne, G. & Powell, M. (1991). Territorial justice. A review of theory and evidence. *Political Geography Quarterly*, 10, 263-281.
 52. Bredenoord, J. & van Lindert, P. (2010). Pro-poor housing policies: Rethinking the potential of assisted self-help housing. *Habitat International*, 34, 278-287.
 53. Bredenoord, J., van Lindert, P. & Smets, P. (2010). Equal access to shelter: Coping with the urban crisis by supporting self-help housing. *Habitat International*, 34, 274-277.
 54. Bruce, J. W. and Migot-Adholla, S. E. (1994). Searching for land tenure security in Africa. Washington, DC, Kendall/Hunt.

55. Burke, K. and Leben, S. (2007). "Procedural Fairness: A Key Ingredient In Public Satisfaction." *Court Review: The Journal of the American Judges Association* 44(1/2).
56. Burns, T., Grant, C., Nettle, K., Brits, A.-M. and Dalrymple, K. (2006). *LAND ADMINISTRATION REFORM: Indicators of success, future challenges*. Wollongong, NSW, Australia: 233.
57. Calavita, N. and Mallach, A. (2010). *Inclusionary Housing in International Perspective: Affordable Housing, Social Inclusion, and Land Value Recapture*, Lincoln Institute of Land Policy.
58. Caldeira, T., & Holston, J. (2015). Participatory urban planning in Brazil. *Urban Studies*, 52(11), 2001-2017. doi: 10.1177/0042098014524461
59. Caldieron, J. M. (2013). "Land Tenure and the Self- Improvement of Two Latin American Informal Settlements in Puerto Rico and Venezuela." *Urban Forum* 24: 49-64.
60. Campbell, H. (2012a). Planning ethics and rediscovering the idea of planning. *Planning Theory*, 11(4), 379-399. doi: 10.1177/1473095212442159
61. Campbell, H. (2012b). 'Planning ethics' and rediscovering the idea of planning. *Planning Theory*, 11(4), 379-399. doi: 10.1177/1473095212442159
62. Campbell, H. and Marshall, R. (1999). "Ethical Frameworks and Planning Theory." *International Journal of Urban and Regional Research* 23(3): 464-478.
63. Campbell, H. and Marshall, R. (2006). "Towards justice in planning: A reappraisal." *European Planning Studies* 14(2): 239-252.
64. Campbell, S. (1996). Green Cities, Growing Cities, Just Cities? Urban Planning and the Contradictions of Sustainable Development. *Journal of the American Planning Association*, 62(3), 296-312. doi: <http://dx.doi.org/10.1080/01944369608975696>
65. Campbell, S. (2013). Sustainable Development and Social Justice: Conflicting Urgencies and the Search for Common Ground in Urban and Regional Planning. *Michigan Journal of Sustainability*, 1, 296-312.
66. Cao, Y., & Zhang, X. (2018). Are they satisfied with land taking? Aspects on procedural fairness, monetary compensation and behavioral simulation in China's land expropriation story. *Land Use Policy*, 74, 166-178. doi: <https://doi.org/10.1016/j.landusepol.2017.08.027>
67. Carey, G., & Friel, S. (2015). Understanding the Role of Public Administration in Implementing Action on the Social Determinants of Health and Health Inequities. *International journal of health policy and management*, 4(12), 795-798. doi: 10.15171/ijhpm.2015.185
68. Carpio, G., IrazÁBal, C., & Pulido, L. (2011). RIGHT TO THE SUBURB? RETHINKING LEFEBVRE AND IMMIGRANT ACTIVISM. *Journal of Urban Affairs*, 33(2), 185-208. doi: 10.1111/j.1467-9906.2010.00535.x
69. Carr, J. (2012). "Public Input/Elite Privilege: The Use of Participatory Planning to Reinforce Urban Geographies of Power in Seattle." *Urban Geography* 33(3): 420-441.
70. Cavanagh, E. (2014). The promise of land: undoing a century of dispossession in South Africa. *Social Dynamics*, 40(2), 429-432. doi: 10.1080/02533952.2014.932173
71. Centre for Affordable Housing Finance in Africa. (2018). *Housing finance in Africa. A review of some of Africa's housing finance markets* (pp. 290). Johannesburg, South Africa.
72. Chapman, T. P. (2015). "Spatial Justice and the Western Areas of Johannesburg." *African Studies* 74(1): 76-97.
73. Charuvichaipong, C., & Sajor, E. (2006). *Promoting waste separation for recycling and local governance*

- in Thailand. *Habitat International*, 30(3), 579-594. doi: <http://dx.doi.org/10.1016/j.habitatint.2005.02.002>
74. Chatterton, P. (2010). "Seeking the urban common: Furthering the debate on spatial justice." *City* 14(6): 625-628.
 75. Chigbu, U. E., Alemayehu, Z., & Dachaga, W. (2019). Uncovering land tenure insecurities: tips for tenure responsive land-use planning in Ethiopia. *Development in Practice*, 29(3), 371-383. doi: 10.1080/09614524.2019.1567688
 76. Chigbu, U. E., Ntihinyurwa, P. D., de Vries, W. T., & Ngenzi, E. I. (2019). Why Tenure Responsive Land-Use Planning Matters: Insights for Land Use Consolidation for Food Security in Rwanda. *International Journal of Environmental Research and Public Health*, 16(8), 1354.
 77. Chigbu, U. E., Schopf, A., de Vries, W. T., Masum, F., Mabikke, S., Antonio, D., & Espinoza, J. (2017). Combining land-use planning and tenure security: a tenure responsive land-use planning approach for developing countries. *Journal of Environmental Planning and Management*, 60(9), 1622-1639. doi: 10.1080/09640568.2016.1245655
 78. Chitonge, H. & Mfuno, O. (2015). The urban land question in Africa: The case of urban land conflicts in the City of Lusaka, 100 years after its founding. *Habitat International*, 48, 209-218.
 79. Choi, N. (2016). Metro Manila through the gentrification lens: Disparities in urban planning and displacement risks. *Urban Studies*, 53(3), 577-592. doi: doi:10.1177/0042098014543032
 80. Cities Alliance. (2010). *The City Statute: A commentary* (1 ed., pp. 120). São Paulo, Brazil.
 81. City of Kigali. (2013). *The City of Kigali Development Plan (2013-2018)* (pp. 98). Kigali, Rwanda.
 82. City of Kigali. (2016a). *Final report on high risk zone survey 2016 conducted in Kigali City*. Kigali, Rwanda: Kigali City.
 83. City of Kigali. (2016b). *Kigali: A Rising Star in Africa. Five Year Achievements (2011-2015)* (pp. 96). Kigali, Rwanda.
 84. Clasen, J., & Van Oorschot, W. (2002). Changing Principles in European Social Security. *European Journal of Social Security*, 4(2), 89-115. doi: 10.1023/a:1020520321533
 85. Clement, F. & Amezaga, J.M. (2013). Conceptualising context in institutional reforms of land and natural resource management: the case of Vietnam. *International Journal of the Commons* Vol. 7, 140-163.
 86. Clover, J. and Eriksen, S. (2009). "The effects of land tenure change on sustainability: human security and environmental change in southern African savannas." *Environmental Science & Policy* 12(1): 53-70.
 87. Cobbinah, P.B., Erdiaw-Kwasie, M.O. & Amoateng, P. (2015). Africa's urbanisation: Implications for sustainable development. *Cities*, 47, 62-72.
 88. Cohen, R. (1985). Procedural Justice and Participation. *Human Relations*, 38(7), 643-663. doi: 10.1177/001872678503800703
 89. Cooper, H. (1998). *Applied social research methods* (3rd, ed.). Thousand Oaks, CA, US: Sage Publications, Inc.
 90. Cowan, S. (2006). Anti-snob land use laws, suburban exclusion and housing opportunity. *Journal of Urban Affairs*, 28(3), 295-313. doi: 10.1111/j.1469-9906.2006.00293.x
 91. Cowie, G.M. & Borrett, R.S. (2005). Institutional perspectives on participation and information in water management. *Environmental Modelling & Software*, 20, 469-483.
 92. Coy, M., Sandholz, S., Töpfer, T., & Zirkl, F. (2018). Metropolitan Regions: Challenges for Sustainability and Governance of Periurban Areas in Brazil. *Confins* 38.

93. Cruzes, D. S. and Dybã, T. (2011). "Research synthesis in software engineering: A tertiary study." *Information and Software Technology* 53(5): 440-455.
94. Culiberg, B., & Mihelič, K. K. (2016). Three ethical frames of reference: insights into Millennials' ethical judgements and intentions in the workplace. *Business Ethics: A European Review*, 25(1), 94-111. doi: 10.1111/beer.12106
95. Czischke, D., & van Bortel, G. (2018). An exploration of concepts and policies on 'affordable housing' in England, Italy, Poland and The Netherlands. *Journal of Housing and the Built Environment*. doi: 10.1007/s10901-018-9598-1
96. da Silva, S., & de Vries, P. (2018). *Theorizing Slum Politics in Recife, Brazil : Community leaders symbolize the inconsistency of the urban situation*. Paper presented at the Cities and Citizenship in Latin America & the Caribbean, Delft.
97. Dabinett, G. (2010). Spatial Justice and the Translation of European Strategic Planning Ideas in the Urban Sub-region of South Yorkshire. *Urban Studies*, 47(11), 2389-2408. doi: doi:10.1177/0042098009357964
98. Davis, J. E. (2010). Origins and evolution of the community land trust in the United States. *The community land trust reader*. J. E. Davis. Cambridge, Lincoln Institute of Land Policy: 3-47.
99. Davy, B. (2012). *Land policy : planning and the spatial consequences of property*. Farnham, Surrey, U.K and Burlington, Vermont, USA.: Ashgate Publishing.
100. Davy, B. (2014). Polyrational property: rules for the many uses of land. *International Journal of the Commons*, 8(2), 472-492. doi: <http://doi.org/10.18352/ijc.455>
101. Davy, B. (2018). After form. The credibility thesis meets property theory. *Land Use Policy*, 79, 854-862. doi: <https://doi.org/10.1016/j.landusepol.2017.02.036>
102. de Duren, L. N. R. (2018). Why there? Developers' rationale for building social housing in the urban periphery in Latin America. *Cities*, 72, 411-420. doi: <https://doi.org/10.1016/j.cities.2017.10.006>
103. de Kam, G., Needham, B., & Buitelaar, E. (2014). The embeddedness of inclusionary housing in planning and housing systems: insights from an international comparison. *Journal of Housing and the Built Environment*, 29(3), 389-402. doi: 10.1007/s10901-013-9354-5
104. De Soto, H. (2000). *The Mystery of Capital - Why Capitalism Triumphs in the West and Fails Everywhere Else*. Transworld Publisher, London.
105. de Sousa, B. S. (1998). Participatory Budgeting in Porto Alegre: Toward a Redistributive Democracy. *Politics & Society*, 26(4), 461-510. doi: 10.1177/0032329298026004003
106. de Souza, F. A. M. (2001). Perceived security of land tenure in Recife, Brazil. *Habitat International* 25(2001): 175-190.
107. de Souza, A. M. F. (2004a). *Disputing security of land tenure in low-income housing settlements in Brazil*. Paper presented at the Adequate and affordable housing for all, Toronto. http://www.urbancentre.utoronto.ca/pdfs/housingconference/deSouza_Disputing_Security.pdf
108. de Souza, A. M. F. (2004b). Security of land tenure revised: the case of CRRU in Recife and Porto Alegre, Brazil. *Habitat International*, 28(2), 231-244. doi: [https://doi.org/10.1016/S0197-3975\(03\)00070-5](https://doi.org/10.1016/S0197-3975(03)00070-5)
109. de Vries, P. (2016a). The Inconsistent City, Participatory Planning, and the Part of No Part in Recife, Brazil. *Antipode*, 48(3), 790-808. doi: doi:10.1111/anti.12223

- 110.de Vries, P. (2016b). Participatory slum upgrading as a disjunctive process in Recife, Brazil: Urban coproduction and the absent ground of the city. *Singapore Journal of Tropical Geography*, 37(3), 295-309. doi: doi:10.1111/sjtg.12156
- 111.de Vries, W. T., & Chigbu Uchendu, E. (2017). Responsible land management-Concept and application in a territorial rural context fub. *Flächenmanagement und Bodenordnung*, 2.
- 112.de Vries, W. T., & Voß, W. (2018). Economic Versus Social Values in Land and Property Management: Two Sides of the Same Coin? *Raumforschung und Raumordnung | Spatial Research and Planning*, 76(5), 381-394. doi: 10.1007/s13147-018-0557-9
- 113.Deborah, G. M. (2011). Regional Urbanization, Spatial Justice, and Place. *Urban Geography*, 32(4), 484-487. doi: 10.2747/0272-3638.32.4.484
- 114.Deininger, K. (2003). Land Policies for Growth and Poverty Reduction, A World Bank policy research report. Washington, DC 239.
- 115.Deininger, K., Augustinus, C., Enemark, S., & Munro-Faure, P. (2010). Innovations in Land Rights Recognition, Administration, and Governance. Washington, DC, USA.: World Bank, GLTN, FIG, and FAO.
- 116.Deininger, K., Jin, S., *et. al.* (2006). "Tenure Security and Land-related investment. Evidence from Ethiopia." *European Economic Review* 50(5): 1245-1277.
- 117.Deininger, K., Selod, H. and Burns, A. (2012). The Land Governance Assessment Framework: Identifying and Monitoring Good Practice in the Land Sector. Washington DC, The World Bank.
- 118.Denoon-Stevens, S. P. (2016). Developing an appropriate land use methodology to promote spatially just, formal retail areas in developing countries: The case of the City of Cape Town, South Africa. *Land Use Policy*, 54, 18-28. doi: <https://doi.org/10.1016/j.landusepol.2016.01.010>
- 119.Denzin, N.K. & Lincoln, Y.S. (1998). *The landscape of qualitative research: Theories and issues*. Sage Publications.
- 120.Dettmer, H. W. (1997). *Goldratt's Theory of Constraints: A Systems Approach to Continuous Improvement*. Wisconsin, USA: ASQC Quality Press.
- 121.Deutsche Gesellschaft für Internationale Zusammenarbeit. (2016). Land in German Development Cooperation. Guiding Principles, challenge and Prospects for the Future. In J. Espinoza, C. Graefen, M. Kirk, A. Seelaff, F. Thiel & W. Zimmermann (Eds.), (pp. 84). Eschborn, Germany.
- 122.Di Gregorio et al. (2008). Property Rights, Collective Action, and Poverty: The Role of Institutions for Poverty Reduction. In: CAPRI Working Paper Washington, DC.
- 123.Dikeç, M. (2001). "Justice and the Spatial Imagination." *Environment and Planning A* 33(10): 1785-1805.
- 124.Dikeç, M. (2002). Police, politics, and the Right to the City. *GeoJournal*, 58(2), 91. doi: 10.1023/B:GEJO.0000010828.40053.de
- 125.Dikeç, M. (2009). "Space, politics and (in)justice." *justice spatiale | spatial justice* september 2009(1): 8.
- 126.Donaghy, M. (2013). *Civil Society and Participatory Governance: Municipal Councils and Social Housing Programs in Brazil*. Routledge.
- 127.Downe-Wamboldt, B. (1992). Content analysis: method, applications, and issues. *Health Care Women Int*, 13(3), 313-321. doi: 10.1080/07399339209516006
- 128.Duangjai, W., Schmidt-Vogt, D. & Shrestha, R.P. (2015). Farmers' land use decision-making in the context of changing land and conservation policies: A case study of Doi Mae Salong in Chiang Rai

- Province, Northern Thailand. *Land Use Policy*, 48, 179-189.
129. Durand-Lasserve, A. (2007). Market-driven eviction processes in developing country cities: the cases of Kigali in Rwanda and Phnom Penh in Cambodia. *Global Urban Development*, 2, 1-15.
130. Durand-Lasserve, A. and Selod, H. (2007). The formalisation of urban land tenure in developing countries. World Bank, Urban Research Symposium.
131. Durand-Lasserve, A., Durand-Lasserve, M. & Selod, H. (2013). A Systemic Analysis of Land Markets and Land Institutions in West African Cities: Rules and Practices ? The Case of Bamako, Mali. The World Bank.
132. Durant, R. F., & Durant, J. R. S. (2017). *Debating Public Administration: Management Challenges, Choices, and Opportunities*. London and New York: Taylor & Francis, CRC Press.
133. Durrant, D. (2017). Infrastructure, Equity and Urban Planning: A Just Process for the Allocation of Benefits and Burdens. In J. Bishop (Ed.), *Building Sustainable Cities of the Future* (pp. 141-162). Cham: Springer International Publishing.
134. Edésio, F. (2007). "Constructing the 'Right to the City' in Brazil." *Social & Legal Studies* 16(2): 201-219.
135. Eizenberg, E., & Jabareen, Y. (2017). Social Sustainability: A New Conceptual Framework. *Sustainability*, 9(1), 68.
136. Elkin, T., McLaren, D., & Hillman, M. (1991). *Reviving the City: Towards Sustainable Urban Development*. London, UK: Friends of the Earth Trust.
137. Enemark, S. (2006, 27-29 April, 2006). *The e-Future Challenge*. Paper presented at the FIG Workshop on eGovernance, Knowledge Management and eLearning Budapest, Hungary.
138. Enemark, S., Hvingel, L., & Galland, D. (2014). Land administration, planning and human rights. *Planning Theory*, 13(4), 331-348. doi: 10.1177/1473095213517882
139. Engelsman, U., Rowe, M. and Southern, A. (2016). "Community Land Trusts, affordable housing and community organising in low-income neighbourhoods." *International Journal of Housing Policy*: 1-21.
140. Enright, T. (2019). Transit justice as spatial justice: learning from activists. *Mobilities*, 14(5), 665-680. doi: 10.1080/17450101.2019.1607156
141. Erdiaw-Kwasie, M. O., & Basson, M. (2018). Reimagining socio-spatial planning: Towards a synthesis between sense of place and social sustainability approaches. *Planning Theory*, 17(4), 514-532. doi: 10.1177/1473095217736793
142. Esmail, S., & Corburn, J. (2019). Struggles to remain in Kigali's "unplanned" settlements: the case of Bannyaha. *Environment and Urbanization*, 0(0), 0956247819886229. doi: 10.1177/0956247819886229
143. Fadeyi, M. O. (2017). The role of building information modeling (BIM) in delivering the sustainable building value. *International Journal of Sustainable Built Environment*, 6(2), 711-722. doi: <https://doi.org/10.1016/j.ijbsbe.2017.08.003>
144. Annual Report. Financing development in a challenging environment (2015).
145. Fainstein, S. S. (2009). "Spatial justice and planning." *justice spatiale | spatial justice* (1): 13.
146. Fainstein, S. S. (2010). *The Just City*. Ithaca, New York, USA: Cornell University Press.
147. Fainstein, S. S. (2014). "The just city." *International Journal of Urban Sciences* 18(1): 1-18.
148. Fainstein, S. S., & DeFilippis, J. (2016). *Readings in Planning Theory* (Fourth Edition ed.). est Sussex, UK: Wiley.
149. FAO (2002). Land tenure and rural development. Rome.

