

Tur(i)ntogreen

A competition for agro-urban visions for a renewable future

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ABSTRACT: The paper aims to present the results of the tur(i)ntogreen initiative - organized with zero budget by the CRD-PVS (Politecnico di Torino - IT) and backed by UN-HABITAT - on low-carbon visions for urban neighbourhood. The boundaries of the contemporary cities are transforming together with the changing in the citizens' life perspective. The fragile and lost balance between 'rural' and 'urban' is quickly evolving. Younger generations from the rural areas in the world keep moving toward cities, claiming the right to share the benefits supplied by services, wealth and employment. Turin - the Italian motown - has been traditionally the home for people coming from other sides of the Country and now of the World. South Mirafiori neighbourhood represents the heritage of what the idea of an endless urban development and growth left in our cities. Not flexible and energy wasting buildings, hard to be adjusted to the new model of families and their needs, these areas are one of the contemporary urban challenges. Nevertheless, being often located in the urban outskirts make them privileged points to reflect on the urban de-growth. The paper outlines the competition brief, defined by crossing topics such as urban agriculture, energy neighbourhood, low carbon design, shared spaces for seasonal workers and community engagement.

Keywords: Student design competition, smart city, urban agriculture, community driven process, low-carbon district

INTRODUCTION

The International Student Design Competition tur(i)ntogreen – Farms In A Town has been organised by the Research and Documentation Centre in Technology, Architecture and City in Developing Countries (CRD-PVS) at the Politecnico di Torino (Italy) with the collaboration of UN-HABITAT.

The topics underpinned in competition outline the research direction developed in the last 15 years by the CRD-PVS; those are also the key concepts that UN-HABITAT is using to structure its agenda, recently implemented in the Global Housing Strategy 2025 and in the recently launched “I’m a city changer” campaign. The UN-HABITAT Global Housing Strategy is a collaborative global movement towards adequate housing for all. The backbone of the Strategy rely on the principle of inclusive cities as the foundation for sustainable urban development.

Housing strategies, at national and city levels, are meant to be inseparable from land-use strategies, infrastructure strategies, including mobility and local economic development strategies, all integrated in the broad, participatory and inclusive urban planning and management process within a supportive legal and regulatory framework.

FROM GLOBAL TO LOCAL The competition background

The massive transformation of the global economy, the redistribution of wealth and rights, new locations and methods of production of goods and services are transforming the boundaries, the shape and the structure of the contemporary city. Younger generations from the rural areas in the whole world continue to move into the cities, claiming the right to share the benefits supplied by joint services, wealth and employment, even if they imply unacceptable life conditions. This has already led to an increase in urban population that generates a demand for architectural solutions that through urban regeneration processes can ensure dignity and integrated living conditions. Nowadays the ongoing discourse stresses on the “smartness” of any undertaken action; among the many meanings of smart, the integration of processes and actions leads to a revolving view of architecture and how to conceive it. Successful spaces and places cannot be simply designed for integrated function: they need to be defined in integration with other actions. Forms and functions are changing in consideration of the engagement of communities as living structures, resilient and proactive.

On one hand the Tur(i)ntogreen Competition has underpinned global issues such as migrations from different areas of the world and social segregation, economic crisis, labour cost and unemployment, climate changes and energy consumption, green economy and shrinking cities. On the other hand the scientific board

has addressed the competition guidelines considering as directions to be explored topics such as urban agriculture, shared temporary work spaces for occasional workers, social engagement and participation, self construction and low-tech.

At a general level, the competitions topics have challenged participants to reflect on the idea of de-growth, on its viability in the urban western communities and on its potential as an architectural trigger. All the groups have considered these in high standard engaged and professional approach, bringing their creativity up to the design ethic challenges.

RATIONALE

At the beginning of the 20th century, the city of Turin experienced critical housing conditions due to a massive urban migration, condensed in a very short time, as a consequence of the employment opportunities offered by the local rising automotive industries.

The population of the city increased around 8000 per year. The 1901 census recorded 7137 apartments, which were composed of one single room hosting on average more than 4 people; it appears they were 12284 dwelling units (12% of the overall stock) made up of overcrowded uninhabitable basements, cellars, mezzanines and garrets. This mainly took place within the oldest part of the city, acting as a first buffer, a landing place for the labour immigration, generating in few years an overcrowded and unhealthy urban scenario. But it has been during the economic boom of the '60's that Turin had seen its most important growth, which has given it the size we know today. During those years, 25 areas for urban development were identified, for the realization of dwellings and services for the new *Torinesi*. The South Mirafiori neighbourhood was the first area among the 25 selected to be completed and became a massive social housing development. In less than two years – between 1965 and 1966 – 1 million of cubic meters were built, with a total of 2000 apartments in 35 high rise buildings.