150. Feder, G., & Feeny, D. (1991). Land Tenure and Property Rights: Theory and Implications for Development Policy. *The World Bank Economic Review*, 5(1), 135-153.
151. Fenske, J. (2011). Land tenure and investment incentives: Evidence from West Africa. *Journal of Development Economics*, 95(2), 137-156. doi: <https://doi.org/10.1016/j.jdeveco.2010.05.001>
152. Ferguson, B. & Smets, P. (2010). Finance for incremental housing; current status and prospects for expansion. *Habitat International*, 34, 288-298.
153. Fernandes, E. (2007). "Constructing the 'Right to the City' in Brazil." *Social & Legal Studies* 16(2): 201-219.
154. Fernandes, E. (2010). The City Statute and the legal-urban order. São Paulo, Brazil.
155. Fernandes, E. (2011). Implementing the Urban Reform Agenda in Brazil: Possibilities, Challenges, and Lessons. *Urban Forum*, 22(3), 299-314. doi: 10.1007/s12132-011-9124-y
156. Fernandes, E. (2011b). *Regularization of Informal Settlements in Latin America*. Cambridge, USA: Lincoln Institute of Land Policy.
157. Fernández de Córdova, G., Fernández-Maldonado, A. M., & del Pozo, J. M. (2016). Recent changes in the patterns of socio-spatial segregation in Metropolitan Lima. *Habitat International*, 54, 28-39. doi: <https://doi.org/10.1016/j.habitatint.2015.08.016>
158. Ferrari, E. (2012). "Competing Ideas of Social Justice and Space: Locating Critiques of Housing Renewal in Theory and in Practice." *International Journal of Housing Policy* 12(3): 263-280.
159. Finn, B. (2018). Quietly Chasing Kigali: Young Men and the Intolerance of Informality in Rwanda's Capital City. *Urban Forum*, 29(2), 205-218. doi: 10.1007/s12132-017-9327-y
160. Food and Agriculture Organization. (2007). *Good governance in land tenure and administration* Rome, FAO.
161. Food and Agriculture Organization. (2008). *Compulsory acquisition of land and compensation, land tenure studies*. Rome.
162. Food and Agriculture Organization. (2009). *Towards improved land governance*. Rome.
163. Food and Agriculture Organization of the United Nations. (2012). Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the context of National Food Security. Rome, Italy: FAO.
164. Fraser, N. (1995). "From Redistribution to Recognition? Dilemmas of Justice in a 'Post-Socialist' Age." *New Left Review* I 212: 68-93.
165. Fraser, N. (1998). Social justice in the age of identity politics: redistribution, recognition, participation. Paper presented at the Wissenschaftszentrum Berlin für Sozialforschung, Köln. <https://nbn-resolving.org/urn:nbn:de:0168-ss0ar-126247>
166. Fraser, N. (2001). "Recognition without Ethics?" *Theory, Culture & Society* 18(2-3): 21-42.
167. Fraser, N. and Honneth, A. (2003). *Redistribution Or Recognition? A Political-philosophical Exchange*, Verso.
168. Freitas, C. F. S. (2017). Undoing the Right to the City: World Cup investments and informal settlements in Fortaleza, Brazil. *Journal of Urban Affairs*, 39(7), 953-969. doi: 10.1080/07352166.2017.1328974
169. Friedman, R., & Rosen, G. (2019). The face of affordable housing in a neoliberal paradigm. *Urban Studies*, 0(0), 0042098018818967. doi: 10.1177/0042098018818967
170. Friendly, A. (2013). The Right to the City: theory and practice in Brazil. *Planning Theory & Practice*, 14(2), 158-179. doi: 10.1080/14649357.2013.783098

171. Fritz, M., & Koch, M. (2019). Public Support for Sustainable Welfare Compared: Links between Attitudes towards Climate and Welfare Policies. *Sustainability*, 11(15), 4146.
172. Gabrielson, T., Hall, C., Meyer, J. M., & Schlosberg, D. (2016). *The Oxford Handbook of Environmental Political Theory*. Oxfordshire: Oxford University Press.
173. Galuszka, J. (2014). "Community-based approaches to settlement upgrading as manifested through the big ACCA projects in Metro Manila, Philippines." *Environment and Urbanization* 26(1): 276-296.
174. Garcia-Zamor, J.C. (2012). Public participation in urban development: The case of Leipzig, Germany. *Journal of Public Administration and Policy Research* 4, 75-83.
175. Gardner, D., Lockwood, K., & Pienaar, J. (2019). Assessing Rwanda's affordable housing sector (pp. 58). Kigali, Rwanda
176. Garner, C. (1996). "Housing: Underpinning sustainable urban regeneration." *Public Money & Management* 16(3): 15-20.
177. Gilbert, A. (2006). "Good Urban Governance: Evidence from a Model City?" *Bulletin of Latin American Research* 25(3): 392-419.
178. Glass, M. R., Woldoff, R. and Morrison, L. (2014). "Does the middle class have rights to the city? Contingent rights and the struggle to inhabit Stuyvesant Town, New York." *International Journal of Housing Policy* 14(3): 214-235.
179. Glavind, M. (2009). Sustainability of cement, concrete and cement replacement materials in construction. In J. M. Khatib (Ed.), *Sustainability of Construction Materials* (pp. 120-147): Woodhead Publishing.
180. Global Platform for the Right to the City. (2015). *Moving toward the Implementation of the Right to the City in Latin America and Internationally* (pp. 260). São Paulo, Brazil.
181. Goldman, B., & Cropanzano, R. (2015). "Justice" and "fairness" are not the same thing. *Journal of Organizational Behavior*, 36(2), 313-318. doi: 10.1002/job.1956
182. Golub, A., Marcantonio, R., & Sanchez, T. (2013). Race, Space, and Struggles for Mobility: Transportation Impacts on African Americans in Oakland and the East Bay. *Urban Geography*, 34(5), 699-728. doi: 10.1080/02723638.2013.778598
183. Goodfellow, T. (2014). Rwanda's political settlement and the urban transition: expropriation, construction and taxation in Kigali. *Journal of Eastern African Studies*, 8, 311-329.
184. Goodfellow, T. (2015). *Taxing the Urban Boom: Property Taxation and Land Leasing in Kigali and Addis Ababa*: Institute of Development Studies, International Centre for Tax and Development.
185. Goodfellow, T., & Smith, A. (2013). From Urban Catastrophe to 'Model' City? Politics, Security and Development in Post-conflict Kigali. *Urban Studies*, 50(15), 3185-3202. doi: 10.1177/0042098013487776
186. Gooding, T. (2016). Low-income housing provision in Mauritius: Improving social justice and place quality. *Habitat International*, 53, 502-516. doi: <https://doi.org/10.1016/j.habitatint.2015.12.018>
187. Goonewardena, K., Kipfer, S., Milgrom, R., & Schmid, C. (2008). *Space, Difference, Everyday Life: Reading Henri Lefebvre*. New York, USA and London, UK. : Taylor & Francis.
188. Gopalan, K., & Venkataraman, M. (2015). Affordable housing: Policy and practice in India. *IIMB Management Review*, 27(2), 129-140. doi: <https://doi.org/10.1016/j.iimb.2015.03.003>
189. GNEED. (2013). Energy poverty in developing countries' urban poor communities: assessments and recommendations. Country report (Brazil), (pp. 72). Roskilde, Denmark.

190. Government of Rwanda. (2005). Organic law N° 04/2005 of 08/04/2005 determining the modalities of protection, conservation and promotion of environment in Rwanda (2005).
191.
192. Government of Rwanda. (2009). Ministerial Order N° 001/16.00 of 23/11/2009 determining the reference land prices in the City of Kigali. Kigali, Rwanda: Government of Rwanda Retrieved from http://minirena.gov.rw/fileadmin/Land_Subsector/Laws__Policies_and_Programmes/Laws/Ministerial_order_determining_the_reference_land_prices_in_the_City_of_Kigali.pdf.
193. Government of Rwanda, (2010), Law 15-2010 creating and organizing condominiums and setting-up procedures for their registration; Available at http://minirena.gov.rw/fileadmin/Land_Subsector/Laws__Policies_and_Programmes/Laws/Law_creating_and_organizing_condominiums_and_setting_up_procedures_for_their_registration.pdf
194. Government of Rwanda. (2010). Law N° 17/2010 of 12/05/2010 Establishing and Organizing the Real Property Valuation Profession in Rwanda. Kigali, Rwanda: Government of Rwanda Retrieved from http://www.minicom.gov.rw/fileadmin/minicom_publications/law_and_regulations/Law_relating_to_electronic_messages_electronic_signatures_and_electronic_transactions.pdf.
195. Government of Rwanda. (2013). Law N° 43/2013 of 16/06/2013 governing land in Rwanda. Kigali, Rwanda: Government of Rwanda Retrieved from http://gmo.gov.rw/rw/fileadmin/user_upload/laws%20and%20policies/Law_N_____43-2013_of_16-06-2013_governing_land_in_Rwanda.pdf.
196. Government of Rwanda. (2015). Law N° 32/2015 of 11/06/2015 relating to expropriation in the public interest. Kigali, Rwanda: Government of Rwanda Retrieved from <https://landportal.org/library/resources/rwanda-land-lawspolicies-2/law-n%C2%B0322015-11062015-relating-expropriation-public>.
197. Government of Rwanda. (2015a). *The constitution of the republic of Rwanda of 2003 revised in 2015*. Kigali, Rwanda: Government of Rwanda Retrieved from <http://www.rwandabar.org.rw/wp-content/uploads/2017/03/The-New-Constitution-of-the-Republic-of-Rwanda-3.pdf>.
198. Government of Rwanda. (2015b). *Law N° 32/2015 of 11/06/2015 relating to expropriation in the public interest*. Kigali, Rwanda: Government of Rwanda Retrieved from http://minirena.gov.rw/fileadmin/Land_Subsector/Laws_Policies_and_Programmes/Laws/LOI_D_EXPROPRIATION.pdf.
199. Government of Rwanda. (2015c). Prime minister's instructions n°004/03 of 13/11/2015 determining the conditions and procedures for obtaining government support for affordable housing projects. Retrieved from http://www.rha.gov.rw/fileadmin/user_upload/Affordable_Housing_Program/PM_INSTRUCTIONS_ON_AFFORDABLE_HOUSING_and_HIGH_DENSITY.pdf.
200. Ministerial Order N° 04/Cab.M/015 of 18/05/2015 determining urban planning and building regulations (2015c).
201. Government of Rwanda. (2015d). *Presidential order n°46/01 of 30/06/2015 determining procedures for formulation, approval, revision and publication of the master plan for land use management and urban planning*. Retrieved from <https://housingfinanceafrica.org/app/uploads/Rwanda-Presidential-Order->

- Determining-Procedures-for-Formulation-Approval-Revision-and-Publication-of-the-Master-Plan-for-Land-Use-Management-and-Urban-Planning.pdf.
202. Government of Rwanda. (2017). 7 Years Government Programme: National Strategy for Transformation (NST1)2017 –2024. Kigali, Rwanda: Retrieved from http://www.minecofin.gov.rw/fileadmin/user_upload/NST1_7YGP_Final.pdf.
203. Gray, K. A. (2008). "Community Land Trusts in the United States." *Journal of Community Practice* 16(1): 65-78.
204. Gupta, J., & Vegelin, C. (2016). Sustainable development goals and inclusive development. *International Environmental Agreements: Politics, Law and Economics*, 16(3), 433-448. doi: 10.1007/s10784-016-9323-z
205. Gurran, N., & Whitehead, C. (2011). Planning and Affordable Housing in Australia and the UK: A Comparative Perspective. *Housing Studies*, 26(7-8), 1193-1214. doi: 10.1080/02673037.2011.618982
206. Gutberlet, J., & Hunter, A. (2008). Social and environmental exclusion at the edge of São Paulo, Brazil. *URBAN DESIGN International*, 13(1), 3-20. doi: 10.1057/udi.2008.2
207. Gutu, T., Wong, S. and Kinati, W. (2014). Institutional bricolage as a new perspective to analyse institutions of communal irrigation: Implications towards meeting the water needs of the poor communities in rural Ethiopia Pinnacle Agricultural Research and Management, 2014, 14.
208. Gutwald, R., Leßmann, O., Masson, T. and Rauschmayer, F. (2014). "A Capability Approach to Intergenerational Justice? Examining the Potential of Amartya Sen's Ethics with Regard to Intergenerational Issues." *Journal of Human Development and Capabilities* 15(4): 355-368.
209. Guy, S. and Henneberry, J. (2000). "Understanding Urban Development Processes: Integrating the Economic and the Social in Property Research." *Urban Studies* 37(13): 2399-2416.
210. Habitat International Coalition (HIC). (2010). *Cities for All: Proposals and Experiences towards the Right to the City*. Santiago, Chile: Habitat International Coalition (HIC).
211. Hafeznia, R. M., & Hajat, G. M. (2016). Conceptualization of Spatial Justice in Political Geography. *Geopolitics Quarterly*, 11(4), 32-60.
212. Haie, N. and Keller, A. A. (2012). "Macro, Meso, and Micro-Efficiencies in Water Resources Management: A New Framework Using Water Balance." *Journal of the American Water Resources Association* 48(2): 235-243.
213. Hajzler, C. (2012). Expropriation of foreign direct investments: sectoral patterns from 1993 to 2006. *Review of World Economics / Weltwirtschaftliches Archiv*, 148(1), 119-149.
214. Hales, D. (2010). *An introduction to indicators*. Geneva, UNAIDS.
215. Halla, F. (2002). Preparation and implementation of a general planning scheme in Tanzania: Kahama strategic urban development planning framework. *Habitat International*, 26, 281-293.
216. Hamid, G. M. and Mohamed Elhassan, A. A. (2014). "Incremental housing as an alternative housing policy: evidence from Greater Khartoum, Sudan." *International Journal of Housing Policy* 14(2): 181-195.
217. Handzic, K. (2010). Is legalized land tenure necessary in slum upgrading? Learning from Rio's land tenure policies in the Favela Bairro Program. *Habitat International*, 34, 11-17.
218. Hansmann, H. (1991). Condominium and Cooperative Housing: Transactional Efficiency, Tax Subsidies, and Tenure Choice. *The Journal of Legal Studies*, 20(1), 25-71.
219. Hao, P., Sliuzas, R. and Geertman, S. (2011). "The development and redevelopment of urban villages in

- Shenzhen." *Habitat International* 35(2): 214-224.
- 220.Harris, D. (2011). *Condominium and the City: The Rise of Property in Vancouver*. *Law & Social Inquiry*, 36(3), 694-726.
- 221.Harvey, D. (1973). *Social Justice and the City*. Georgia, USA, University of Georgia Press.
- 222.Harvey, D. (1992). "Social Justice, Postmodernism and the City." *International Journal of Urban and Regional Research* 16(4): 588-601.
- 223.Harvey, D. (2003). "The Right to the City." *International Journal of Urban and Regional Research* 27(4): 939-941.
- 224.Harvey, D. (2008). "The Right to the City." *New Left Review* 53: 23-40.
- 225.Harvey, D. (2009). The new imperialism: accumulation by dispossession. *Socialist register*, 40, 63–87.
- 226.Harvey, D. (2009). *Social Justice and the City*. Athens, Georgia: University of Georgia Press.
- 227.Harvey, D. (2010). *Social Justice and the City (Vol. 1)*. Georgia, USA: University of Georgia Press.
- 228.Hastings, A. (2007). Territorial Justice and Neighbourhood Environmental Services: A Comparison of Provision to Deprived and Better-off Neighbourhoods in the UK. *Environment and Planning C: Government and Policy*, 25, 896-917.
- 229.Haughton, G. (1999). "Environmental Justice and the Sustainable City." *Journal of Planning Education and Research* 18(3): 233-243.
- 230.Hay, A. M. (1995). Concepts of Equity, Fairness and Justice in Geographical Studies. *Transactions of the Institute of British Geographers*, 20(4), 500-508. doi: 10.2307/622979
- 231.He, J., & Sikor, T. (2015). Notions of justice in payments for ecosystem services: Insights from China's Sloping Land Conversion Program in Yunnan Province. *Land Use Policy*, 43, 207-216. doi: <http://dx.doi.org/10.1016/j.landusepol.2014.11.011>
- 232.Healey, P. (1992). "Planning through debate: the communicative turn in planning theory." *Town Planning Review* 63(2): 143.
- 233.Healey, P. (1996). "The Communicative Turn in Planning Theory and its Implications for Spatial Strategy Formation." *Environment and Planning B: Planning and Design* 23(2): 217-234.
- 234.Healey, P. (1997). *Collaborative Planning: Shaping Places in Fragmented Societies*. Hampshire, England: UBC Press.
- 235.Hine, D.W., Crofts, R. & Becker, J. (2015). Designing Behaviourally Informed Policies for Land Stewardship: A New Paradigm. *International Journal of Rural Law and Policy*, 2015, 14.
- 236.Hingorani, S. (1997). Territorial justice in unified Germany. *Applied Geography*, 17(4), 335-343. doi: [http://dx.doi.org/10.1016/S0143-6228\(97\)00025-8](http://dx.doi.org/10.1016/S0143-6228(97)00025-8)
- 237.Holston, J. (2008). *Insurgent Citizenship: Disjunctions of Democracy and Modernity in Brazil*. New Jersey, USA: Princeton University Press.
- 238.Holtslag-Broekhof, S. M., R. van Marwijk, R., Beunen, R. and Wiskerke, J. S. C. (2016). "Perceived (In)justice of Public Land Acquisition." *Journal of Agricultural and Environmental Ethics* 29(2): 167-184.
- 239.Hoops, B., Marais, E., Sluysmans, J., & Verstappen, L. (2015). *Rethinking Expropriation Law I: Public Interest in Expropriation (Vol. 6)*. Hague, The Netherlands: Eleven International Publishing.
- 240.Hoops, B., Marais, E., van Schalkwyk, L., & Tagliarino, N. (2018). *Rethinking Expropriation Law III. Fair Compensation (Vol. 9)*. Hague, The Netherlands: Eleven International Publishing.

- 241.Houghton, R. (2014). Land Management Options for Mitigation and Adaptation to Climate Change. In B. Freedman (Ed.), *Global Environmental Change* (pp. 389-398). Dordrecht: Springer Netherlands.
- 242.Hove, M., Ngwerume, E.T. & Muchemwa, C. (2013). The Urban Crisis in Sub-Saharan Africa: A Threat to Human Security and Sustainable Development. *International Journal of Security and Development*, 2.
- 243.Huang, Y., Lin, W., Li, S., & Ning, Y. (2018). Social Impacts of Dam-Induced Displacement and Resettlement: A Comparative Case Study in China. *Sustainability*, 10(11), 4018.
- 244.Huchzermeyer, M. (2004). From “contravention of laws” to “lack of rights”: redefining the problem of informal settlements in South Africa. *Habitat International*, 28, 333-347.
- 245.Huchzermeyer, M. (2018). The legal meaning of Lefebvre’s the Right to the City: addressing the gap between global campaign and scholarly debate. *GeoJournal*, 83(3), 631-644. doi: 10.1007/s10708-017-9790-y
- 246.Hui, E. C. M., Bao, H. J., & Zhang, X. L. (2013). The policy and praxis of compensation for land expropriations in China: An appraisal from the perspective of social exclusion. *Land Use Policy*, 32, 309-316. doi: <https://doi.org/10.1016/j.landusepol.2012.11.004>
- 247.Hull, S., Babalola, K., & Whittal, J. (2019). Theories of Land Reform and Their Impact on Land Reform Success in Southern Africa. *Land*, 8(11), 172.
- 248.Hunt, S., & Vitell, S. (1986). A General Theory of Marketing Ethics. *Journal of Macromarketing*, 6(1), 5-16. doi: 10.1177/027614678600600103
- 249.Hunt, S., & Vitell, S. (2006). The General Theory of Marketing Ethics: A Revision and Three Questions. *Journal of Macromarketing*, 26(2), 143-153. doi: 10.1177/0276146706290923
- 250.Hupe, P.L., and Hill, M.J (2004). The Three Action Levels of Governance: Reframing the Policy Process beyond the Stages Model. In: Working Paper. Erasmus Universit Rotterdam, the Netherlands.
- 251.IFAD. (2009). IFAD land tenure indicators available on line at <http://www.gaportal.org/resources/detail/ifad-land-tenure-indicators>
- 252.Ikeme, J. (2003). Equity, environmental justice and sustainability: incomplete approaches in climate change politics. *Global Environmental Change*, 13(3), 195-206. doi: [https://doi.org/10.1016/S0959-3780\(03\)00047-5](https://doi.org/10.1016/S0959-3780(03)00047-5)
- 253.Innes, J. (1995). Planning Theory's Emerging Paradigm: Communicative Action and Interactive Practice. *Journal of Planning Education and Research*, 14(3), 183-189. doi: 10.1177/0739456x9501400307
- 254.Innes, J. and Booher, D. (1999). "Consensus Building and Complex Adaptive Systems." *Journal of the American Planning Association* 65(4): 412-423.
- 255.Institute of real property valuers in Rwanda. (2018). Rwanda lands and property incorporated thereon reference prices. Kigali: Retrieved from <https://rwandalii.africanlii.org/content/official-gazette-n%C2%BA-special-8112018>.
- 256.Inter-American Development Bank. (2016). Slum Upgrading and Housing in Latin America. In F. Magalhães (Ed.), (pp. 135).
- 257.International Finance Corporation. (2002). Handbook for preparing a resettlement action plan. Washington (DC), USA: World Bank.
- 258.International Growth Center. (2016). An effective property tax regime for Rwanda (pp. 39). Oxford, UK.
- 259.Isin, E. F., & Nyers, P. (2014). *Routledge Handbook of Global Citizenship Studies*. Abingdon, UK. :

Taylor & Francis.

260. Iveson, K. (2011). "Social or spatial justice? Marcuse and Soja on the Right to the City." *City* 15(2): 250-259.
261. Iyandemye, S., Barayandema, J., & Gasheja, F. (2018). Mortgage finance market and housing affordability in urban areas in Rwanda: A case of Kigali City. *Journal for the Advancement of Developing Economies*, 7(1), 41-58. doi: 10.32873/unl.dc.jade7.1.4
262. Jabareen, Y. (2008). "A New Conceptual Framework for Sustainable Development." *Environment, Development and Sustainability* 10(2): 179-192.
263. Jackson, W. (2015). Distributive Justice With and Without Culture. *Journal of Cultural Economy*, 8(6), 673-688. doi: 10.1080/17530350.2015.1054414
264. Jacoby, H., Li, G., & Rozelle, S. (2002). Hazards of Expropriation: Tenure Insecurity and Investment in Rural China. *The American Economic Review*, 92(5), 1420-1447.
265. Jehling, M., & Hartmann, T. (2016). Daseinsvorsorge zwischen Markt, Macht und Moral. Räumliche Szenarien zur Gerechtigkeit. In J. Wékel (Ed.), *Daseinsvorsorge und Zusammenhalt* (pp. 181-185): DASL: Deutsche Akademie für Städtebau und Landesplanung.
266. Jewkes, M., & Delgado, L. (2010). Weaknesses of Housing Affordability Indices Used by Practitioners. *Journal of Financial Counseling and Planning*, 21(1).
267. Jiang, Y., Waley, P., & Gonzalez, S. (2018). 'Nice apartments, no jobs': How former villagers experienced displacement and resettlement in the western suburbs of Shanghai. *Urban Studies*, 55(14), 3202-3217. doi: 10.1177/0042098017740246
268. Jones, R., Moiso, S., Weckroth, M., Woods, M., Luukkonen, J., Meyer, F., & Miggelbrink, J. (2019). Re-conceptualising Territorial Cohesion Through the Prism of Spatial Justice: Critical Perspectives on Academic and Policy Discourses. In T. Lang & F. Görmar (Eds.), *Regional and Local Development in Times of Polarisation: Re-thinking Spatial Policies in Europe* (pp. 97-119). Singapore: Springer Singapore.
269. Jonkman, A., Janssen-Jansen, L., & Schilder, F. (2018). Rent increase strategies and distributive justice: the socio-spatial effects of rent control policy in Amsterdam. *Journal of Housing and the Built Environment*, 33(4), 653-673. doi: 10.1007/s10901-017-9573-2
270. Kainara Lira dos, A., & Norma, L. (2015). Urban and environmental transformations in poor areas of the metropolitan region of Recife (Brazil). *Ambiente & Sociedade*, 18, 37-58.
271. Kan, K. (2019). Accumulation without Dispossession? Land Commodification and Rent Extraction in Peri-urban China. *International journal of urban and regional research*, 43(4), 633-648. doi: 10.1111/1468-2427.12746
272. Kartas, M. & Jütersonke, O. (2011). Urban Resilience in Situations of Chronic Violence: Case Study of Kigali, Rwanda. Centre on Conflict, Development and Peacebuilding (CCDP), Graduate Institute of International and Development Studies
273. Kay, A. (2005). Territorial Justice and Devolution. *The British Journal of Politics & International Relations*, 7, 544-560.
274. Kenfack Essougong, U. P., & Teguiá, S. J. M. (2018). How secure are land rights in Cameroon? A review of the evolution of land tenure system and its implications on tenure security and rural livelihoods. *GeoJournal*. doi: 10.1007/s10708-018-9935-7

275. Kim, H., Marcouiller, D., & Choi, Y. (2019). Urban Redevelopment with Justice Implications: The Role of Social Justice and Social Capital in Residential Relocation Decisions. *Urban Affairs Review*, 55(1), 288-320. doi: 10.1177/1078087418759605
276. Kim, K.S. (2011). Exploring transportation planning issues during the preparations for EXPO 2012 Yeosu Korea. *Habitat International*, 35, 286-294.
277. Klink, J., & Denaldi, R. (2016). On urban reform, rights and planning challenges in the Brazilian metropolis. *Planning Theory*, 15(4), 402-417.
278. Kluskens, N., Vasseur, V., & Benning, R. (2019). Energy Justice as Part of the Acceptance of Wind Energy: An Analysis of Limburg in The Netherlands. *Energies*, 12(22), 4382.
279. Kironde, J.M.L. (2000). Understanding land markets in African urban areas: the case of Dar es Salaam, Tanzania. *Habitat International* 24, 151-165.
280. Kipfer, S., K. Goonewardena, K., Milgrom, R., and Schmid, C. (2008). *Space, Difference, Everyday Life: Reading Henri Lefebvre*. New York, Routledge.
281. Kiser, L.L., and Ostrom, E., (1982). The Three Worlds of Action: A Metatheoretical Synthesis of Institutional Approaches. In: *Strategies of Political Inquiry* (ed. Ostrom, E). Beverly Hills, CA.: Sage.
282. Klyuev, N. N. (2011). Territorial justice: Criteria, principles of maintenance, experience in assessment. *Geography and Natural Resources*, 32(1), 1-8. doi: 10.1134/s187537281101001x
283. Knetsch, J. L., & Borcharding, T. E. (1979). Expropriation of Private Property and the Basis for Compensation. *The University of Toronto Law Journal*, 29(3), 237-252. doi: 10.2307/825442
284. Kombe, W.J. (2005). Land use dynamics in peri-urban areas and their implications on the urban growth and form: the case of Dar es Salaam, Tanzania. *Habitat International* 29, 113-135
285. Kombe, W.J. & Kreibich, V. (2000). Reconciling informal and formal land management: an agenda for improving tenure security and urban governance in poor countries. *Habitat International*, 24, 231-240.
286. Kombe, W.J. & Kreibich, V. (2006). *Governance of Informal Urbanisation in Tanzania*. Mkuki na Nyota Publishers.
287. Konstantinos, M., & Stamatina, R. (2019). *Urban Ethics Under Conditions Of Crisis: Politics, Architecture, Landscape Sustainability And Multidisciplinary Engineering*. Hackensack, USA and London, UK: World Scientific Publishing Company.
288. Kontokosta, C. E. (2014). "Mixed-income housing and neighborhood integration: evidence from inclusionary zoning programs." *Journal of Urban Affairs* 36(4): 716-741.
289. Kopanyi, M. (2015). Supporting Affordable Housing in Rwanda – Plans and Options (pp. 27).
290. Koster, M. (2014). Fear and Intimacy: Citizenship in a Recife Slum, Brazil. *Ethnos*, 79(2), 215-237. doi: 10.1080/00141844.2012.732955
291. Koster, M. (2019). An Ethnographic Perspective on Urban Planning in Brazil: Temporality, Diversity and Critical Urban Theory. *International journal of urban and regional research*. doi: 10.1111/1468-2427.12765
292. Koster, M., & Nuijten, M. (2012). From Preamble to Post-project Frustrations: The Shaping of a Slum Upgrading Project in Recife, Brazil. *Antipode*, 44(1), 175-196. doi: 10.1111/j.1467-8330.2011.00894.x
293. Kotiadis, K. and Robinson, S. (2008). Conceptual modelling: knowledge acquisition and model abstraction. *Proceedings of the 40th Conference on Winter Simulation*. Miami, Florida, Winter Simulation Conference: 951-958.
294. Krishnaswamy, K. N., Sivakumar, A. I., & Mathirajan, M. (2006). *Management Research Methodology*:

- Integration of Principles, Methods and Techniques. Bengaluru, India: Pearson Education.
295. Lall, S. V., Freire, M., Yuen, B., Rajack, R. and Helluin, J. J. (2009). *Urban Land Markets: Improving Land Management for Successful Urbanization*, Springer Netherlands.
296. Larbi, W.O. (2008). Compulsory Land Acquisition and Compensation in Ghana: Searching for Alternative Policies and Strategies. In: FIG/FAO/CNG International Seminar on State and Public Sector Land Management Verona, Italy.
297. Larsson, G. (1997). *Land management : public policy, control and participation*. Stockholm: Bygghörsningsrådet.
298. Lawrence, R. L., Daniels, S. E., & Stankey, G. H. (1997). Procedural justice and public involvement in natural resource decision making. *Society & Natural Resources*, 10(6), 577-589. doi: 10.1080/08941929709381054
299. Lawton, P. (2013). Understanding Urban Practitioners' Perspectives on Social-Mix Policies in Amsterdam: The Importance of Design and Social Space. *Journal of Urban Design*, 18(1), 98-118. doi: 10.1080/13574809.2012.739546
300. Leach, M., Mearns, R., & Scoones, I. (2012). Environmental Entitlements: Dynamics and Institutions in Community-Based Natural Resource Management. In R. Jolly (Ed.), *Milestones and Turning Points in Development Thinking* (pp. 218-233). London: Palgrave Macmillan UK.
301. Lee, S. L. (1989). Residential land use policy and condominium housing development: The Singapore experience. *Land Use Policy*, 6(2), 121-131. doi: [https://doi.org/10.1016/0264-8377\(89\)90038-0](https://doi.org/10.1016/0264-8377(89)90038-0)
302. Lewis, A. (2009). Social Justice and Development. *Development in Practice*, 19(7), 938-939. doi: 10.1080/09614520903122592
303. Lefebvre, H. (1968). *Le droit à la ville*. Paris, Anthropos.
304. Lefebvre, H. (1991). *The Production of Space*. Oxford, UK, Basil Blackwell.
305. Lefebvre, H. (1996). *Writings on Cities*. Oxford, UK: Blackwell.
306. Legal Aid Forum. (2015). *The Implementation of Rwanda's Expropriation Law and Outcomes on the Population: Final Report* (pp. 231). Kigali, Rwanda: USAID.
307. Lehman-Frisch, S. (2011). Segregation, Spatial (In)Justice, and the City. *Berkeley Planning Journal*, 24.
308. Lelandais, G. E. (2013). Citizenship, minorities and the struggle for a Right to the City in Istanbul. *Citizenship Studies*, 17(6-7), 817-836. doi: 10.1080/13621025.2013.834134
309. Levack, W. M. M. (2012). The role of qualitative metasynthesis in evidence-based physical therapy. *Physical Therapy Reviews*, 17(6), 390-397. doi: 10.1179/1743288X12Y.0000000020
310. Leventhal, G. (1980). What Should Be Done with Equity Theory? In K. Gergen, M. Greenberg & R. Willis (Eds.), *Social Exchange: Advances in Theory and Research* (pp. 27-55). Boston: Springer US.
311. Levitas, R., Pantazis, C., Fahmy, E., Gordon, D., Lloyd, E., & Patsios, D. (2007). The multi-dimensional analysis of social exclusion (pp. 246).
312. Lewin-Epstein, N., Kaplan, A., & Levanon, A. (2003). Distributive Justice and Attitudes Toward the Welfare State. *Social Justice Research*, 16(1), 1-27. doi: 10.1023/A:1022909726114
313. Li, L. H., Lin, J., Li, X. and Wu, F. (2014). "Redevelopment of urban village in China – A step towards an effective urban policy? A case study of Liede village in Guangzhou." *Habitat International* 43: 299-308.
314. Li, Y., Shu, B., Shi, X., & Zhu, Y. (2017). Variation of Land-Expropriated Farmers' Willingness: A Perspective of Employment and Inhabitation. *Sustainability*, 9(7), 1083.

- 315.Lim, T. S. Y., Hassan, N., Ghaffarianhoseini A. and Daud, M. N. (2017). "The relationship between satisfaction towards neighbourhood facilities and social trust in urban villages in Kuala Lumpur." *Cities* 67: 85-94.
- 316.Lincoln Institute. (2000). Urban land tenure policies in Brazil, South Africa, and India: an assessment of the issues. In D. Krueckeberg & K. Paulsen (Eds.), (pp. 33). New Brunswick, USA.
- 317.Lucas, K. (2012). Transport and social exclusion: Where are we now? *Transport Policy*, 20, 105-113. doi: <https://doi.org/10.1016/j.tranpol.2012.01.013>
- 318.Lusugga Kironde, J. M. L. (1995). "Access to land by the urban poor in Tanzania: Some findings from Dar es Salaam." *Environment and Urbanization* 7(1): 77-96.
- 319.Macedo, J. (2008). Urban land policy and new land tenure paradigms: Legitimacy vs. legality in Brazilian cities. *Land Use Policy*, 25(2), 259-270. doi: <http://dx.doi.org/10.1016/j.landusepol.2007.08.001>
- 320.Magel, H. (2015). Where is the rural territorial development going? Reflections on the theory and practice. *Geomatics, Landmanagement and Landscape*, 1, 55-67. doi: 10.15576/GLL/2015.1.55
- 321.Magel, H. (2016). Räumliche Gerechtigkeit – Ein Thema für Landentwickler und sonstige Geodäten?! *Zeitschrift für Geodäsie, Geoinformation und Landmanagement*, 141, 377-383. doi: 10.12902/zfv-0144-2016
- 322.Magel, H., & Wehrmann, B. b. (2002). *Applying Good Governance to Urban Land Management - Why and How?* Paper presented at the FIG XXII International Congress, Washington, D.C. USA. https://www.fig.net/resources/proceedings/fig_proceedings/fig_2002/JS1/JS1_magel_wehrmann.pdf
- 323.Magigi, W., & Drescher, W. (2010). The dynamics of land use change and tenure systems in Sub-Saharan Africa cities; learning from Himo community protest, conflict and interest in urban planning practice in Tanzania. *Habitat International*, 34(2), 154-164. doi: <https://doi.org/10.1016/j.habitatint.2009.08.004>
- 324.Mahadevia, D., Bhatia, N. & Bhatt, B. (2018). Private Sector in Affordable Housing? Case of Slum Rehabilitation Scheme in Ahmedabad, India. *Environment and Urbanization ASIA*, 9(1), 1-17. doi: 10.1177/0975425317748449
- 325.Maia, M. L. (1995). Land use regulations and rights to the city: squatter settlements in Recife, Brazil. *Land Use Policy*, 12(2), 177-180. doi: [https://doi.org/10.1016/0264-8377\(95\)93585-A](https://doi.org/10.1016/0264-8377(95)93585-A)
- 326.Maia, M. L., Lucas, K., Marinho, G., Santos, E. & de Lima, J. H. (2016). Access to the Brazilian City— From the perspectives of low-income residents in Recife. *Journal of Transport Geography*, 55, 132-141. doi: <https://doi.org/10.1016/j.jtrangeo.2016.01.001>
- 327.Manirakiza, V. (2012). Urbanization Issue in the Era of Globalization: Perspectives for Urban Planning in Kigali. In: *Social Studies for Community Cohesion and Sustainable Development Kigali*.
- 328.Manirakiza, V. (2014). Promoting inclusive approaches to address urbanisation challenges in Kigali. *African Review of Economics and Finance*, 6(1), 161-180.
- 329.Manirakiza, V., & Ansoms, A. (2014). Modernizing Kigali: the struggle for space in the Rwandan urban context. In A. Ansoms & T. Hilhorst (Eds.), *Losing your Land Dispossession in the Great Lakes*, (NED-New edition ed., pp. 218). New Jersey, USA: Boydell and Brewer.
- 330.Marcuse, P. (2009). From critical urban theory to the Right to the City. *City*, 13(2-3), 185-197. doi: 10.1080/13604810902982177
- 331.Marcuse, P. (2009). Spatial justice: Derivative but Causal of Social Justice justice spatiale | spatial justice, 1(9).

332. Marcuse, P. (2010). Spatial justice: Derivative but Causal of Social Justice In: Justice et injustices spatiales Justices et Injustices Spatiales. B. Bret, Gervais-Lambony, P., Hancock, C., Landy, F., Paris, Presses Univeritaires de Paris Ouest: 75–94.
333. Marcuse, P. (2014). Reading the Right to the City. *City*, 18(1), 4-9. doi: 10.1080/13604813.2014.878110
334. Marcuse, P., Connolly, J., Novy, J., Olivo, I., Potter, C. & Steil, J. (Eds.). (2009). *Searching for the Just City*: Routledge.
335. Mattila, H. (2002). Aesthetic justice and urban planning: Who ought to have the right to design cities?*. *GeoJournal*, 58(2), 131-138. doi: 10.1023/B:GEJO.0000010832.88129.cc
336. McCabe, B. C. (2011). Homeowners Associations as Private Governments: What We Know, What We Don't Know, and Why It Matters. *Public Administration Review*, 71(4), 535-542. doi: 10.1111/j.1540-6210.2011.02382.x
337. McCall, M. K. (2003). "Seeking good governance in participatory-GIS: a review of processes and governance dimensions in applying GIS to participatory spatial planning." *Habitat International* 27(4): 549-573.
338. McCall, M. K. and Dunn, C. E. (2012). "Geo-information tools for participatory spatial planning: Fulfilling the criteria for 'good' governance?" *Geoforum* 43(1): 81-94.
339. McFarlane, C. (2018). Fragment urbanism: Politics at the margins of the city. *Environment and Planning D: Society and Space*, 0(0), 1-19. doi: 10.1177/0263775818777496
340. McGinnis, D.M. (2011a). An Introduction to IAD and the Language of the Ostrom Workshop: A Simple Guide to a Complex Framework. *Policy Studies* 39(1), 163-177.
341. McGranahan, G., Schensul, D., & Singh, G. (2016). Inclusive urbanization: Can the 2030 Agenda be delivered without it? *Environment and Urbanization*, 28(1), 13-34. doi: 10.1177/0956247815627522
342. McIntyre, Z. and McKee, K. (2012). "Creating sustainable communities through tenure-mix: the responsabilisation of marginal homeowners in Scotland." *GeoJournal* 77(2): 235-247.
343. McMichael, C. (2019). Water, Sanitation and Hygiene (WASH) in Schools in Low-Income Countries: A Review of Evidence of Impact. *International Journal of Environmental Research and Public Health*, 16(3), 359.
344. Meerow, S., Pajouhesh, P., & Miller, T. (2019). Social equity in urban resilience planning. *Local Environment*, 24(9), 793-808. doi: 10.1080/13549839.2019.1645103
345. Mega, V. P. (2010). *Sustainable Cities for the Third Millennium: The Odyssey of Urban Excellence*, Springer New York.
346. Melo, A. M. (2010). Le Parti des Travailleurs gouverne la ville de Recife. *Cahiers des Amériques latines*, 63, 47-62.
347. Meng, Q. (2018). "Fracking equity: A spatial justice analysis prototype." *Land Use Policy* 70(Supplement C): 10-15.
348. Mensah, J. (2019). Sustainable development: Meaning, history, principles, pillars, and implications for human action: Literature review. *Cogent Social Sciences*, 5(1), 1653531. doi: 10.1080/23311886.2019.1653531
349. Merrifield, A. (2011). The Right to the City and beyond: notes on a Lefebvrian re-conceptualization. *City*, 15, 473-481.
350. Michael, F. L., Noor, Z. Z. and Figueroa, M. J. (2014). "Review of urban sustainability indicators

- assessment – Case study between Asian countries." Habitat International 44(Supplement C): 491-500.
351. Michelon, B. (2009). The local market in Kigali as controlled public space: Adaptation and resistance by local people to modern city life. Paper presented at the Proceedings PhD Seminar on public space, Delft, The Netherlands.
352. Mikkelsen, B. (2005). *Methods for development work and research. A new guide for practitioners* Sage, London.
353. Miller, D. (1999). *Principles of Social Justice*. Massachusetts, USA, and London, UK: Harvard University Press.
354. Milligan, V., Phibbs, P., Fagan, K. & Gurrin, N. (2004). *A practical framework for expanding affordable housing services in Australia: Learning from experience* (pp. 190). Melbourne.
355. MININFRA (2008). *National Urban Housing Policy for Rwanda*. Kigali, Rwanda.
356. MININFRA and RHA (2011). *Compilation of policies concerning human settlement, urban housing and construction in Rwanda*. Republic of Rwanda Kigali.
357. Ministerial Order N° 04/Cab.M/015 of 18/05/2015 determining urban planning and building regulations (2015b).
358. Ministry of Finance and Economic Planning. (2000). *Rwanda vision 2020*. Kigali, Rwanda: Government of Rwanda.
359. Ministry of Finance and Economic Planning. (2012). *Rwanda vision 2020, revised 2012*. Kigali, Rwanda: Government of Rwanda.
360. Ministry of Finance and Economic Planning. (2013). *Economic Development and Poverty Reduction Strategy II, 2013-2018*. Kigali, Rwanda: Ministry of Finance and Economic Planning Retrieved from <http://www.minecofin.gov.rw/index.php?id=149>.
361. Ministry of Finance and Economic Planning, & National Institute of Statistics of Rwanda. (2014). *Fourth Population and Housing Census, Rwanda, 2012*. Kigali, Rwanda: Retrieved from <http://www.statistics.gov.rw/survey-period/fourth-population-and-housing-census-2012>.
362. Ministry of Infrastructure. (2007). *Kigali City Conceptual Master Plan*. Kigali, Rwanda.
363. Ministry of Infrastructure. (2008). *National Urban Housing Policy for Rwanda*. Kigali, Rwanda.
364. Ministry of Infrastructure. (2009). *Updated version of the national human settlement policy in Rwanda*. Kigali, Rwanda.
365. Ministry of Infrastructure. (2013). *Urbanization and rural settlement sector strategic plan 2012/13-17/18*. Kigali, Rwanda: Government of Rwanda.
366. Ministry of Infrastructure. (2015a). *National housing policy*. Kigali, Rwanda: Government of Rwanda.
367. Ministry of Infrastructure. (2015a). *National informal settlement upgrading strategy*. Kigali, Rwanda: Government of Rwanda.
368. Ministry of Infrastructure. (2015b). *National Urbanization Policy* (pp. 52). Kigali, Rwanda.
369. Ministry of Infrastructure. (2015b). *National informal settlement upgrading strategy*. Kigali, Rwanda: Government of Rwanda.
370. Ministry of Infrastructure. (2015b). *National Urbanization Policy* Kigali, Rwanda: Retrieved from http://www.mininfra.gov.rw/fileadmin/user_upload/Rwanda_National_Urbanization_Policy_2015.pdf.
371. Ministry of Infrastructure. (2015c). *National Urbanization Policy* Kigali, Rwanda: Retrieved from http://www.mininfra.gov.rw/fileadmin/user_upload/Rwanda_National_Urbanization_Policy_2015.pdf.