Where Turin is today

From the residential perspective today in Turin there are districts with a high density, related to several factors, but mainly to property values and neighbourhood familiarity. On the contrary, other districts are deprived, due to a very low quality of buildings and public spaces, a poor level of services and often units too large for today's family size. Mirafiori neighbourhood – the symbol of the Italian *motown* during the economic boom in the '60s – today shows several conditions that deliver a sharp picture of the contemporary Turin, interesting as paradigmatic of many post-industrial cities in Europe and North America.

The existing housing development is the result of a project for a quickly growing city, defined with a successful vision but realized with inadequate financial

resources and in a too short time. Social housing dwellings – today mainly owned by users thanks to a subsidized transfer process - are no more sustainable in terms of maintenance costs; apartments were given to people according to the number of members of their families, larger than the contemporary model. At that time the entire neighbourhood was designed as a living and working system together with the FIAT factories in Mirafiori as well as Rivalta Torinese, the other major production plant in the Turin area.

Energy costs and environmental issues, property values and building quality, unemployment and new global manufacturing scenarios means that South Mirafiori has extremely high potential, as an urban district, in terms of the social and economic development still to be explored.

The features of the neighbourhood show direct or indirect consequences of the extremely close FIAT plants, the dwelling are inadequate for contemporary requirements and expectations in terms of efficiency and size. The public spaces have high unexpressed potential, with agricultural and green park areas of relevance to the local and urban scale, and a social fabric in need of younger generations.

A VISION FOR TOMORROW

Where Turin is going

In order to assure a more sustainable future to Turin, the Competition asked the participants to develop ideas transforming or replacing the current models of urban management, life and development.

The ways to manage the urban areas, the planning of other transformations and regeneration, involving citizens, raising funds and resources, coping with the global economic cycles, adapting to the climate and social changes have been considered as the main inspiring principles in the design brief where the buzzwords are: resilience, sustainability and integration. The encouraged and suggested models refer to agro - housing and urban - farming, concepts with the use of open spaces - also unconventional - for diverse agricultural and cropping technologies and methods along with innovative production and management processes within a highly populated urban realm.

The southern area of Turin, and particularly the neighbourhoods in South Mirafiori, has already started an important strategic change and in the next future will be the target of several transformations, with an interesting mix of private top down initiative, public support, facilitation and management and bottom up social enterprise experiments. This will give a sparkle for new services and housing demands, a new micro economy, a new urban centrality (or polarity).

The allotment system, which is still in the process of legalization, will be integrated with the adjacent farms situated on the outskirts of the city, and it will become part of an agricultural urban system: it will be an

opportunity to raise employment, education and production. FIAT factory areas have been partially already dismissed a part of them have an uncertain future. Definitely the property values of these plots, moreover if compared to the industrial manufacturing costs in Italy today, due to their strategic infrastructural location and their sizes make them one of the most interesting opportunities for the city regeneration and development.

THE AREA

The competition site area is private, owned by the FIAT¹ group and other companies. The main function of the area has been devoted to a parking lot for the stock of new cars produced. On the west side one of the main entrances to the ring road and the motorway network makes this one of the natural gates to Turin. On the east side of the competition site, there are two very different images: on the upper side, the FIAT manufacturing plants still in use; the lower east side is the South Mirafiori neighbourhood, with a narrow green strip, where the limit of the city is visible, there are high rise residential buildings and several community services. The southern limit of the plot has a wide agricultural area already targeted for different projects. [Figure 1]

At the very north, the plot has a triangular area with several abandoned industrial warehouses, today often used by homeless people to take shelter during the night.

Where Turin might go

The area will be one the main gates to Turin. The underground line, still in development, will allow people to change transportation means right here.

There is a huge amount of free unused green space in between and around the complex geometries of the motorway junction, with a high potential as landscape and agricultural resource. There are chances to create new connections to pursue the integration between Mirafiori and Beinasco, a village now integrated with Turin, right on the main road to the south west. The ring road junction as a barrier might itself be turned into a landscape opportunity.

The narrow area of the FIAT production car stock parking (that has been a second barrier to the expansion and integration of the neighbourhood) will be the chance to provide Turin with a new model of urban life.