- 372.Ministry of Natural Resources. (2004). National Land Policy. Kigali, Rwanda.
- 373.MINITERE (2004). National Land Policy. Kigali, Rwanda.
- 374.MINITERE, D.a. (2003). Overview of Rwanda's Land Policy and Land Law and Key Challenges for Implementation. Kigali, Rwanda
- 375.Minnery, J., Argo, T., Winarso, H., Hau, D., Veneracion, C. C., Forbes D. and Childs, I. (2013). "Slum upgrading and urban governance: Case studies in three South East Asian cities." *Habitat International* 39: 162-169.
- 376.Mitchell, D. (2012). *The Right to the City: Social Justice and the Fight for Public Space*. New York, USA.: Guilford Press.
- 377.Mittal, J. (2014). "Self-financing land and urban development via land readjustment and value capture." *Habitat International* 44(Supplement C): 314-323.
- 378.Monteiro, C., & Carvalho, L. (2016). Recife: The Popular Struggle for a Better City. *Architectural Design*, 86(3), 96-105. doi: 10.1002/ad.2051
- 379.Moore, T. and McKee, K. (2012). "Empowering Local Communities? An International Review of Community Land Trusts." *Housing Studies* 27(2): 280-290.
- 380.Morgan, K. (2006). Devolution and Development: Territorial Justice and the North-South Divide. *Publius: The Journal of Federalism*, 36, 189-206.
- 381.Moroni, S. (2019). The just city. Three background issues: Institutional justice and spatial justice, social justice and distributive justice, concept of justice and conceptions of justice. *Planning Theory*. doi: 10.1177/1473095219877670
- 382.Morris, A., Jameison, M., & Patulny, R. (2012). Is social mixing of tenures a solution for public housing estates? *Evidence Base*, 1, 1-21.
- 383.Mueller, J., Lu, H., Chirkin, A., Klein, B. & Schmitt, G. (2018). Citizen Design Science: A strategy for crowd-creative urban design. *Cities*, 72, 181-188. doi: <https://doi.org/10.1016/j.cities.2017.08.018>
- 384.Mugisha, J. (2015). Compensation for Land Expropriation in Rwanda: The Need for Conventional Approaches to Valuation. *Journal of Land Administration in Eastern Africa*, 3(1), 11.
- 385.Mugisha, J. (2016). Compensation for Land Expropriation in Rwanda: The Need for Conventional Approaches to Valuation. *Journal of Land Administration in Eastern Africa*, 3, 296-306.
- 386.Mukhija, V., Regus, L., Slovin, S., and Das, A. (2010). "Can inclusionary zoning be an effective and efficient housing policy? Evidence from Los Angeles and Orange counties." *Journal of Urban Affairs* 32(2): 229-252.
- 387.Muller, G. (2013). The legal-historical context of urban forced evictions in South Africa. *Fundamina*, 19, 367-396.
- 388.Mulligan, C. T. (2010). *Inclusionary Zoning: A Guide to Ordinances and the Law*.
- 389.Mullins, D. and Moore, T. (2018). "Self-organised and civil society participation in housing provision." *International Journal of Housing Policy* 18(1): 1-14.
- 390.Mustafa, D. (2001). Justice and the Spatial Imagination. *Environment and Planning A*, 33, 1785-1805.
- 391.Nakamura, S. (2016). "Revealing invisible rules in slums: The nexus between perceived tenure security and housing investment." *Habitat International* 53: 151-162.
- 392.Napier, M., Berrisford, S., Kihato, C.W., McGaffin, R. & Royston, L. (2013). *Trading Places: Accessing Land in African Cities*. African Minds, South Africa.

- 393.Napoli, G., Trovato, M. R., & Giuffrida, S. (2016). Housing Affordability and Income-threshold in Social Housing Policy. *Procedia - Social and Behavioral Sciences*, 223, 181-186. doi: <https://doi.org/10.1016/j.sbspro.2016.05.345>
- 394.National Forum for Urban Reform (FNRU) and Habitat International Coalition -Latin America (HIC-AL) (2015). Moving toward the Implementation of the Right to the City in Latin America and Internationally. Giza, Egypt 260.
- 395.National Institute of Statistics of Rwanda. (2015). Integrated Household Living Conditions Survey (EICV 4). Main indicators report. Kigali, Rwanda: National Institute of Statistics of Rwanda, Retrieved from <http://www.statistics.gov.rw/publication/main-indicators-report-results-eicv-4>.
- 396.Nel, V. (2016). "A better zoning system for South Africa?" *Land Use Policy* 55(Supplement C): 257-264.
- 397.Nel, V. (2016). Spluma, Zoning and Effective Land Use Management in South Africa. *Urban Forum*, 27(1), 79-92. doi: 10.1007/s12132-015-9265-5
- 398.Nel-lo, O. (2011). The five challenges of urban rehabilitation. The Catalan experience. *Urban Research and Practice*, 4, 308-325.
- 399.Németh, J., Hollander, J., Whiteman, E., & Johnson, M. (2018). Planning with justice in mind in a shrinking Baltimore. *Journal of Urban Affairs*, 1-20. doi: 10.1080/07352166.2018.1454820
- 400.Nenno, M. (1991). State and local governments: New initiatives in low-income housing preservation. *Housing Policy Debate*, 2(2), 467-497. doi: 10.1080/10511482.1991.9521061
- 401.Never Again Rwanda. (2018). Local Government Imihigo Process: Understanding the factors contributing to low citizen participation (pp. 70). Kigali, Rwanda.
- 402.Ngoga, T. (2016). Land governance assessment framework, Final report, Rwanda.
- 403.Nicholls, S. (2001). Measuring the accessibility and equity of public parks: a case study using GIS. *Managing Leisure*, 6(4), 201-219. doi: 10.1080/13606710110084651
- 404.Niedt, C. and Christophers, B. (2016). "Value at Risk in the Suburbs: Eminent Domain and the Geographical Politics of the US Foreclosure Crisis." *International Journal of Urban and Regional Research* 40(6): 1094-1111.
- 405.Nikuze, A., Sliuzas, R., Flacke, J. & van Maarseveen, M. (2019). Livelihood impacts of displacement and resettlement on informal households - A case study from Kigali, Rwanda. *Habitat International*, 86, 38-47. doi: <https://doi.org/10.1016/j.habitatint.2019.02.006>
- 406.NISR, & CGIS-UR. (2012). Administrative map of Rwanda.
- 407.Njoh, A. J. (2013). "Equity, Fairness and Justice Implications of Land Tenure Formalization in Cameroon." *International Journal of Urban and Regional Research* 37(2): 750-768.
- 408.Noblit, G. W. & Hare, R. D. (1999). Meta-Ethnography: Synthesizing Qualitative Studies. *Counterpoints*, 44, 93-123.
- 409.Nordquist, M. (2013). Seeking spatial justice. *Contemporary Political Theory*, 12(1), e16-e18. doi: 10.1057/cpt.2011.40
- 410.Norris, M. (2006). "Developing, designing and managing mixed tenure estates: implementing planning gain legislation in the Republic of Ireland." *European Planning Studies* 14(2): 199-218.
- 411.North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*, Cambridge University Press.
- 412.North, D.C. (1991). Institutions. *The Journal of Economic Perspectives*, 5, 97-112.

413. Norwegian People's Aid, & Rwanda Civil Society Platform. (2017). Analysis of land expropriation and transfer process in Rwanda (pp. 85). Kigali, Rwanda.
414. Nozick, R. (1974). *Anarchy, State, and Utopia*. New York, USA: Basic Books.
415. Nuijten, M. (2013). The perversity of the "Citizenship Game": Slum-upgrading in the urban periphery of Recife, Brazil. *Critique of Anthropology*, 33(1), 8-25. doi: 10.1177/0308275x12466683
416. Nuijten, M., Koster, M., & de Vries, P. (2012). Regimes of spatial ordering in Brazil: Neoliberalism, leftist populism and modernist aesthetics in slum upgrading in Recife. *Singapore Journal of Tropical Geography*, 33(2), 157-170. doi: doi:10.1111/j.1467-9493.2012.00456.x
417. Nunan, F. and Devas, N. (2014). *Accessing Land and Services: Exclusion or Entitlement? Urban Governance Voice and Poverty in the Developing World*. N. Devas. London, UK and Sterling, USA, Earthscan: 164-185.
418. O.E.C.D (2010). *Assessing the Effects of ICT in Education Indicators, Criteria and Benchmarks for International Comparisons: Indicators, Criteria and Benchmarks for International Comparisons*, OECD, Joint Research Centre- European Commission.
419. Obala, L. & Mattingly, M. (2013). Ethnicity, corruption and violence in urban land conflict in Kenya. *Urban Studies* 51(13), 2735-2751.
420. Obeng-Odoom, F. (2012). Land reforms in Africa: Theory, practice, and outcome. *Habitat International*, 36, 161-170.
421. O'Dell, W., Smith, T. M. & White, D. (2004). Weaknesses in Current Measures of Housing Needs. *Housing and Society*, 31(1). doi: 10.1080/08882746.2004.11430496
422. Oduro, C.Y., Adamtey, R. & Ocloo, K. (2015). Urban Growth and Livelihood Transformations on the Fringes of African Cities: A Case Study of Changing Livelihoods in Peri-Urban Accra. *Environment and Natural Resources Research* 5.
423. O'Flynn, J. (2009). The Cult of Collaboration in Public Policy. *Australian Journal of Public Administration*, 68(1), 112-116. doi: 10.1111/j.1467-8500.2009.00616.x
424. Okeke, D. (2015). Spatial Planning As Basis For Guiding Sustainable Land Use Management. *WIT Transactions on State-of-the-art in Science and Engineering*, 86, 153-183.
425. Omena De Melo, E. (2017). Lefèbvre and the periphery: an interview with professor Marie Huchzermeyer. *International Journal of Urban Sustainable Development*, 9(3), 365-370. doi: 10.1080/19463138.2017.1339046
426. Oomen, B., Davis M. F., and Grigolo, M., (2016). *Global Urban Justice: The Rise of Human Rights Cities*, Cambridge University Press.
427. Organisation for Economic Co-operation and Development. *Concepts and dilemmas of State building in fragile situations. From fragility to resilience* (Vol. 9).
428. OSCE and ODIHR (2006). *Roma Housing and Settlements in South-Eastern Europe. Profile and Achievements in Serbia in a Comparative Framework. Summary and Recommendations*. Poland, OSCE and ODIHR: 42.
429. OSCE. (2012). *Urban Plans for Substandard Roma Settlements*. Available online at <https://www.osce.org/serbia/247626?download=true>
430. Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action* Cambridge University Press.

- 431.Ostrom, E. (1996). Crossing the great divide: Coproduction, synergy, and development. *World Development*, 24(6), 1073-1087. doi: [https://doi.org/10.1016/0305-750X\(96\)00023-X](https://doi.org/10.1016/0305-750X(96)00023-X)
- 432.Ostrom, E. (1997). Capital, Institutions, Incentives. In *Institutions and Economic Development: Growth and Governance in Less-Developed and Post-Socialist Countries*. ed. Clague. Baltimore, MD: Johns Hopkins University Press.
- 433.Ostrom, E. (2005). *Understanding Institutional Diversity*. Princeton, Princeton University Press.
- 434.Ostrom, E. (2005(a)). Doing Institutional Analysis Digging Deeper Than Markets and Hierarchies. In: *Handbook of New Institutional Economics* (ed. C. Menard, eaE). Springer, pp. 819-848.
- 435.Ostrom, E. (2011). "Background on the Institutional Analysis and Development Framework." *The Policy Studies Journal* 39(1): 7-27.
- 436.O'Sullivan, E., & de Decker, P. (2007). Regulating the Private Rental Housing Market in Europe. *European Journal of Homelessness*, 1, 95-114.
- 437.Otiso, K.M. (2002). Forced Evictions in Kenyan Cities. *Singapore Journal of Tropical Geography*, 23, 252-267.
- 438.Padilla, E. (2002). Intergenerational equity and sustainability. *Ecological Economics* 41(1): 69-83.
- 439.Parks, R., Baker, P., Kiser, L., Oakerson, R., Ostrom, E., Ostrom, V., and Wilson, R. (1981). Consumers as coproducers of public services: Some economic and institutional considerations. *Policy Studies Journal*, 9(7), 1001-1011. doi: 10.1111/j.1541-0072.1981.tb01208.x
- 440.Parnell, S. and Pieterse, E., (2010). "The 'Right to the City': Institutional Imperatives of a Developmental State." *International Journal of Urban and Regional Research* 34(1): 146-162.
- 441.Paterson, E. and Dunn, M. (2009). "Perspectives on utilising Community Land Trusts as a vehicle for affordable housing provision." *Local Environment* 14(8): 749-764.
- 442.Patton, Q.M. (2002). *Qualitative evaluation and research methods*. Sage.
- 443.Payne, G. (1997). *Urban Land Tenure and Property Rights in Developing Countries. A review*. London, Intermediate Technology Publications/ODA
- 444.Payne, G. (2001). Urban land tenure options: titles or rights?. *Habitat International* 25: 415-429.
- 445.Payne, G. (2002). *Land, Rights and Innovation: Improving Tenure Security for the Urban Poor*. ITDG.
- 446.Payne, G. (2004). Land tenure and property rights: an introduction. *Habitat International*, 28(2), 167-179. doi: [http://dx.doi.org/10.1016/S0197-3975\(03\)00066-3](http://dx.doi.org/10.1016/S0197-3975(03)00066-3)
- 447.Payne, G. (2011). Land Issues in the Rwanda's Post Conflict Law Reform. *Local Case Studies in African Land Law*, 21.
- 448.Payne, G., Durand-Lasserve, A. and Rakodi, C., (2009). "The limits of land titling and home ownership." *Environment and Urbanization* 21(2): 443-462.
- 449.Pereira, R., Schwanen, T., & Banister, D. (2017). Distributive justice and equity in transportation. *Transport Reviews*, 37(2), 170-191. doi: 10.1080/01441647.2016.1257660
- 450.Peters, P.E. (2009). Challenges in Land Tenure and Land Reform in Africa: Anthropological Contributions. *World Development*, 37, 1317-1325.
- 451.Peters, B. G. and Pierre, J., (2006). *Handbook of Public Policy*, SAGE Publications.
- 452.Philippopoulos-Mihalopoulos, A. (2011). "Law's Spatial Turn: Geography, Justice and a Certain Fear of Space." *Law, Culture and the Humanities* 7(2): 187-202.
- 453.Picard, L. A., Buss T. F., Seybolt T. B., and. Lelei, M. C., (2015). *Sustainable Development and Human*

- Security in Africa: Governance as the Missing Link. London and New York, CRC Press.
- 454.Pirie, G. H. (1983). "On Spatial Justice." *Environment and Planning A* 15(4): 465-473.
- 455.Planet consortium. (2012). Housing market demand, housing finance, and housing preferences for the city of Kigali (pp. 65). Kigali, Rwanda.
- 456.Pojani, D. (2013). "From Squatter Settlement to Suburb: The Transformation of Bathore, Albania." *Housing Studies* 28(6): 805-821.
- 457.Pops, G., & Pavlak, T. (1991). *The case for justice: strengthening decision making and policy in public administration*. San Francisco: Wiley.
- 458.Prasad, B.C. (2003). Institutional economics and economic development: The theory of property rights, economic development, good governance and the environment. *International Journal of Social Economics*, 30, 741-762.
- 459.Price, S., & Singer, J. (2019). *Country Frameworks for Development Displacement and Resettlement. Reducing Risk, Building Resilience* (Vol. 1st Edition). London, UK: Routledge
- 460.Pritchett, W. E. (2003). "The "Public Menace" of Blight: Urban Renewal and the Private Uses of Eminent Domain." *Yale Law & Policy Review* 21(1): 1-50.
- 461.Pritchett, W.E. (2003b). The "Public Menace" of Blight: Urban Renewal and the Private Uses of Eminent Domain. *Yale Law and Policy Review*, 21
- 462.Puketapu-Dentice, K., Connelly, S. and Thompson-Fawcett, M. (2017). "Towards integrating Indigenous culture in urban form." *justice spatiale | spatial justice* 11: 19.
- 463.Purcell, M. (2002). Excavating Lefebvre: The Right to the City and its urban politics of the inhabitant. *GeoJournal* 58(2): 99-108.
- 464.Purcell, M. (2003). Citizenship and the right to the global city: reimagining the capitalist world order. *International Journal of Urban and Regional Research* 27(3): 564-590.
- 465.Purcell, M. (2011). A Review of Seeking Spatial Justice. *Annals of the Association of American Geographers*, 101(3), 690-692. doi: 10.1080/00045608.2011.563683
- 466.Purcell, M. (2013). To Inhabit Well: Counterhegemonic Movements and the Right to the City. *Urban Geography* 34(4): 560-574.
- 467.Purcell, M. (2014). Possible Worlds: Henri Lefebvre and the Right to the City." *Journal of Urban Affairs* 36(1): 141-154.
- 468.Purwanto, E., Sugiri, A., & Novian, R. (2017). Determined Slum Upgrading: A Challenge to Participatory Planning in Nanga Bulik, Central Kalimantan, Indonesia. *Sustainability*, 9(7), 1261.
- 469.Ragin, C.C. (1994). *Constructing social research: the unity and diversity of method*. Pine Forge Press.
- 470.Rahman, M. A. U. (2016). Urban sustainability through strategic planning: A case of metropolitan planning in Khulna city, Bangladesh. *Journal of Urban Management* 5(1): 16-22.
- 471.Ratner, B.D., Meinen-Dick, R., May, C.K. & Haglund, E. (2013). Resource conflict collective action and resilience: an analytical framework. *International Journal of the Commons*, Vol. 7, pp. 183–208.
- 472.Rawls, J. (1971). *A theory of justice*, Harvard University Press: Cambridge, MA, USA.
- 473.Rawls, J. (1999). *A Theory of Justice*. Revised edition, University press Cambridge, Massachusetts
- 474.Reerink, G. and van Gelder, J.-L. (2010). "Land titling, perceived tenure security, and housing consolidation in the kampongs of Bandung, Indonesia." *Habitat International* 34(1): 78-85.
- 475.Republic of Rwanda (2007). Law n°18-2007 relating to expropriation in the public interest. Kigali,

Rwanda.

476. Republic of Rwanda. (2017). 7 Years Government Programme: National Strategy for Transformation (NST1)2017 –2024. Kigali, Rwanda: Retrieved from http://www.minecofin.gov.rw/fileadmin/user_upload/NST1_7YGP_Final.pdf.
477. Organic law No 04/2005 of 08/04/2005 determining the modalities of protection, conservation and promotion of environment in Rwanda (2005).
478. Republic of South Africa. (2013). *Spatial Planning and Land Use Management Act*. Cape Town, South Africa: Republic of South Africa, Retrieved from <http://www.sacplan.org.za/documents/SpatialPlanningandLandUseManagementAct2013>.
479. Reynolds, S. (2008). Moral attentiveness: Who pays attention to the moral aspects of life? *Journal of Applied Psychology*, 93(5), 1027–1041, 93(5), 1027–1041. doi: 10.1037/0021-9010.93.5.1027
480. Richard, H. (2014). Urban Land Markets. In: *The Routledge Handbook on Cities of the Global South*. . Routledge.
481. Roberts, P. (2003). "Sustainable Development and Social Justice: Spatial Priorities and Mechanisms for Delivery." *Sociological Inquiry* 73(2): 228-244.
482. Rocco, R. C. (2013). "Emerging New Roles for Designers and Planners: Articulating Soft and Hard Infrastructures." *Atlantis* 24(1).
483. Rolnik, R. (2013). Ten years of the City Statute in Brazil: from the struggle for urban reform to the World Cup cities. *International Journal of Urban Sustainable Development*, 5(1), 54-64. doi: 10.1080/19463138.2013.782706
484. Rolnik, R. (2014). Place, inhabitation and citizenship: the right to housing and the Right to the City in the contemporary urban world. *International Journal of Housing Policy*, 14(3), 293-300. doi: 10.1080/14616718.2014.936178
485. Roquet, V., Bornholdt, L., Sirker, K. & Lukic, J. (2017). *Urban Land Acquisition and Involuntary Resettlement: Linking Innovation and Local Benefits*. World Bank Publications.
486. Rose, H., Mugisha, F., Kananga, A., & Clay, D. (2016). The implementation of Rwanda's expropriation law and its Outcomes on the population. Paper presented at the 2016 World Bank conference on land and poverty, Washington DC.
487. Rosen, G., & Walks, A. (2013). Rising cities: Condominium development and the private transformation of the metropolis. *Geoforum*, 49, 160-172. doi: <https://doi.org/10.1016/j.geoforum.2013.06.010>
488. Roth, M., & Smith, S. G. (1995). Land Tenure, Land Markets, and Institutional Transformation in Zambia LTC Research Paper (pp. 280). Madison, USA.
489. Rwanda Environment Management Authority. (2013). Kigali: State of Environment and Outlook Report 2013 (pp. 40). Kigali, Rwanda.
490. Rwanda Environment Management Authority. (2017). State of Environment and Outlook Report. Kigali, Rwanda: Retrieved from https://www.rema.gov.rw/fileadmin/templates/Documents/rema_doc/SoE/Rwanda%20SOE%202017.pdf.
491. Rwanda Governance Board. (2017). Citizen Report Card-CRC 2017. Kigali, Rwanda: Retrieved from <http://rgb.rw/publications/citizen-report-card/>.
492. Rwanda Housing Authority. (2014). Profiling and providing indication of the status quo and trends in

- informal settlements and propose mechanisms for their upgrading in Kigali City (pp. 145). Kigali, Rwanda.
493. Rwanda Housing Authority. (2017). Informal settlement upgrading: Kangondo, Kibiraro, Nyabisindu and Nyagatovu. (pp. 251). Kigali, Rwanda.
494. Rwanda Housing Authority. (2017a). Affordable Housing Program. Retrieved 19 August 2019, 2019, from <http://www.rha.gov.rw/index.php?id=180>
495. Saldaña-Márquez, H., Gámez-García, D., Gómez-Soberón, J., Arredondo-Rea, S., Corral-Higuera, R. & Gómez-Soberón, M. (2019). Housing Indicators for Sustainable Cities in Middle-Income Countries through the Residential Urban Environment Recognized Using Single-Family Housing Rating Systems. *Sustainability*, 11(16), 4276.
496. Schlosberg, D. (2009). *Defining Environmental Justice: Theories, Movements, and Nature* (W. Sarah Ed.): Oxford University Press UK.
497. Schlosberg, D. (2013). Theorising environmental justice: the expanding sphere of a discourse. *Environmental Politics*, 22(1), 37-55. doi: 10.1080/09644016.2013.755387
498. Schwartz, A. (2014). *Housing Policy in the United States*. New York, USA: Routledge.
499. Scott, W.R. (2008). *Institutions and Organizations: Ideas and Interests*. SAGE Publications.
500. Seghezze, L. (2009). The five dimensions of sustainability. *Environmental Politics*, 18(4), 539-556. doi: 10.1080/09644010903063669
501. Serag El Din, H., Shalaby, A., Farouh, H. E. and. Elariane, S. A. (2013). Principles of urban quality of life for a neighborhood. *HBRC Journal* 9(1): 86-92.
502. Sevatdal, H. (2002). *Land Administration and Land Management: An Institutional Approach*. Paper presented at the FIG XXII International Congress, Washington, D.C. USA.
https://www.fig.net/resources/proceedings/fig_proceedings/fig_2002/Ts7-5/TS7_5_sevatdal.pdf
503. Sharma, U., & Sharma, S. K. (2006). *Public Administration*. Atlantic Publishers & Distributors (P) Limited.
504. Shen, L.-Y., Ochoa, J. J., Shah, M. N., & Zhang, X. (2011). The application of urban sustainability indicators—A comparison between various practices. *Habitat International*, 35(1), 17-29. doi: 10.1016/j.habitatint.2010.03.006
505. Sheng, Y. K. (1989). Housing priorities, expenditure patterns, and the urban poor in third-world countries. *The Netherlands Journal of Housing and Environmental Research*, 4(1), 5-15.
506. Shi, L., Lamb, Z., Qiu, X., Cai, H., & Vale, L. (2018). Promises and perils of collective land tenure in promoting urban resilience: Learning from China's urban villages. *Habitat International*, 77, 1-11. doi: <https://doi.org/10.1016/j.habitatint.2018.04.006>
507. Shin, H. B. (2013). The Right to the City and Critical Reflections on China's Property Rights Activism. *Antipode*, 45(5), 1167-1189. doi: doi:10.1111/anti.12010
508. Shinde, S., & Karankal, A. (2013). Affordable Housing Materials & Techniques for Urban Poor's. *international Journal of Science and Research (IJSR)*, 1(5). doi: www.ijsr.net
509. Simbizi, M. C. D. (2016). *Measuring land tenure security: a pro-poor perspective*, ITC, University of Twente. PhD Thesis
510. Simbizi, M. C. D., Bennett, R. M. and Zevenbergen, J. (2014). Land tenure security: Revisiting and refining the concept for Sub-Saharan Africa's rural poor. *Land Use Policy* 36: 231-238.
511. Skat Consulting Rwanda Ltd. (2017). *Construction Manual for the Great Lakes Region*. Stabilised

- Compressed Earth Blocks - SCEB (pp. 28). Kigali, Rwanda.
- 512.Smedby, N., & Neij, L. (2013). Experiences in urban governance for sustainability: the Constructive Dialogue in Swedish municipalities. *Journal of Cleaner Production*, 50, 148-158. doi: <https://doi.org/10.1016/j.jclepro.2012.11.044>
- 513.Smets, P., & van Lindert, P. (2016). Sustainable housing and the urban poor. *International Journal of Urban Sustainable Development*, 8(1), 1-9. doi: 10.1080/19463138.2016.1168825
- 514.Smith, M. D. (1994). Social justice and the post-socialist city. *Urban Geography* 15(7): 612-627.
- 515.Smith, M. D. (2000). Social justice revisited. *Environment and Planning A*, 32: 1149-1162.
- 516.Smyth, E., & Vanclay, F. (2017). The Social Framework for Projects: a conceptual but practical model to assist in assessing, planning and managing the social impacts of projects. *Impact Assessment and Project Appraisal*, 35(1), 65-80. doi: 10.1080/14615517.2016.1271539
- 517.Soja, E. (2009). The city and spatial justice. *justice spatiale | spatial justice*: 31 -39.
- 518.Soja, E. (2010). The city and spatial justice. *Justices et Injustices Spatiales*. Available on line at <https://books.openedition.org/pupo/415?lang=en>
- 519.Soja, E. (2011). Response to Kurt Iveson: ‘Social or Spatial Justice? Marcuse and Soja on the Right to the City’. *City*, 15(2), 260-262. doi: 10.1080/13604813.2011.568719
- 520.Soja, E. (2013). *Seeking Spatial Justice*: University of Minnesota Press.
- 521.Soja, E., Dufaux, F., Gervais-Lambony, P., Buire, C., & Desbois, H. (2011). Spatial Justice and the Right to the City: an Interview with Edward SOJA. *justice spatiale | spatial justice*(3), 8. doi: <http://www.jssj.org>
- 522.Sparks, J., & Pan, Y. (2010). Ethical Judgments in Business Ethics Research: Definition, and Research Agenda. *Journal of Business Ethics*, 91(3), 405-418. doi: 10.1007/s10551-009-0092-2
- 523.Stanley, A. (2009). Just space or spatial justice? Difference, discourse, and environmental justice. *Local Environment* 14(10): 999-1014.
- 524.Stein, L. (2017). *Comparative Urban Land Use Planning: Best practice*. Australia: Sydney University Press.
- 525.Stokes, J. (1987). Innovation in residential development: the joint venture for more affordable housing. *Australian Planner* 25(2): 5-8.
- 526.Suhaida, M. S., Tawil, N. M., Hamzah, N., Che-Ani, A. I., Basri, H., & Yuzainee, M. Y. (2011). Housing Affordability: A Conceptual Overview for House Price Index. *Procedia Engineering*, 20, 346-353. doi: <https://doi.org/10.1016/j.proeng.2011.11.176>
- 527.Šumrada, R., Ferlan, M., & Liseč, A. (2013). Acquisition and expropriation of real property for the public benefit in Slovenia. *Land Use Policy*, 32, 14-22. doi: <https://doi.org/10.1016/j.landusepol.2012.10.004>
- 528.Surbana. (2013). *Kigali City Conceptual Master Plan*. Kigali, Rwanda: City of Kigali Retrieved from <https://bpmis.gov.rw/index.php?id=200016#Master%20plan>.
- 529.Szüdi, G., & Kováčová, J. (2016). “Building hope: from a shack to 3E house”—Innovative housing approach in the provision of affordable housing for Roma in Slovakia. *Journal of Housing and the Built Environment*, 31(3), 423-438. doi: 10.1007/s10901-015-9469-y
- 530.Tagliarino, N. (2017). The Status of National Legal Frameworks for Valuing Compensation for Expropriated Land: An Analysis of Whether National Laws in 50 Countries/Regions across Asia, Africa, and Latin America Comply with International Standards on Compensation Valuation. *Land*, 6(2), 37.
- 531.Tagliarino, N., Bununu, Y., Micheal, M., De Maria, M. and Olusanmi, A. (2018). Compensation for

- Expropriated Community Farmland in Nigeria: An In-Depth Analysis of the Laws and Practices Related to Land Expropriation for the Lekki Free Trade Zone in Lagos. *Land* 7(1): 23.
- 532.Theodorakopoulos, N., Ram, M., & Kakabadse, N. (2015). Procedural Justice in Procurement Management and Inclusive Interorganizational Relations: An Institutional Perspective. *British Journal of Management*, 26(2), 237-254. doi: 10.1111/1467-8551.12071
- 533.Todes, A. (2008). Reintegrating the Apartheid City? Urban Policy and Urban Restructuring in Durban. A Companion to the City. G. Bridge and S. Watson, Blackwell Publishing Ltd: 617-629.
- 534.Todes, A. (2012). Urban growth and strategic spatial planning in Johannesburg, South Africa. *Cities*, 29(3), 158-165. doi: <https://doi.org/10.1016/j.cities.2011.08.004>
- 535.Tolbert, C., & Mossberger, K. (2006). The Effects of E-Government on Trust and Confidence in Government. *Public Administration Review*, 66(3), 354-369. doi: 10.1111/j.1540-6210.2006.00594.x
- 536.Tonon, G. (2016). Indicators of Quality of Life in Latin America. Switzerland, Springer International Publishing.
- 537.Torrance, H. (2012). Triangulation, Respondent Validation, and Democratic Participation in Mixed Methods Research. *Journal of Mixed Methods Research*, 6(2), 111-123. doi: 10.1177/1558689812437185
- 538.Trono, A., Zerbi, M. C. and Castronuovo, V. (2017). Urban Regeneration and Local Governance in Italy: Three Emblematic Cases. *Local Government and Urban Governance in Europe*. C. Nunes Silva and J. Buček. Cham, Springer International Publishing: 171-192.
- 539.Trop, T. (2017). Social Impact Assessment of Rebuilding an Urban Neighborhood: A Case Study of a Demolition and Reconstruction Project in Petah Tikva, Israel. *Sustainability*, 9(6), 1076.
- 540.Tsinda, A., & Mugisha, R. (2018). Synthesis of the literature of studies on affordable housing in Kigali, Rwanda. Centre for Global Development, University of Aberdeen, Aberdeen.
- 541.Tura, H. A. (2018). Land rights and land grabbing in Oromia, Ethiopia. *Land Use Policy*, 70, 247-255. doi: <https://doi.org/10.1016/j.landusepol.2017.10.024>
- 542.Turk, S. (2019). Private finance integration to affordable housing production: a comparison between Copenhagen and Istanbul. *Journal of Housing and the Built Environment*. doi: 10.1007/s10901-018-09643-x
- 543.Turok, I., Kearns, A., & Goodlad, R. (1999). Social Exclusion: In What Sense a Planning Problem? *The Town Planning Review*, 70(3), 363-384.
- 544.Ubink, J. (2007). Tenure Security: Wishful Policy Thinking or Reality? A case from peri-urban Ghana. *Journal of African Law*, 51, 215-248.
- 545.UCLG Committee on Social Inclusion, P. D. a. H. R. (2012). Global Charter-Agenda for Human Rights in the City. Barcelona, Spain: 26.
- 546.UN-Habitat (1996). The Habitat Agenda: Goals and Principles, Commitments and Global Plan for Action. Nairobi, Kenya
- 547.UN-Habitat. (2003). Handbook on Best Practices, Security of Tenure, and Access to Land: Implementation of the Habitat Agenda. Nairobi, Kenya
- 548.UN-Habitat. (2004). Global Campaign for Secure Tenure A tool for Advocating the Provision of Adequate Shelter for the Urban Poor. Nairobi, Kenya
- 549.UN-Habitat (2004). Urban land for all. Nairobi, Kenya
<http://mirror.unhabitat.org/pmss/getElectronicVersion.aspx?nr=1706&alt=1>

- 550.UN-Habitat. (2005). *Land tenure, housing rights and gender*. Nairobi , Kenya
- 551.UN-Habitat (2005). The Millennium Development Goals Report 2005. Nairobi, Kenya.
- 552.UN-Habitat (2006). Enabling Shelter Strategies: Review of experience from two decades of implementation. Nairobi, United Nations Human Settlements Programme: 349.
- 553.UN-Habitat (2007). Indicators of Sustainable Development: Guidelines and Methodologies New York: 99.
- 554.UN-Habitat (2008). Enhancing Security of Tenure: Policy Directions. London and Sterling, United Nations Human Settlements Programme. 2: 42.
- 555.Un-Habitat (2009). "Better Information, Better Cities": Monitoring the Habitat Agenda and the Millennium Development Goals- Slums Target. Nairobi, Kenya.
- 556.Un-Habitat (2009). Planning Sustainable Cities: Global Report on Human Settlements 2009. London and Sterling, Earthscan.
- 557.UN-Habitat. (2010). Report of the Fifth Session of the World Urban Forum. The Right to the City: bridging the urban divide (pp. 112). Kenya, Nairobi: UN-Habitat.
- 558.UN-Habitat (2010). State of the World's Cities 2010/2011. Bridging The Urban Divide. State of the World's Cities Reports. New York, USA: 244.
- 559.UN-Habitat. (2011). Affordable Land and Housing in Asia (UN-Habitat Ed.). Kenya, Nairobi: UN-Habitat.
- 560.UN-Habitat (2011). Monitoring Security of Tenure in Cities: People, Land and Policies. Nairobi, Kenya: 93.
- 561.UN-Habitat (2012). Optimising the Urban Advantage (ed. UN-Habitat) Nairobi, Kenya.
- 562.UN-Habitat (2012). Streets as Tools for Urban Transformation in Slums: A Street-Led Approach to Citywide Slum Upgrading. Nairobi, Kenya, UN-Habitat.
- 563.UN-Habitat. (2012). Toolkit and guidance for preventing and managing land and natural resources conflict. New York, USA.
- 564.UN-Habitat. (2013). Evictions, Acquisition, Expropriation and Compensation: Practices and selected case studies (pp. 99). Nairobi, Kenya.
- 565.UN-Habitat (2013). Global Urban Indicators Database 2013. UN-Habitat Nairobi, Kenya, p. 41.
- 566.UN-Habitat (2014). Land tenure security in selected countries: Synthesis Report. UN-Habitat Nairobi, Kenya.
- 567.UN-Habitat. (2016). Habitat III Policy paper: Right to the City and cities for all (pp. 52). Kenya, Nairobi, UN-Habitat.
- 568.UN-Habitat and GLTN (2017). Monitoring tenure security, data collection, questionnaire modules and manual. Securing land and property rights for all. Nairobi, Kenya: 77.
- 569.UNESCO and UN-Habitat (2006). International public debates Urban policies and the Right to the City. Paris, France, UNESCO.
- 570.UNESCO and Un-Habitat (2009). Urban Policies and the Right to the City. Rights, responsibilities and citizenship. Paris, France, UNESCO: 58.
- 571.UNHCHR (1996). Fact Sheet No 25, Forced Evictions and Human Rights. Geneva: 27.
- 572.UNHCHR, & UN-Habitat. (1991). The right to adequate housing (pp. 58). Geneva, Switzerland.
- 573.United Nations (2003). Indicators for Monitoring the Millennium Development Goals. New York,

- United Nations.
574. United Nations. (2007). Basic principles and guidelines on development-based evictions and displacement. Annex 1 of the report of the Special Rapporteur on adequate housing as a component of the right to an adequate standard of living (pp. 15).
575. United Nations (2007). Indicators of Sustainable Development: Guidelines and Methodologies. New York, United Nations.
576. United Nations (2015) Sustainable development goals: 17 goals to transform our world. Available at: <https://www.un.org/sustainabledevelopment/> (accessed 10 July 2018)
577. United Nations Development Programme Bureau for Policy and Programme Support. (2015). *Guidance Note for Assessing Rule of Law in Public Administration*. Stockholm and New York.
578. United Nations Economic Commission for Europe. (1996). *Land Administration Guidelines: With Special Reference to Countries in Transition*. New York and Geneva: United Nations,.
579. United Nations Educational Scientific and Cultural Organization. (2014). *Policies and processes for social inclusion* (Vol. Volume1: Possibilities from South-East Asia). New York, USA: UNDESA.
580. United Nations Secretariat (2015). Right to the City and cities for all. Transforming our world: The 2030 agenda for sustainable development, United Nations.
581. United Nations Secretariat (2016). Right to the City and cities for all. Conference on Housing and Sustainable Urban Development (Habitat III). Surabaya, Indonesia, United Nations: 52.
582. Unruh, J. D. (2006). Land Tenure and the Evidence Landscape in Developing Countries. *Annals of the Association of American Geographers* 96(4): 754-772.
583. Uwayezu, E., & de Vries, T. W. (2018). Indicators for Measuring Spatial Justice and Land Tenure Security for Poor and Low Income Urban Dwellers. *Land*, 7(3), 34. doi: 10.3390/land7030084
584. Uwayezu, E., & de Vries, W. T. (2019). Expropriation of Real Property in Kigali City: Scoping the Patterns of Spatial Justice. *Land*, 8(2), 23.
585. Uwayezu, E., & de Vries, T. W. (2019b). Scoping land tenure security for the poor and low-income urban dwellers from a spatial justice lens. *Habitat International*, 91, 10. doi: <https://doi.org/10.1016/j.habitatint.2019.102016>
586. Van Asperen, P. and Zevenbergen, J. (2007). Can Lessons be Learnt from Improving Tenure Security in Informal Settlements? International Conference on Sustainable Urban Areas. ENHR. Rotterdam, Netherlands, ENHR.
587. van den Nouwelant, R., Davison, G., Gurrán, N., Pinnegar, S., and Randolph, B. (2015). "Delivering affordable housing through the planning system in urban renewal contexts: converging government roles in Queensland, South Australia and New South Wales." *Australian Planner* 52(2): 77-89.
588. van Gelder, J. L. (2007). Feeling and thinking: Quantifying the relationship between perceived tenure security and housing improvement in an informal neighbourhood in Buenos Aires. *Habitat International* 31(2): 219-231.
589. van Gelder, J. L. (2009). Legal tenure security, perceived tenure security and housing improvement in Buenos Aires: An attempt towards integration." *International Journal of Urban and Regional Research*. 33(2): 126–146
590. van Gelder, J. L. (2010). What tenure security? The case for a tripartite view. *Land Use Policy*, 27(2), 449-456. doi: <https://doi.org/10.1016/j.landusepol.2009.06.008>

591. van Kempen, R., & Bolt, G. (2009). Social cohesion, social mix, and urban policies in the Netherlands. *Journal of Housing and the Built Environment*, 24(4), 457. doi: 10.1007/s10901-009-9161-1
592. van Wyk, J. (2015). Can legislative intervention achieve spatial justice? *The Comparative and International Law Journal of Southern Africa*, 48(3), 381-400.
593. Vanclay, F. (2017). Project-induced displacement and resettlement: from impoverishment risks to an opportunity for development? *Impact Assessment and Project Appraisal*, 35(1), 3-21. doi: 10.1080/14615517.2017.1278671
594. Venn, A. (2019). Social justice and climate change☆. In T. Letcher (Ed.), *Managing Global Warming* (pp. 711-728): Academic Press.
595. Vilar, K. and Cartes, I. (2016). "Urban Design and Social Capital in Slums. Case Study: Moravia's Neighborhood, Medellin, 2004-2014." *Procedia - Social and Behavioral Sciences* 216: 56-67.
596. Villaça, F. (2011). "São Paulo: Urban segregation and inequality." *Estudos avançados* 25(71): 37-58.
597. Voss, W. (2010). *Compulsory Purchase in Poland, Norway and Germany*. Paper presented at the Facing the Challenges– Building the Capacity, Sydney, Australia, .
https://www.fig.net/resources/proceedings/fig_proceedings/fig2010/papers/ts03f/ts03f_voss_4220.pdf
598. Vuksanović-Macura, Z. (2012). "The mapping and enumeration of informal Roma settlements in Serbia." *Environment and Urbanization* 24(2): 685-705.
599. Wagner, M., & de Vries, W. T. (2019). Comparative Review of Methods Supporting Decision-Making in Urban Development and Land Management. *Land*, 8(8), 123.
600. Wailoo, A., & Anand, P. (2005). The nature of procedural preferences for health-care rationing decisions. *Social Science & Medicine*, 60(2), 223-236. doi: <https://doi.org/10.1016/j.socscimed.2004.04.036>
601. Walsh, D. and Downe, S. (2005). "Meta-synthesis method for qualitative research: a literature review." *Journal of Advanced Nursing* 50(2): 204-211.
602. Wampler, B. (2004). Expanding Accountability Through Participatory Institutions: Mayors, Citizens, and Budgeting in Three Brazilian Municipalities. *Latin American Politics and Society*, 46(2), 73-99. doi: 10.1111/j.1548-2456.2004.tb00276.x
603. Wang, Y. and Polillo, S. (2016). Power in Organizational Society: Macro, Meso and Micro. *Handbook of Contemporary Sociological Theory*. Cham, Springer International Publishing: 43-61.
604. Watkins, C. (2005). Representations of Space, Spatial Practices and Spaces of Representation: An Application of Lefebvre's Spatial Triad. *Culture and Organization* 11(3): 209-220.
605. Watson, V. (2009). The planned city sweeps the poor away: Urban planning and 21st century urbanisation. *Progress in Planning*, 72, 151-193.
606. Webb, B. and Webber, S. (2017). The implications of condominium neighbourhoods for long-term urban revitalisation. *Cities* 61(Supplement C): 48-57.
607. Webster, C., & Le Goix, R. (2005). Planning by common hold. *Economic Affairs*, 25(4), 19-23. doi: 10.1111/j.1468-0270.2005.00584.x
608. Weck, S., & Hanhörster, H. (2015). Seeking Urbanity or Seeking Diversity? Middle-class family households in a mixed neighbourhood in Germany. *Journal of Housing and the Built Environment*, 30(3), 471-486. doi: 10.1007/s10901-014-9425-2
609. West, D. (2011). "Valuation of community land trust homes in New York state." *Journal of Property Tax*

- Assessment & Administration 8(4): 15-24.
610. Whaley, L. & Weatherhead, E.K. (2014). An integrated approach to analyzing (adaptive) comanagement using the "politicized" IAD framework. *Ecology and Society*, 19(1), 13.
611. Whitehead, C. M. E. (2007). "Planning Policies and Affordable Housing: England as a Successful Case Study?" *Housing Studies* 22(1): 25-44.
612. Williams, M. J. (2017). Care-full Justice in the City. *Antipode*, 49(3), 821-839. doi: doi:10.1111/anti.12279
613. Williams, P. (2000). Inclusionary zoning and affordable housing in Sydney." *Urban Policy and Research* 18(3): 291-310.
614. Williamson, I., Enemark, S., Wallace, J. and Rajabifard, A. (2010). *Land Administration for Sustainable Development* New York, ESRI.
615. Wilson Center and USAID (2013). *Innovation in urban development: incremental housing, big data and gender. A new Generation of ideas.* Washington, DC.
616. Wilson, N. and Leech, P. (1987). "Joint venture for more affordable housing: Canberra case study." *Australian Planner* 25(2): 9-20.
617. Wisborg, P. (2013). Human Rights Against Land Grabbing? A Reflection on Norms, Policies, and Power. *Journal of Agricultural and Environmental Ethics*, 26(6), 1199-1222. doi: 10.1007/s10806-013-9449-8
618. Wolford, W. (2004). This Land Is Ours Now: Spatial Imaginaries and the Struggle for Land in Brazil. *Annals of the Association of American Geographers*, 94(2), 409-424.
619. World Bank. (2002). VOICES OF THE POOR. From many Lands In D. Narayan & P. Petesch (Eds.), (pp. 530). Washington, DC. : Oxford University Press and the World Bank.
620. World Bank. (2004). *Involuntary resettlement source book: planning and implementation in development projects.* Washington (DC), USA: World Bank.
621. World Bank. (2007). Participatory Budgeting. In A. Shah (Ed.), *Public sector governance and accountability series* (pp. 300). Washington, DC. : the World Bank.
622. World Bank (2008). *World Bank-IFC Doing Business Indicators.* Washington, DC., World Bank.
623. World Bank. (2012). *Informal housing: reducing disaster vulnerability through safer construction* (pp. 30). Kigali , Rwanda.
624. World Bank. (2015). *Environmental and Social Standard 5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement* (pp. 13). Washington, DC., USA.: World Bank.
625. World Bank Group. (2017). *Reshaping Urbanization in Rwanda: Urbanization and the Evolution of Rwanda's Urban Landscape* (pp. 40). Washington, DC, USA.
626. World Bank Group. (2019). *Creating markets in Rwanda. Transforming for the jobs of tomorrow* (pp. 127). Washington, DC, USA.
627. World Economic Forum. (2019). Making affordable housing a reality in cities. In A. Menon, G. Hodkinson, H. Galal, J. Reckford & A. Charles (Eds.), (pp. 60). Geneva, Switzerland.
628. Yeboah-Assiamah, E., Muller, K. & Domfeh, K.A. (2016). Institutional assessment in natural resource governance: A conceptual overview. *Forest Policy and Economics*, 74, 1-12.
629. Yenneti, K., Day, R. and Golubchikov, O. (2016). "Spatial justice and the land politics of renewables: Dispossessing vulnerable communities through solar energy mega-projects." *Geoforum* 76(Supplement C): 90-99.
630. Yin, R.K. (2003a). *Case study research, design and methods.* Sage.