Dwellings integrated with food production, in traditional (surface field) or innovative (vertical) models; housing for low income people and immigrants, with agricultural skills; spaces, services and features to let the younger generation reinvent their own way to work; urban farming that opens towards a new economy, including education, documentation, food retailing, agricultural and zoo-technical services.

AIMS AND PROGRAM

The main aim of the competition was to raise awareness among participants about issues that go beyond architecture and urban planning, moving to a higher plateau of sustainable urban development with the elements of social integration, economic viability and environmental and ecological balance.

Participants have been invited to reflect on the following objectives, related with the key issues of the area:

- To repopulate the neighbourhood making it an attractive and vibrant area for younger generations, students, young couples, and the first employed.
- To foster the weaker strata of society, the new citizens, unemployed, seasonal and irregular workers, to settle in the area.
- To constrain the conditions that might lead to speculation, gentrification and social eviction.
- To contribute to increase employment in the area at urban level, starting from its natural green inclination, integrating agriculture, handicraft and ICT.
- To suggest new lifestyle formats to live the job (flexible time frame, home based, delocalized...), new models of community, new participatory processes to the construction or the maintenance phases not exclusively money based.
- To introduce models of design, construction, management, maintenance and control that engages (partially or totally) the inhabitants.



¹ Recently transferred to TNE corporate

Figure 1: the competition area

The scope of the competition brief has been referring to an idea of neighbourhood in south Mirafiori where dwellings, occupation and nature are strongly integrated with an innovative approach related with the contemporary scenario. The competition program was:

- New facilities, services and spaces for casual, odd, handicraft, displaced, seasonal workers. These may include spaces for temporary jobs, shared spaces and workshops, public ICT facilities.
- Dwellings with high quality of life delivered at an affordable standard for young and low income people, designed with a community orientation in mind.
- Low cost and low carbon buildings with parts for self-construction and/or self-maintenance. Dwellers should have a certain degree of freedom in shaping their own place, moving within given general rules.
- Integration between residential and agricultural activities, also through the definition of new building typologies and innovative schemes and integrated solutions. Vertical farms, hydroponic cultures, integration of ICT with agriculture; here agriculture is at the scale of the home or small local business.
- Employment opportunities for people migrated from rural regions around the world to engage with others in new forms of social enterprise.
- Integration of residential requirements and waste with the agricultural productive process (waste cycle, water cycle, renewable energies, bio integrated microclimatic systems).
- To make effective use of motorway junction spaces and landscape/agricultural resource

OUTLINE OF THE BEST ENTRIES

The best entry [figure 2] has been awarded as the proposed vision provides a smart, wide and well integrated program that focus on social engagement and enterprise; indoor and outdoor urban agriculture, partially vertical; a balanced residential tenure mix with the introduction of a new concept of urban community; passive architecture and low carbon solutions; the overall approach of neighbourhood as a community to share energy and food besides services and facilities, looking toward micro grids as a direction to pursue low carbon goals.

The design features and elements perfectly support the idea of integration of built and natural environment.



Figure 2: main view of the new neighborhood (Students: E. Pintabona, I. Sapienza, G. Motta_ Università La Sapienza di Roma, Italy)

Nonetheless the proposed architectural language clearly refers to the recent past and the “factory” identity of the competition area. Architecture and program jointly outline a possible and desirable future vision for South Mirafiori.

Two *ex-aequo* second best entries have been awarded. In the one submitted by the shortlisted team from TU Bialystok (Poland) [figure 3], the disruptive strength of a utopian urban vision brings to the evidence the contradictions of the contemporary model; it proposes a serious reflection on the neighbourhood conditions, focusing on the need of models of low cost dwellings used by newcomers moving in Turin and looking for job opportunities or students and young families starting their independent life experience, entailing possible directions for the definition of a new way to live.



Figure 3: view of habitable containers solution (Students: A. Lisowska, P. Kuszneruk, M. Kaplan_ Technical University of Bialystok, Poland)

The proposed idea of a low cost agro-urban environment is based on the concepts of “degrowth” and “transition towns” perfectly matching with the urban global challenges at large.

The other second best project [figure 4] aims and achieves almost a re-design of the community rather than just a set of physical objects placed in the neighbourhood; the simple formal features for the housing scheme are the result of a functional – engaging process among the potential young user’s needs and

aspirations interacting with the existing context, where lot of factory sheds are still present. The proposal looks at those existing buildings as a micro economic resource, identifying ways to start innovative smart urban processes in alternative to the present situation: it considers a second hand market of building materials and components. The process is staged in three phases – regeneration, resumption and food sovereignty - and lasts more than 20 year. This solution entails a new paradigm in the urban culture.