631. Yin, R.K. (2003b). Applications of case study research. Sage.
632. Yin, S., Ma, Z., Song, W., & Liu, C. (2019). Spatial Justice of a Chinese Metropolis: A Perspective on Housing Price-to-Income Ratios in Nanjing, China. *Sustainability*, 11(6), 1808.
633. Young, I. M. (1990). Justice and the Politics of Difference, Princeton University Press.
634. Zevenbergen, J. (2004). A Systems Approach to Land Registration and Cadastre. *Nordic Journal of Surveying and Real Estate Research*, 1(1), 11.
635. Zhang, C., Jia, S., & Yang, R. (2016). Housing affordability and housing vacancy in China: The role of income inequality. *Journal of Housing Economics*, 33, 4-14. doi: <https://doi.org/10.1016/j.jhe.2016.05.005>
636. Zhang, Y., & Tan, J. (2013). An Empirical Study of the Housing-Price-to-Income Ratio of Some Typical Cities. On the Basis of Purchase Installment Payment Model. Paper presented at the International Conference on the Modern Development of Humanities and Social Science, Hong Kong.
637. Zhao, P. (2016). Planning for social inclusion: The impact of socioeconomic inequities on the informal development of farmland in suburban Beijing." *Land Use Policy* 57(Supplement C): 431-443.
638. Zheng, H. W., Shen G. Q., Song Y., Sun, B. and Hong, J. (2016). "Neighborhood sustainability in urban renewal: An assessment framework." *Environment and Planning B: Urban Analytics and City Science* 44(5): 903-924.
639. Zheng, H. W., Shen G. Q. and Wang, H. (2014). A review of recent studies on sustainable urban renewal. *Habitat International* 41: 272-279.

General summary

Since the 2000s, various developing countries have been undergoing different processes of urban re-organisation to mitigate social, economic and environmental problems resulting from rapid and uncontrolled urban growth. However, these processes have been decried to fuel spatial injustices and tenure insecurity, through the displacement of poor and low-income people from the urban spaces. To redress these injustices, the proponents of spatial justice demand for the institutionalisation of inclusive urban (re)development schemes, grounded on spatial justice claims that include access to decent housing and urban amenities, through increased integration of these categories of urban dwellers in the urban fabric. These claims also embrace fair compensation or just resettlement options for all property owners displaced by urban (re)development projects. Abiding with these claims can result in increased security of tenure. This is also reiterated in the global urban development agendas which recognise the normative value of spatial justice to promote inclusive urban (re)development and land tenure security. Yet, there are no studies exploring how the contemporary urban (re)development schemes address these demands. Therefore, this study mainly ascertains whether the urban (re)development schemes in developing cities are grounded on these spatial justice claims and promote the integration of poor and low-income people in the urban fabric and their security of tenure. It relies on empirical evidence from the ongoing processes of Kigali City (re)development. The specific research objectives of this study are formulated as follows: (1) to demonstrate the potential of spatial justice to promote land tenure security for the poor and low-income urban dwellers, (2) to develop indicators measuring spatial justice and land tenure security alongside the urban (re)development processes, (3) to ascertain trends of spatial justice in the current Rwandan expropriation practices in Kigali City (4) to explore trends of spatial justice and tenure security in the resettlement processes of informal dwellers in Kigali City, (5) to evaluate housing affordability in Kigali City. Prior to the empirical assessment, spatial justice is conceptualised and connected to land tenure security, based on the review and meta-synthesis of the existing literature on spatial justice, land tenure security, and urban renewal or (re)development. Throughout this literature review, the potential of spatial justice to promote land tenure security has been ascertained using the Brazilian experience of implementing inclusive urban (re)development framework, which was passed out following the public plea for the reinvigoration of spatial justice in its management. Since Kigali City is empirically used as study area, the literature review includes policies and spatial development schemes and various studies related to the (re)development of this city. Primary data were collected through mixed methods approaches, following the triangulation techniques, including household surveys, semi-structured interviews with different actors in Kigali City management and field observations, undertaken from July to August 2017; January to March, 2018; January to February, and June to July, 2019. The data collection covered the following topics: the expropriation for the real properties and related compensations options; informal settlement clearance and resettlement of the affected people, zoning regulations, affordable housing schemes and their affordability. We applied qualitative, descriptive and inferential statistics to analyse these data and derive findings. These findings are presented in the flow of the research objectives. Firstly, this study has identified four inter-related forms of spatial justice, consisting of procedural, recognitional, redistributive and inter- and intra-generational justice. Their combination in urban space management promotes the three elements of tenure security (the perceived, de facto and de jure), through the formal integration of all informal dwellers in the urban space and their engagement in the (re)development of their

neighbourhoods. Procedural justice has been identified as the main driver of this land tenure security. Secondly, the study has developed 60 indicators which measure the degree of spatial justice and land tenure security along a continuum of spatial justice and land tenure security. These indicators relate to different aspects of spatial justice expected from just urban (re)development processes. These aspects include participatory urban space management; equality in access to land, housing and basic urban amenities; fair compensation in compulsory real property acquisition; and resettlement of displaced property owners. Thirdly, trends of spatial justice connected with the processes of expropriation of real property and related aspects of compensation in Kigali City using these indicators have been ascertained. Good trends of procedural, recognitional, redistributive and inter- and intra-generational justice have been identified in the expropriation law underlying these processes. However, very limited evidence for these trends has been identified in the implementation of this law. This is reflected in the non-collaboration with property owners in the valuation process and the use of outdated real property reference prices in the calculation of the compensation values, which therefore results in unjust compensation and inability for the expropriated people to acquire new real properties in the same city. Fourth, the study ascertains trends of spatial justice and tenure security from the resettlement process of poor and low-income informal dwellers in Kigali City. Good patterns of recognitional, redistributive and inter- and intra- and inter-generational justice have been identified in this process, through increased access to decent housing and urban amenities, which becomes the drivers for the security of tenure for the resettled people. Nevertheless, there is deficiency of procedural justice, reflected in limited collaboration with the local community and the resettled people. Since the access to decent and affordable housing is among spatial justice claims, this study has finally evaluated housing affordability in Kigali City, using housing affordability indices. The findings reveal that the prices for the so-called affordable houses under development in Kigali City (in the governmental framework for supporting affordable housing delivery) are very prohibitive for most of the low- and middle-income urban dwellers, and thus become incommensurate with spatial justice claims. In the conclusion, this study draws the following recommendations for promoting spatial justice and land tenure security alongside Kigali City (re)development processes. The expropriation of real properties should be carried out in collaboration with property owners, using the valuation methods which consider the updated market prices. The compensation for the property owners should also include the resettlement options, carried out in a participatory manner. Informal settlements management should include slum upgrading approaches since the government cannot resettle all informal dwellers due to limited funds. In case the resettlement is the adopted option, it has to be carried out in participatory manner, so that the basic needs of the resettled people can be addressed. Revision of the prices of the so-called affordable houses and the associated interest rates, balancing their shares with income categories, use of low-cost materials in the development of these houses, and promoting self-housing development through condominium approach can be some practical options for promoting housing affordability in Kigali City.

Keywords: Spatial justice, land tenure security, urban (re)development, expropriation, displacement, (re)settlement, housing, urban amenities, poor and low-income urban dwellers, Kigali City.

Appendices

Appendix 1. Selected resources and their central focus

Type of the resources	Names of journal or publisher	Number of resources	Number of resources per topics covered in the study			
			Conceptualisation of spatial justice	Forms of spatial justice	Land tenure (in)security	Connections between spatial justice and land tenure security and/or rights to land
Peer reviewed journal papers (journal from which 2 papers or more were retrieved)	Habitat international	10	2	3	4	5
	Land Use Policy	8	1	2	4	3
	Urban Studies	3	1	2	2	0
	City	2	2	1	0	0
	Antipode	2	1	1	2	1
	Singapore Journal of Tropical Geography	3	1	0	2	2
	Urban Geography,	2	2	1	0	0
	Justice Spatiale Spatial Justice	5	4	4	1	2
International Journal of Urban and Regional Research	2	1		1	1	
Other journals (journal from which one peer reviewed paper was retrieved)	Various journals	33	18	10	10	8
Books	Various publishers	15	9	7	5	0
Reports	UN-Habitat	5	2	0	3	2
	World bank	1	0	0	1	0
	Urban forum or cities alliances	3	2	1	0	3
Policy documents and research papers	United Nations Secretariat	2	2		2	0
	Various publishers	5	1	0	4	0
Total		101	49	32	41	27

Appendix 2. Definition of key concepts and terminologies used in the development of indicators

1. Dispute resolution is a mechanism to handle disputes arising from the management of land within a country. In this study, it refers to disputes that break out between the local community and governmental organisations. It also refers to formal or informal dispute resolution mechanisms.
2. Dwellings are living places of people or households of families, including their houses.
3. Expropriation refers to the acquisition of the rights to private properties, such as land and buildings, without the willingness of property owner to concede his/her rights. It can be carried out in order to serve a public interest or needs, such as the development of infrastructure, or for private interest when private investors need to develop the land (Niedt & Christophers, 2016).
4. Eviction is removal against the will of individuals, families, and/or communities from the homes and/or the land which they occupy, without the provision of, or access to, other land and housing.
5. Fair compensation is the value of the expropriated property at market price. Such compensation has to be paid within a determined time (time span for compensation) which has to be determined by the law guiding the expropriation in any country (Tagliarino et al., 2018).
6. A land use plan is a plan that identifies areas for a designated use for the purpose of the management of land resources, including descriptions of permitted and planned developments.
7. A legal framework constitutes judicial, statutory, and administrative systems, such as court decisions, laws, regulations, bylaws, directions, and instructions that regulate society and set enforcement processes.
8. Legal or policy provisions for the development of basic facilities and services are the clauses or articles of rules, such as land law and policy and urban development policies on the development and provision of those facilities and services (UN-Habitat, 2007).
9. Low-cost or affordable houses are residential houses that can be provided at a price that does not exceed 25 to 30 percent of the household income (Calavita & Mallach, 2010; Whitehead, 2007; Williams, 2000). The promotion of access to low-cost housing involves the inclusion of some land lots into residential sites that can be allocated at low prices or through general land redistribution processes to poor people. The proportion of those lots ranges from 15 % to 20 % of zoned land for residential housing (Mukhija, Regus, Slovin, & Das, 2010).
10. Informal settlements are illegal settlements which are developed within a geographical and administrative entity without construction permits.
11. Informal settlement upgrading is a mechanism for increasing access to basic urban amenities and services in informal settlements, including opportunities for property owners to improve their buildings. This can result in the formalisation of property rights through land titling.
12. Mixed housing refers to different typologies of residential buildings that can be developed at low prices relative to the income of some people, such as poor and low-income households.
13. The relocation of slum dwellers is the resettlement of the inhabitants from a slum into new serviced sites.
14. A serviced residential site is a residential area which is subdivided into construction plots according to the physical development plan and provided with basic facilities, such as water, electricity, a sanitation system, and a road network.
15. Slum clearance is the demolition of housing in slums due to environmental concerns or for other urban development purposes.
16. Zoning rules are spatial development regulations at the municipality or city level that subdivide the land into different types of use, such as residential, commercial, industrial, and public and green spaces.

Note: Most of those definitions or explanations were compiled from (Deininger et al., 2012; UN-Habitat, 2011; Williamson et al., 2010).

Appendix 3. Cross analysis of the forms of spatial justice and main urban development processes

Urban Development Approach and Options	Number of Reviewed Resources	Frequency of Spatial Justice Pattern			
		Procedural	Recognition	Redistributive	Inter- and Intra-generational
Inclusive, participatory, and collaborative planning	11	9	9	8	6
Slum upgrading	10	9	8	7	7
Affordable housing development	9	8	8	7	6
Mixed housing development	8	7	8	6	6
Sites and services schemes	8	7	6	6	6
Incremental housing development	7	7	7	6	5
Urban regeneration and housing renewal	6	6	6	5	4
Resettlement or relocation of squatters or slum dwellers	6	4	4	4	2
Condominium housing	6	4	3	2	4
Urban village	5	4	4	3	4
Community land trusts (CLTs)	4	3	3	3	2
Joint venture for land or housing development	4	2	2	2	4
Total	83	70	68	58	55
Percentage	100 %	84 %	82 %	69 %	66 %

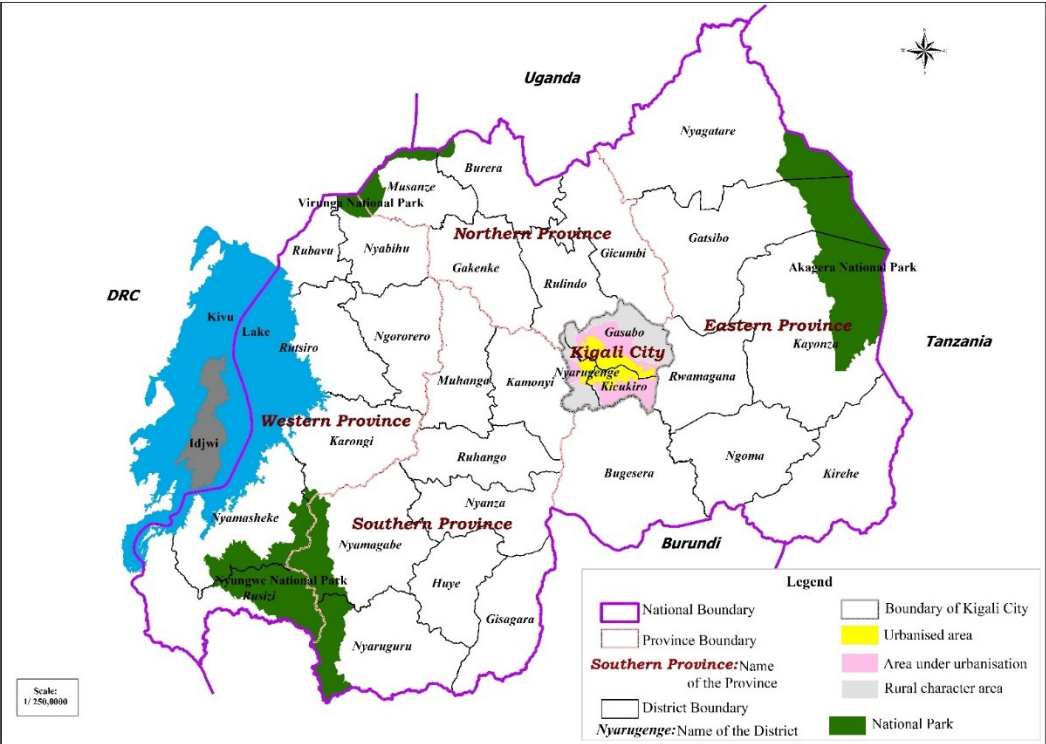
Source: Qualitative and content analysis of the retrieved literature

Appendix 4. Indicators for evaluating spatial justice trends alongside the expropriation in Kigali City

	Indicator	Measurement Approach
1	Presence of legal provisions defining the public interest as rationale for government agencies to undertake expropriation	Likert scale
2	Government agencies execute expropriation for the sole public interest	Likert scale
3	Percentage of expropriated people whose properties were expropriated by government agencies for public interest	Percentages
4	Presence of legal provisions for calculating the compensation value by an independent valuer	Likert scale
5	Compensation value is calculated by independent valuer	Likert scale
6	Percentage of expropriated people whose compensation value was calculated by independent valuer	Percentages
7	Presence of legal provisions for negotiating the compensation option between the expropriating agency and the property owners	Likert scale
8	Consensus on compensation option is reached between expropriating agency and property owners prior to valuation	Likert scale
9	Percentage of expropriated people who negotiated compensation with expropriating agency	Percentages
10	Presence of legal provisions for negotiating compensation value between the expropriating agency and the property owners	Likert scale
11	Property owners actively participate in valuation process and negotiate on compensation value	Likert scale
12	Percentage of expropriated people who actively participated in valuation process and negotiated compensation value	Percentages
13	Presence of the legal provisions on compensation at market prices	Likert scale
14	Compensation is calculated at market prices	Likert scale
15	Percentage of expropriated people whose compensation has been calculated at market prices	Percentages
16	Presence of legal provisions on processes of appealing against dissatisfactory expropriation process	Likert scale
17	Presence of accessible appealing system for handling claims on dissatisfactory compensation value or option	Likert scale
18	Percentage of the expropriated people who are satisfied with compensation at first valuation process-	Percentages
19	Percentage of expropriated people who accessed appealing system and claimed against dissatisfactory compensation value or option	Percentages
20	Percentage of expropriated people who are satisfied with the compensation after appealing/ counter valuation	Percentages
21	Use of the compensation to access other properties in the close neighbourhoods	Percentages
22	Percentage of expropriated people who afford other properties at the open market, using the compensation fees	Percentages

Source: Adapted from Uwayezu and de Vries (2018)

Appendix 5. Location of the study area



Appendix 6. Number of the households and sample sizes in the surveyed sites

District	Site or Locality	Purpose for Expropriation	Year of Expropriation	Number of the Property Owners	Sample Size
Nyarugenge	Rugaramana	Development of affordable housing. The whole area was cleared after the expropriation.	2014	275	72
	Agatare	Slum upgrading: Few private land plots and buildings were expropriated for the development of roads, sewerage system and green spaces.	2017	43	30
	Muhima	Extension of the existing road. Small tracks of land plots and some buildings were expropriated.	2017	49	33
Gasabo	Kangondo II	Development of affordable housing. The whole area will be cleared. The valuation process is already conducted. Property owners are still living in the area because there is pending claim on the compensation option.	2017–2018	168	62
Total				535	197

Appendix 7. Main characteristics of participants to household survey

Characteristic	Class/Category	Number of Respondents	Percentage (%)	Total number of Participants
Gender	Male	144	73	197
	Female	53	27	
Age range	20-25	5	2.5	197
	25-35	39	19.8	
	35-45	48	24.4	
	45-55	66	33.5	
	55-65	31	15.7	
	Over 65	8	4.1	
Marital status	Single	6	3.0	197
	Married	167	84.8	
	Widow	24	12.2	
Education level	None	6	3.0	197
	Primary	71	36.0	
	Secondary	79	40.1	
	Tertiary	41	20.8	
Income level (per month, in USD)	70-150	31	15.7	197
	150-220	2	1.0	
	220-300	59	29.9	
	300-365	52	26.4	
	365-440	5	2.5	
	440-510	15	7.6	
	510-585	19	9.6	
	585-660	6	3.0	
	660-730	3	1.5	
	730-805	4	2.0	
880-950	1	.5		