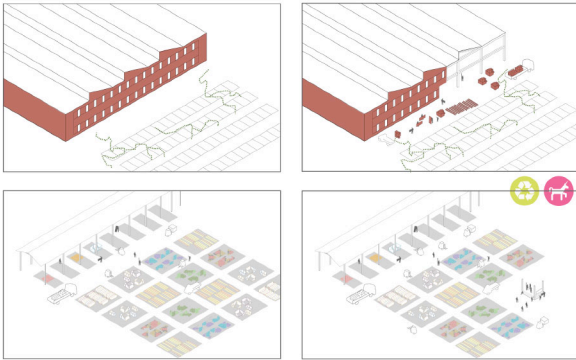


Figure 4: Scheme of building materials reuse (Students: S. Scavino, M. Ferreira Alves, E. Kawas Nunes, S. Manzo_ Politecnico di Torino, Italy)

LOW BUDGET HIGHLY SUSTAINABLE PROCESS

The urban regeneration processes today are often stuck as administrators, stakeholders and even citizens are insiders, unable to think out of the box and to have insights and to work out visions with content really innovative. The need of gathering fresh ideas for the area of Mirafiori has been addressed through a “global call of brains”. International students design competitions are in fact an extremely powerful and adaptable way to collect the worldwide crowd of experiences, ideas and intelligence from around the world, certainly providing unexpected solutions, typically brought from the outsiders to a given context. Beside, urban regeneration processes are perhaps only faster to natural environment regeneration and to biological natural adaptation. Hence it seems logic to involve the youngest generation of designers in the definition of the “agenda of ideas” for the cities and the world they will live as administrators and shareholders in the future.

The Tur(i)ntogreen team was composed by 2 senior academic and 6 MArch or PhD students, who decided to organize the competition with the most sustainable, low budget and fair approach. No entry fee has been asked to participants; multidisciplinary and transnational teams have been encouraged; blind submission entirely digital and paperless entries, circulated to an international jury panel; blind shortlist process manage by the scientific

committee followed by a blind evaluation of the jury members assessed in accordance with shared criteria; no money prizes for the best entries, but internships in some of the jury members practices or travel costs and accommodation in Mirafiori neighbourhood up to 4 months. The participation has been over any expectation, involving 400 students from 50 Universities in 24 countries all over the World. 110 entries have been submitted, showing how students feel committed to these topics, enjoying the competition format and ready to reflect, contribute and participate to the transformation processes, both in the debate and with actions.

Steps	students	groups	countries	universities
REGISTERED	800+	271	41	100
SUBMITTED	398	109	24	46
SHORTLISTED	90	30	12	14

Table 1: registrations, submissions and shortlisted participants clustered according to different categories

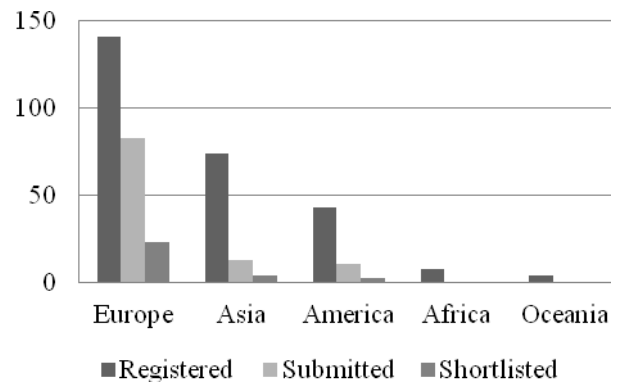


Figure 5: graph of the competition population in the world

CONCLUSIONS

The competition results are in somehow contradictory and double folded. On one side it has been impressive to see how design students (and several studio teachers) are so sensitive to the topics and the challenges introduced by the design brief. Young future practitioners appear to be keen in abandoning their comfort zone and immerse themselves into challenging settings. Evidences are provided by the figures of submissions and entries. The younger generation of designers is absolutely aware of the importance and the urgency of the topic.

On the other side it has been spotted how conditioned most of the candidates were by the dullness of their prevailing modernity. Too many schemes advocated conventional typologies of housing with backyard gardens, infinite shaded variations of the sprawl mind set. Few projects came to grips with subsistence urban

agriculture, what is planted and how, the outputs, storage and distribution, innovative machinery and the total integration of this approach into new ways of urban life and living. Projects that set out a lengthy process, community engaging, covering at least two decades, with open and flexible outcomes have been the minority of the submitted entries.

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