Appendix 8. Variation in land prices from 2015 to 2018

Locality	Village	Period of Land Transaction and Land Price Per Square Meter in Rwandan Francs				
		2015	2016	2017	2018	Increase in %
Muyumbu	Rugarama	2,917	3,333	4,167	5,000	71
Nyakaliro	Rusagara	1,667	2,000	2,500	3,667	120
Masaka	Cyimo	13,333	16,667	18,333	20,833	56
Rwezamenyo	Rugendabari	2,500	3,333	4,167	5,000	100
Karama	Gakoni	10,625	12,500	16,250	20,000	88
Jabana-1	Cyeyeye	12,500	13,333	15,000	16,667	33
Bisambu	Murambi	6,250	7,500	8,750	10,000	60
Karumuna	Kabeza	2,933	3,333	4,000	5,333	82
Ruyenzi	Kigabiro	4,583	5,833	6,667	7,500	64
Kanyinya	Mubuga	2,500	3,000	3,750	5,000	100
Rutonde	Nyabyondo	2,500	3,000	3,333	4,167	67
Rusororo-Nyagahinga	Gisharara	3,200	4,000	6,000	8,000	150
Ruyenzi	Rugazi	5,333	6,667	8,000	9,333	75
Ruyenzi	Kabanza	2,000	2,667	4,000	5,333	167
Gasanze	Kagarama	6,667	8,000	10,667	13,333	100
Kabuye	Kabeza	6,800	9,068	11,412	19,500	187
Kabuye	Murama	3,685	4,850	6,000	11,350	208
Akamatumu	Akamatumu	3,154	4,140	5,085	10,725	240
Nyarugenge-Agatare	Inyambo	13,800	14,500	16,150	18,000	30

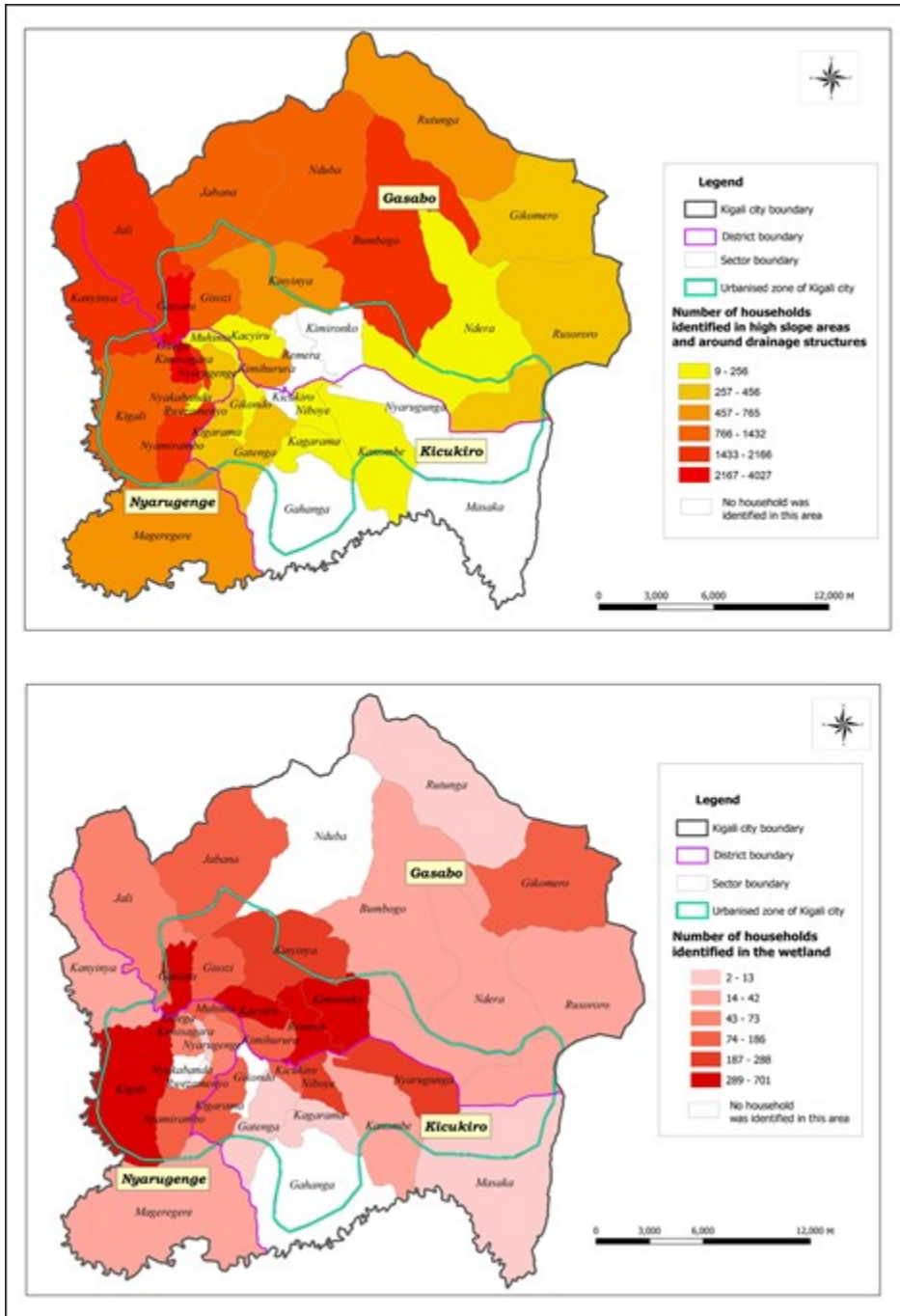
Data source: Proofs of land transactions at land managers' office and households

Appendix 9. Property owners' decisions/perceptions on appealing and using counter-valuation processes

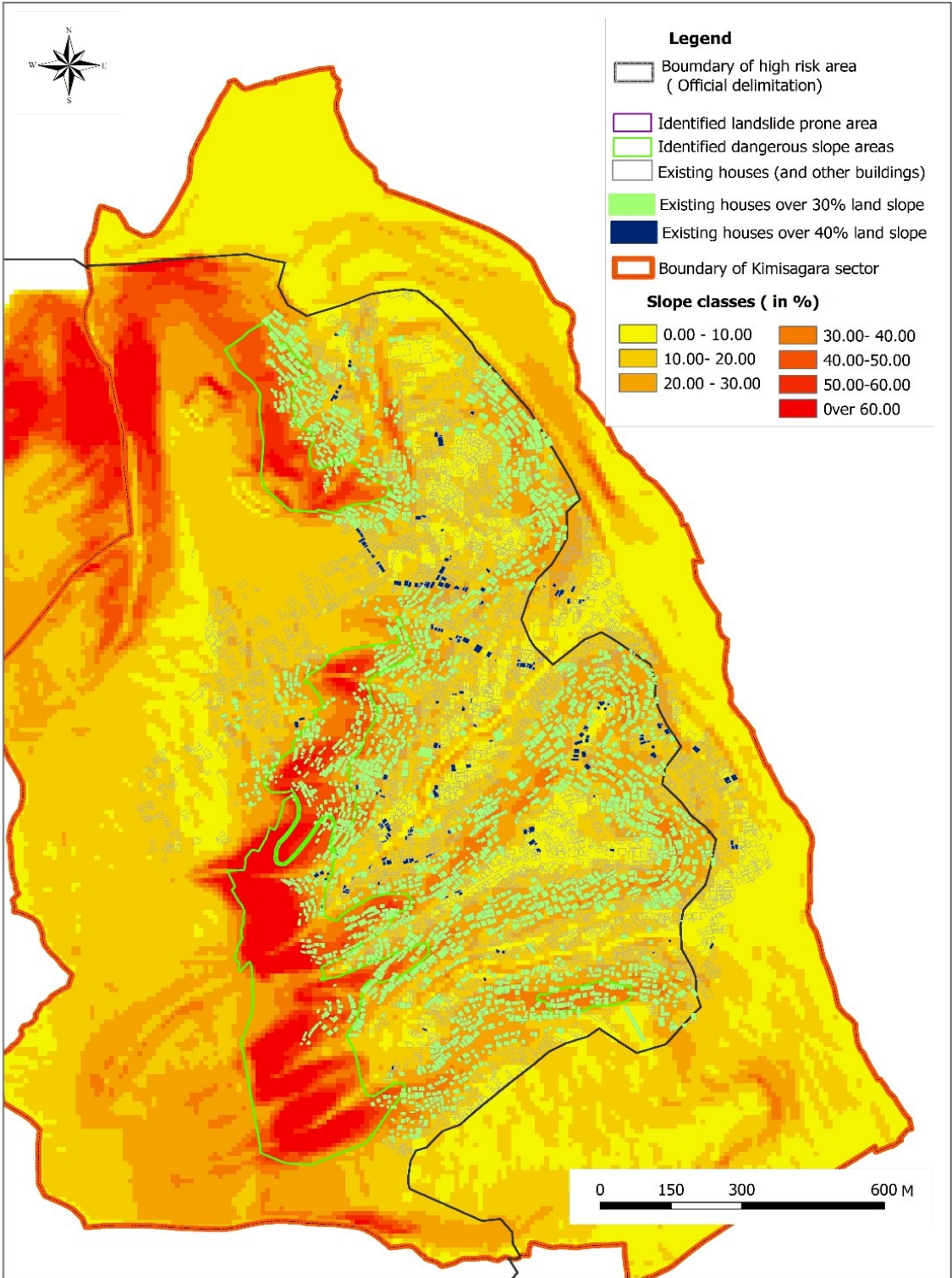
Age	Sex	Level of Education	Marital Status	Year of Expropriation	Opinions on or Drivers for Appealing
55	F	Primary	Married	2017	"I have fear for appealing, though I am not satisfied with the compensation. Local community does not have to challenge the government."
57	M	Secondary	Married	2017	"That (compulsory real property acquisition) started some years ago, when they introduced the lease property regime. As the land belongs to the government, it is not worth claiming. They can even take the land without compensation."
49	F	Primary	Widow	2014	"I was not satisfied with the compensation. I did not appeal because other people who appealed did not receive positive feedback from the expropriating agency."
47	M	University	Married	2014	"I follow the land market information. I appealed. It is my right. Through counter-valuation I received a higher compensation value than the one that was determined during the first valuation."
53	M	None	Married	2014	"None can resist against the government decision. All people that I know and who claimed did not get a positive feedback."
67	M	None	Married	2017	"We accept to receive low compensation without complaining because we do not want to challenge the government process. I cannot spend a little money that I have on appealing. How can I be sure that the counter valuation will be in my favour?"
39	M	University	Married	2017	"The calculated value for the compensation was too low. If I had to sell my house at the open market, I could receive much money. I appealed. After the counter-valuation, the compensation value was increased at 45 %."
62	F	Primary	Widow	2017	"The compensation value was too low, compared to the price at which I can sell my house at the open market .But, I did not appeal. I could not find 60, 000 Rfws for the payment of the counter-valuation process."

Data source: Interviews and focus group discussion with expropriated people from Agatare and Rugarama, February–March, 2018

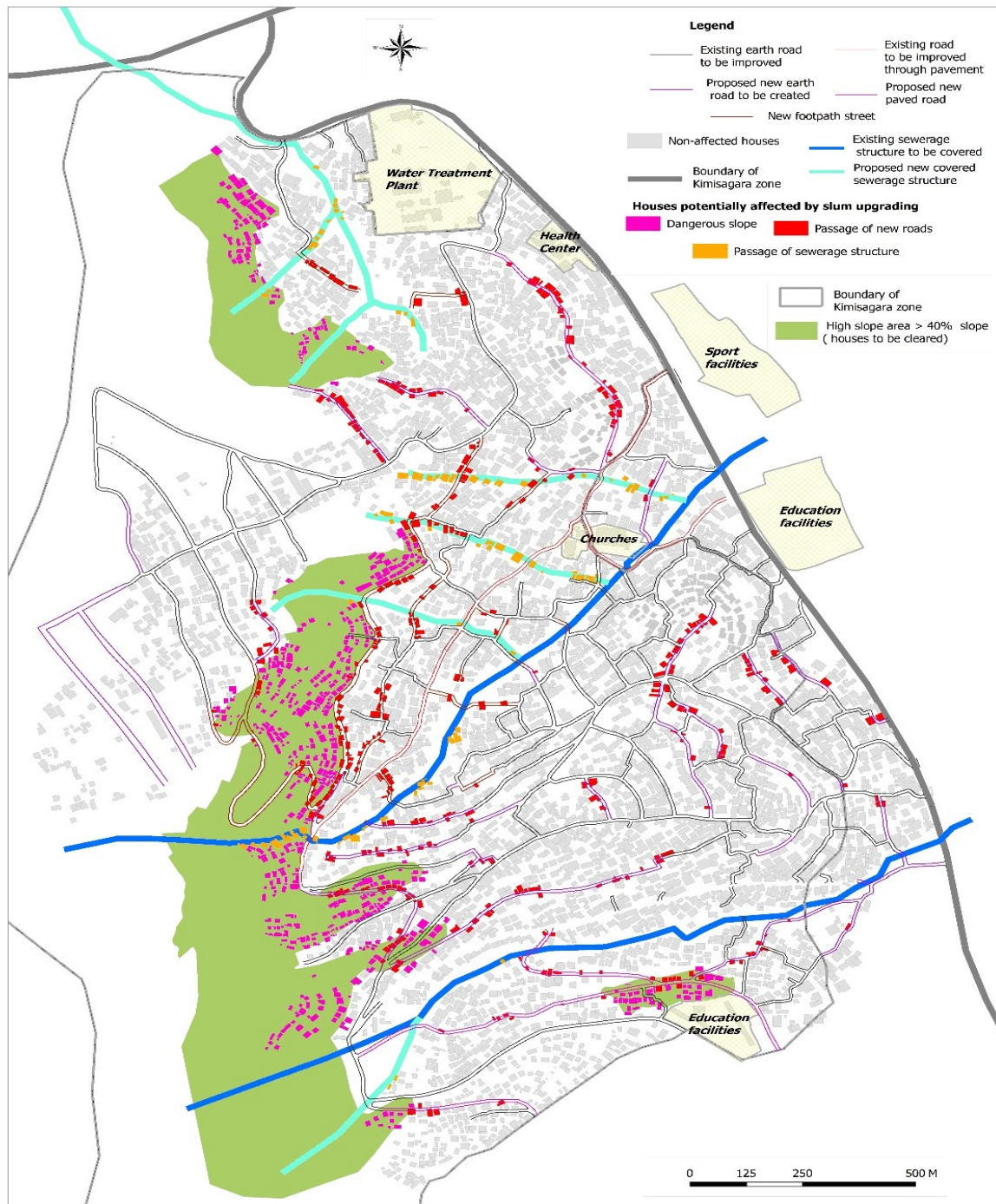
Appendix 10: Spatial distribution of households identified in high-risk zones in Kigali City



Appendix 11: Slope map of Kimisagara zone



Appendix 12: Slum upgrading map of Kimisagara zone



Appendix 13: Interview guide for local leaders, spatial planners, policy and decision makers in Kigali City

Identification of the Interviewee

Name:
Organization:
Position held:
Phone number:Email:

Section 1: Questions on property expropriation

1. Who are actors that involve in expropriation process for public or private interest? What are the roles of each of those actors?
2. How aware are you about the compliance of those actors to land expropriation law, with regards to:
 - 2.1. Participation of properties owners in the determination of the compensation value
 - 2.2. Use of market price to determine the compensation value
3. Handling conflicts arising from the valuation process
4. Sometimes, the process of expropriation is criticized for not allowing the expropriated people to afford similar properties in the neighbourhoods where they would like to live:
 - 4.1. What are the causes for not affording other similar properties?
 - 4.2. How the process should be improved to allow those people afford other similar properties?
 - 4.3. Do you think that the State or Kigali City should facilitate expropriated people to have access to other properties, like housing if the expropriation affects residential buildings? If yes, how?
5. Do you think that private investors should negotiate with land owners and determine the compensation value, instead of binding to property value applied in the expropriation for public interests? Explain your answer.
6. What are the challenges associated with land expropriation and compensation processes?
7. How can those challenges be handled?
8. In your opinions, what are property compensation options that can be applied in the course of expropriation to help the expropriated people acquire new properties and continue their lives in Kigali City, instead of migrating towards neighbouring districts?

Section 2: Development of affordable houses

1. If any area is designed for the development of affordable houses, who are the actors or stakeholders who participate in the planning for these developments (land acquisition, housing design)?
2. What are Kigali City neighbourhoods which have been planned for the development of affordable housing? How have these areas been selected?
3. What kind of support does the government provide to real estate agencies which are engaged in affordable housing development?
4. How is the local community involved in affordable housing development programmes?
5. How are the affordable housing plans aligned with Kigali City households' characteristics and incomes?
6. Do these housing plans include some housing packages which can be allocated to poor urban dwellers?
7. Are there some conditions required for applicants who are interested in purchasing a housing unit from these housing units developed under the affordable housing schemes?
8. Can different categories of Kigali City inhabitants afford the affordable housing units' under-development in Kigali City?
9. What are different strategies do Kigali City inhabitants adopt if they cannot afford these housing units (developed in the framework of promoting access to decent houses)?
10. In the current Kigali City development schemes, are there some land development options:

- a. Through which poor and low-income landowners can give their lands to real estate developers and acquire a part of the developed house like a building (from the investor)?
 - b. To help local community in developing community cooperatives and securing funds for developing their lands according to the master plan?
 - c. To allow poor and low-income groups to developing low cost residential buildings, and improving those buildings over times, as their income increase?
 - d. To allow poor and low-income groups to use of local and affordable construction materials in the residential areas designed for those groups of people?
11. Which options of low-cost housing development that can be applied in Kigali City to promote access to decent houses for various categories of urban dwellers?

Section 5: Clearance of residential settlements from high risk zones and resettlement of affected people

1. There are planned activities to clear some informal settlements from high risk zones in Kigali City. In which parts of the Kigali City are those activities planned?
 2. How are the concerned people informed?
 3. How does Kigali City collaborate with the concerned urban dwellers to plan and implement those activities?
- 3.1. Selection of the resettlement site
- 3.2. Design of the resettlement plan
- 3.3. Implementation of the resettlement plan
- 3.4. Identification of the basic needs for households to be resettled
4. What are planned activities or logistics that the Government and Kigali City intend to deploy to assist those people to move from these high risks zones to planned areas?
 5. What are different government agencies involved in the resettlement of these urban dwellers?
 6. Are there other stakeholders who are committed to provide any support for the implementation of this resettlement plan?
 7. Does the government have financial capacity to relocate all urban dwellers from high-risk zones to planned residential sites?
 8. If, not what can be other strategies for the efficient management of informal settlement in Kigali City?
 9. Are there some plans to upgrade some informal settlements in Kigali City? Which parts of the City will be upgraded?
 10. Are there specific benefits from informal settlements upgrading for the local people, and Kigali City?
 11. How can the local community who owns buildings and lands in those areas benefit from those activities?
 12. How can the local community be involved in the planning of those activities? What should be their roles or contributions?
 13. What are different stakeholders that can participate in the implementation of those activities? Which roles can be played by each of them?
 14. What kinds of compensation options that can be provided to property owners whose buildings and lands can be affected during the informal settlements upgrading programmes?

Appendix 14: Interview guide for real property valuer

Section 1: Identification of the Interviewee

Name:
 Organization:
 Position held:
 Phone number:Email:

Section 2. General questions

1. How many years of professional experience do you have in real property valuation?

Professional experience	Less than one year	1-2 years	3-5 years	6-10 years	Above 10 years
Please tick the correct option					

2. How often within 6 months do you participate in property valuation?

Participation in valuation process	None	1-2 times	3-5 times	More than 5 times
Please tick the correct option				

3. How often within 6 months, do you participate in valuation for the following purposes?

Valuation purpose	Valuation for expropriation for public investment	Valuation for expropriation for private investment	Valuation for mortgage	Valuation for sale	Valuation for insurance
Participation (N times per year)					

4. In which areas have you carried out those valuation processes?

Valuation purpose	Valuation for expropriation for public investment	Valuation for expropriation for private investment	Valuation for mortgage	Valuation for sale	Valuation for insurance
Areas: District/sector/zone					
Valuation date: month and year					
Current User of the area					
Type of use					
Start of the investment into the land					

5. Which property value do you use while carrying out the valuation for expropriation for public and private interests? How do you determine it?
6. There is a list of established property value list in all Sectors and Cells of Rwanda. Do you use property values from that list while carrying out which valuation process?
7. How is that list established?
8. Is there any collaboration with the local community while establishing such a list?
9. What is the reason for not aligning properties values on that list and those market values?
10. How do you collaborate with properties owners to determine the property price in the process of valuation for expropriation for public and private interests?
11. There are cases of bargaining on property valuation, where the valuation price is reached from a low amount to a relatively high. What is the rationale for such bargain while the law provides the use of market price for any process of property compensation?
12. Do you allow the public to have access to valuation reports to know how the process of valuation is undertaken? *If yes, which people have ever contacted you to consult your reports? Which information were they looking for?*
13. Is there any appeal process that landowners who are not satisfied with the compensation value can use to lodge their claims? How is that process?
14. If, after the second valuation process is undertaken, landowners are not satisfied yet with the compensation value, how do you handle such case, especially when the property is to be compulsorily expropriated?
15. As provided by the expropriation law, the compensation of land and attached assets like buildings has to be fair, and made based on market value. *This is done when property owners to be expropriated are satisfied with compensation value so that they can find another property somewhere else. How do you comply with this clause?*
16. As provided by the expropriation law, the expropriation for private interests has to be carried out through direct negotiation between the Investors and property owners. However, this clause is not respected. *What is the reason for the government to intervene in the expropriation for private interest and not allowing the property owners the freedom to negotiate with those investors on compensation value?*
17. Have you experienced some cases of resistance from members of the local community or some people against the compensation during the expropriation process?
 - i. If yes, what were the causes of the resistance?
 - ii. How did you handle the cases?
18. Sometimes, the process of expropriation is criticized for not allowing the expropriated people to afford similar properties in the neighbourhoods where they would like to live. Because the compensation value is not aligned with the market value of the property.
 - i. What are the reasons for not carrying out the expropriation based on the market value of the property, especially in the case of expropriation for public interest?
 - ii. Which actions can be taken to counteract the problems of non-access to land and housing that can be driven by expropriation process for public interest?

Appendix 15: Questions for household survey in Kigali City

Part I: General information

Instructions: Use a tick (✓) to choose your answer from the proposed answers

Section 1: Identification of respondents

1. Names:
2. Job or employment status:
3. Sector:
4. Cell:
5. Village:
6. Origin:

Origin	Native of the area	Kigali City	Other area*
Tick (✓) for the correct option			

Other area* (Please specify):

7. Age range

Age range	20-25	25-35	35-45	45-55	55-65	Over 65
Tick (✓) for the correct option						

8. **Sex:** Male

Female

9. **Marital status** Single

Married

Widow

Divorce

Separated

10. Education level

Level of Education	Primary	Technical (post Primary)	Secondary	University/	Others*
Tick (✓) for the correct option					

Others* (Please specify):

11. What is your occupation/job? (Please fill in the appropriate box)

Unemployed	
Farmer	
Casual laborer	
Government employee	
NGO employee	

Self-employed	
Temporal employee	
Retired	
Others	

If others, please specify

12. Working places:

13: Household size:

Family	Number
Children over 10 years	
Children between 2 and 10 years	
Children below 2 years	

14. Housing aspect

Houses	Yes	No	Number
Main family house			
Annex for commercial or business use			
Annex rented by tenants			

15. Monthly income range in Rfws

Monthly income	Less than 50, 000	50, 000-100, 000	100, 000- 150, 000	150, 000-200, 000	200, 000-250, 000	250, 000-300, 000	300, 000-350, 000	350, 000- 400, 000	400, 000- 450, 000	450, 000 -500, 000	500, 000 -550, 000	550, 000 - 600, 000	600, 000 - 650, 000	650, 000 -700, 000	700, 000 -750, 000	750, 000 -1, 000, 000	Over 1, 000, 000
Tick in the correct column																	

16. Percentage of income allocated for housing rent or development

Percentage	Less than 10%	10-15%	15-20%	20-25%	25-30%	30-35%	35-40%	40-45%	45-50%	More than 50%
Tick in the correct column?										

Part II: General questions

Section 1: Questions on real property expropriation and compensation practices

1. If you have a land, how did you acquire it?

Mode of access	Inheritance	Purchase	Gift from the Government/	Gift from a relative or Friend/	Other mean to be specified
Tick the correct option					

2. Have you ever experienced the processes of expropriation?

a) Yes No

b) If yes, for which purpose was the expropriation carried out?

For public interest

For private interest

3. How were you informed about that expropriation process (multiple answers are possible)?

No	Possible response	Choice
a	Informed from media	
b	Meeting organized by the local leader	
c	Informed from land office/One stop centre	
f	Others	

If others, please specify.....

4. At which level are you aware of the provisions of government law on expropriation, property valuation and compensation? Tick ^x in the corresponding column, according to the scale (1-5) where 1=No, definitely not; 2=Unlikely; 3=Neutral; 4=Likely (50/50); 5=Yes, definitely (100% sure)

Features or aspects of property expropriation	Likert scale				
	1	2	3	4	5
Properties owners have to be notified prior to the process of land valuation for the expropriation					
Properties owners participate in the processes of expropriation					
The valuation is carried out by an independent certified valuer					
Property valuation for private investment is based on negotiation between the investors and land owners					
Properties owners can access and check the final valuation rolls					
There exist independent and accessible appeal systems to which properties owners can lodge their claims in the case they are not satisfied by the outcomes of valuation processes					
Valuation is based on market value of the property					

Features or aspects of property expropriation	Likert scale				
	1	2	3	4	5
The compensation can be paid in cash or in kind					
It takes no more than 4 months to get the compensation					
If the compensation is not done after 4 months(120 days) of the valuation, the owner of the property has right to his /her property					

5. Score the degree of effectiveness of the processes of expropriation, valuation and compensation, relative to the compliance to the expropriation law. Tick ^x in the corresponding column, according to the scale of (1-5) where 1=No, definitely not; 2=Unlikely; 3=Neutral; 4=Likely (50/50); 5=Yes, definitely (100%). Please choose the correct answer for each category.

Features or aspects of property expropriation	Likert scale				
	1	2	3	4	5
Properties owners are notified prior to the process of land valuation for expropriation					
Land owners actively participate in the processes of expropriation					
Compensation value is determined and agreed on, through negotiation between the valuer and properties owners					
The valuation is carried out by a valuer who is independent					
When the property is acquired for private investment, land owners negotiate individually with investor and agree on the compensation value					
Properties owners access and check the final valuation rolls					
Valuation is based on market value of the property (at open market)					
The valuation processes engender few conflicts as the expropriated people are satisfied with the processes and the compensation value					
There exist independent and accessible appeal systems to which properties owners can lodge their claims in the case they are not satisfied by the outcomes of valuation processes					
When the appeal is lodged, another valuation process is carried out within 10 days					
If the properties owners are not satisfied with the outcome of the second valuation process, they negotiate with government institutions that are in charge of property expropriation for public interests					
The compensation is mostly paid in cash					
The compensation is mostly paid in kind					
The compensation is paid within 4 months when the final process of valuation is complete and both parties are satisfied of the compensation value					
The compensation is paid between 4 and 8 months, when the final process of valuation is complete and both parties are satisfied of the compensation value					
The compensation is paid between 8 and 12 months when the final process of valuation is complete and both parties are satisfied of the compensation value					
The compensation is paid after 12 months or more, when the final process of valuation is complete and both parties are satisfied of the compensation value					
Compensation fees are sufficient enough to allow the expropriated people access new assets, and continue social and economic status in the city					
The expropriated lands for public interests are promptly put in use					
The expropriated lands for private interests are promptly put in use					

6. Suggestions on the processes of expropriation for housing development. Tick ^x in the corresponding column, according to the scale (1-5) where 1=No, definitely not; 2=Unlikely; 3=Neutral; 4=Likely (50/50); 5=Yes, definitely (100%)

Propositions on compensation options in the case of expropriation for private interests	Likert scale				
	1	2	3	4	5
People whose lands and or houses are seized for the development of residential buildings by private investors should be compensated in kind such as the provision of lands and or houses in the city					
People whose lands and or houses are seized for the development of residential buildings by private investors should be compensated in cash, based on the market values of their properties					
People whose lands and or houses are seized for the development of commercial buildings by private investors should be compensated in kind, such as the provision of parts or a floor in the developed flats					
People whose lands and or houses are seized for the development of commercial buildings by private investors should be compensated in cash, based on the market values of their properties					

7. General perceptions on the processes of land expropriation

7.1. If you have been expropriated, were you satisfied with the compensation paid to you?

Yes No

7.2. If No, how do you think the compensation should have been paid?

The compensation option	Value of the land at market price	Value of the house at market price	Another land in the city	Another house in the city
Tick the correct option				

7.3. If you have been expropriated, were you able to use the compensation fees to acquire other similar properties in Kigali City?

Yes No

7.4. If No, how much did you pay to acquire new properties in Kigali City?

The property	Land	House
How many times was it expensive compared to the compensation feesX.....X...

7.5. If you were able to acquire new properties outside of Kigali City, tell us how much you have paid compared to the received compensation fees

The property	Price for the property	
	Expropriated in Kigali City	New property outside Kigali City
Land		
House		

8. If you were expropriated and relocated in another site, please indicate the actors corresponding to the following roles in the relocation process.

No	Possible response	Actor (Please name the actor)
a	Information dissemination about the process	
b	Identification of the resettlement site for the expropriated people	
c	Making resettlement plans for the expropriated people	
d	Implementation of the resettlement plans for the expropriated people	
e	Provision of basic urban amenities and services in the area	
f	Coordination and monitoring of the implementation of the settlement process	
g	Others, please specify	

9. What is the role of the expropriated people in the planning and implementation of their settlement process?

Propositions on compensation options in the case of expropriation for private interests	Likert scale					Any comment (if possible)
	1	2	3	4	5	
Expropriation law allows negotiation on the compensation option between expropriating agency and property owners						
In practice, property owners negotiate on compensation option						
Expropriation law allows the compensation at market values						
The compensation value is determined based on market values of the expropriated properties.						
There was a consensus between the expropriated property owners and government agencies on the resettlement as the compensation option for their properties						
The resettlement was organised for both property owners in formal and informal tenures						
The expropriated property owners participate in the planning of their resettlement						
The expropriated property owners participate in the implementation of their resettlement plans						
The resettlement site of the expropriated property owners is selected in the vicinity of their previous residential neighbourhoods						
The resettlement site of the expropriated property owners is integrated in the master plan of Kigali City						
New houses (in relation to the number of bed-rooms) in the resettlement site fit to the size household size						
The expropriated property owners are granted ownership rights of these houses						
There is a short distance between the resettlement site and the working places of the expropriated property owners						
There basic amenities and services in resettlement site for the expropriated property owners						

10. Access to basic amenities before and after the resettlement or relocation

Basic amenities and services	Available in the residential premise		Distance to the basic amenities or services	
	Before the relocation	After the relocation	Before the relocation	After the relocation
Water				
Electricity				
Waste management system				
Nursery school				
Access to primary school				
Health facility				
Transportation services				
Market				

11. What are the outcomes do you observe/perceive from the expropriation processes? Please tick all possible answers from the list below.

No	Possible response	1	2	3	4	5
a	Beautification of the city view					
b	Job creation (through the new construction works)					
c	Modern and good quality basic infrastructures (roads, car parks, etc)					
d	Modern and good quality commercial or residential houses					
e	Integration of the resettled people into the city					
f	Decreased risks of evictions					
g	Attraction for new investments					
h	Environment protection or restoration					
i	Others, please specify					
j	Improved quality of life for local people					
k	Others, please specify					

12. If you were resettled into a new house, what are the properties' values before and after expropriation?

The property	Price for the property	
	At the expropriation	Value of the new property
Land		
House		

13. What are other problems do properties owners face after the processes of expropriation?

.....

14. How can the expropriation process be improved to solve those problems?

.....
 ...

 ...

 ...

 ...

15. If the resettlement was not well carried out, what are your suggestions for its improvement?

No	Possible response	Choice
a	Resettling the expropriated people in the same residential areas so that they cannot lose their jobs	
b	People whose properties are acquired for the development of apartments by private investors should be compensated in kind, such as the provision of parts or a floor in the developed properties	
c	Users of properties that are demolished for the development of commercial buildings or apartments by private investors should be given priorities in renting or selling the new developed properties	
d	People whose properties are acquired for the development of public facilities should be compensated in cash, based on the market values of their properties	
e	People whose properties are acquired for the development of public facilities should be compensated in cash for their houses (based on the market values of their properties), and provided with new land in selected site where they can develop new houses themselves.	
f	Other suggestions, please specify	

Section 2: Urban renewal and resettlement of the displaced households

1. Do you own your residential house in Kigali City?

Yes No

2. If Yes, how did you acquire it?

Mode of access	Inheritance	Purchase	Gift from the Government	Gift from a relative or Friend	Other means (to be specified)
Tick the correct option					

3. If No, which property rights do you hold?

Property right	Leasehold (for the land)	Rent (for the House)	Occupancy right during the owner's absence	Other (Please, specify)
Tick the correct option				

4. Have you experienced recently any changes in urban (re)development in your neighbourhood?

Yes No

5. If Yes, which process of changes have you experienced and in which area?

No	Possible response	Choice	Zone
a	Housing renewal by the property owners		
b	Renewal of basic infrastructures (new or renewal of roads, waste management networks)		
c	Development of commercial buildings by private investors		
d	Development of residential buildings by private investors		
e	Development of car parks		
f	Development of parks, green spaces or recreational facilities		
g	Others (Please, specify)		
h	Environmental protection		

6. How were you informed of those urban restructuring/renewal processes?

No	Possible response	Choice
a	Informed from media	
b	Meeting organized by the local authority	
c	Informed from land bureau/One stop centre/ local authorities	
d	I heard that from my neighbours or my colleagues at work	
e	I saw the event happening	
f	Others (please specify)	

7. What are the outcomes do you observe/perceive from the urban renewal process? Please tick all possible answers from the list below.

No	Possible response	Your choice
a	Beautification of the city view	
b	Job creation (through the new construction works)	
c	Modern and good quality basic infrastructures (roads, car parks, etc)	
d	Modern and good quality commercial or business facilities	
e	New business opportunities for a large number of people	
f	Promotion of recreation or leisure	
g	Attraction for new investments	
h	Environment protection or restoration	
i	Others, please specify	

9. What is the role of the displaced people in the planning and implementation of their settlement process?

Propositions on compensation options in the case of expropriation for private interests	Likert scale					Any comment (if possible)
	1	2	3	4	5	
The resettlement of the displaced property owners is carried in the framework of environmental protection						
The resettlement of the displaced property owners is meant to protect their lives , due to risk for hazards in the living areas						
The displaced property owners participate in the planning of their resettlement						
The displaced property owners participate in the implementation of their resettlement plans						
The resettlement site of the displaced property owners is selected in the vicinity of their previous residential neighbourhoods						
The resettlement site of the displaced property owners is integrated in the master plan of Kigali City						
New houses (in relation to the number of bed-rooms) in the resettlement site fit to the size household size of the displaced property owners						
The displaced property owners are granted ownership rights of these houses						
There is a short distance between the resettlement site and the working places of the expropriated property owners						
There basic amenities and services in resettlement site for the displaced property owners						

10. Access to basic amenities before and after the resettlement or relocation

Basic amenities and services	Available in the residential premise		Distance to the basic amenities or services	
	Before the relocation	After the relocation	Before the relocation	After the relocation
Water				
Electricity				
Waste management system				
Nursery school				
Access to primary school				
Health facility				
Transportation services				
Market				

11. What do you think to be the outcomes of resettling the displaced urban dwellers in planned residential areas? Tick in the corresponding column, according to the scale (1-5) where 1=No, definitely not; 2=Unlikely; 3=Neutral; 4=Likely (50/50); 5=Yes, definitely (100%).

<i>Outcomes of infrastructures and services provision</i>	<i>Likert scale</i>				
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
New jobs opportunities					
New opportunities for income generating activities					
Improved quality of life for local people					
Integration of the resettled people into the city					
Decreased risks of evictions					

12. Do you observe/perceive any challenges of the urban renewal process on the livelihoods of urban inhabitants? Please tick all possible answers from list below.

No	Possible response	Choice
a	Some people (like the small retailers) can lose their businesses	
b	Unexpected displacement of the property owners	
c	Lack of access to new jobs for the displaced people	
d	High cost of transportation to the previous working places	
e	Displacement and loss of business and sources of incomes	
f	New competitors for the small retailers in new resettlement and decrease in revenues/incomes	
g	Others, please specify	

13. Have you ever heard about some programmes that encourage Kigali City inhabitants to renew their buildings through cooperative or self-help arrangements? If Yes, how are they implemented?

.....

14. What do you mostly consider to be crucial problems that urban dwellers face during and after their resettlement process?

.....

15. What are your recommendations to the local and central government for solving those problems and improving the process of the urban renewal and resettlement of the affected people?

.....

Section 3: Affordable housing development

1. Have you ever heard about some programmes related to the development of affordable housing? If yes, do you know about their main aims?

.....

2. Do you know the requirements for any Kigali City inhabitant to bur a housing unit developed under these programmes? Please, explain.

.....

3. Who are the actors/stakeholders in the planning process or development of land use regulations?

No	Possible response	Choice	Mention them if possible
a	Local government authorities		
b	Central government authorities		
c	Kigali City		
d	NGOs		
e	Local people/ Local community		
f	Investors		
g	Others, please specify		

4. Based on your experience, please provide your opinions on the cost of affordable housing units developed through these programmes.

Tick \times in the corresponding column, according to the scale (1-5) where 1=No, definitely not; 2=Unlikely; 3=Neutral; 4=Likely (50/50); 5=Yes, definitely (100%).

Features or aspects of spatial planning and development	Likert scale				
	1	2	3	4	5
It is possible to use your monthly income ratio of 30% and buy one of the affordable housing units sold by private investors in Kigali City					
Affordable housing programmes include specific housing units that are designed for poor and low income groups to enable them have access to housing					
Different categories of urban dwellers can afford housing units developed by private investors					
Most of middle income Kigali City inhabitants can afford housing units developed by private investors					
Only high income Kigali City inhabitants can afford housing units developed by private investors					

5. If you know some of your neighbours and members of social network who were able to buy some housing developed under the affordable housing programme, where did they buy them? What is the income categories do these people belong to?

6. What are various factors that may prevent you from buying a house from these affordable housing units?

No	Possible response	Choice	Comments
a	These houses are very expensive and not affordable, compared to households' incomes		
b	I have another house, and therefore not eligible for participating in this housing market		
c	The sizes of the affordable housing unit is not aligned with the size of my family		
d	Others, please specify		

7. What are the most possible arrangements do people adopt, with regard to their inability to afford a housing unit under the affordable housing development programmes? Tick \times in the corresponding column, according to the scale (1-5) where 1=No, definitely not; 2=Unlikely; 3=Neutral; 4=Likely (50/50); 5=Yes, definitely (100%)

Possible arrangements for land development	Likert scale				
	1	2	3	4	5
Landowners can give their land plots to real estate developers, and get part of the developed properties (share the new properties with investors)					
Landowners should seek for bank loans and develop their own houses through self-help arrangement					
Real estate owners should revise their business plans and set the prices according to the income of Kigali City inhabitants					
The government should remove taxes from the imported construction materials to reduce the cost of each housing unit.					
The government should provide public land to private investors who develop					

Possible arrangements for land development	<i>Likert scale</i>				
	1	2	3	4	5
low-cost house for the poor and low-income people					
Public agencies, in collaboration with the Government, should invest in low-cost houses which can be rented or sold to low-income people.					
Adoption of housing development regulations that provide flexible options for poor and low-income groups to develop low-cost residential buildings, and improving these buildings over times, as their income increase?					
Adoption of land development options through which the private land developers can acquire the land free of charge from poor or low income groups, develop it and give a part of developed buildings to landowners.					

Other option, please specify

.....

.....

.....

.....

AUTHOR AND USER RIGHTS

INTRODUCTION

Elsevier requests transfers of copyright, or in some cases exclusive rights, from its journal authors in order to ensure that we have the rights necessary for the proper administration of electronic rights and online dissemination of journal articles, authors and their employers retain (or are granted/transferred back) significant scholarly rights in their work. We take seriously our responsibility as the steward of the online record to ensure the integrity of scholarly works and the sustainability of journal business models, and we actively monitor and pursue unauthorized and unsubscribed uses and re-distribution (for subscription models).

In addition to [authors' scholarly rights](#), anyone who is affiliated with an [institution with a journal subscription](#) can use articles from subscribed content under the terms of their institution's license, while there are a number of other ways in which anyone (whether or not an author or subscriber) can make use of content published by Elsevier, which is [free at the point of use](#) or [accessed under license](#).

Author Rights

As a journal author, you have rights for a large range of uses of your article, including use by your employing institute or company. These rights can be exercised without the need to obtain specific permission.

How authors can use their own journal articles

Authors publishing in Elsevier journals have wide rights to use their works for teaching and scholarly purposes without needing to seek permission.

Table of Author's Rights

	Preprint version (with a few exceptions- see below *)	Accepted Author Manuscript	Published Journal Articles
Use for classroom teaching by author or author's institution and presentation at a meeting or conference and distributing copies to attendees	Yes	Yes	Yes
Use for internal training by author's company	Yes	Yes	Yes
Distribution to colleagues for their research use	Yes	Yes	Yes
Use in a subsequent compilation of the author's works	Yes	Yes	Yes
Inclusion in a thesis or dissertation	Yes	Yes	Yes
Reuse of portions or extracts from the article in other works	Yes	Yes with full acknowledgement of final article	Yes with full acknowledgement of final article
Preparation of derivative works (other than for commercial purposes)	Yes	Yes with full acknowledgement of final article	Yes with full acknowledgement of final article
Preprint servers	Yes	Yes with the specific written permission of Elsevier	No
Voluntary posting on open web sites operated by author or author's institution for scholarly purposes	Yes (author may later add an appropriate bibliographic citation, indicating subsequent publication by Elsevier and journal title)	Yes, with appropriate bibliographic citation and a link to the article once published	Only with the specific written permission of Elsevier
Mandated deposit or deposit in or posting to subject-oriented or centralized repositories	Yes under specific agreement between Elsevier and the repository	Yes under specific agreement between Elsevier and the repository**	Yes under specific agreement between Elsevier and the repository
Use or posting for commercial gain or to substitute for services provided directly by journal	Only with the specific written permission of Elsevier	Only with the specific written permission of Elsevier	Only with the specific written permission of Elsevier

** Voluntary posting of Accepted Author Manuscripts in the arXiv subject repository is permitted.