

The International Prize for Sustainable Architecture: Achievements and Potentials

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Abstract

The International Prize for Sustainable Architecture, now in its seventh edition, arose from the important manifestation of the tenth anniversary of the Ferrara School of Architecture foundation, held in 2003.

Conceived and promoted by the School itself and Fassa Bortolo company, its spirit and goal are to contribute to the research of a system of development in the building sector that is more sustainable than our current model, which has led to a state of deterioration and pollution, bringing us to the verge of a global crisis of the Earth's entire ecological system. Receiving every edition more of one hundred submitted projects, the Prize during the past years has become one of the most important European events for sustainable architecture.

The Award is a testament to the outstanding growth of the sustainable approach toward architecture in Europe. It contributed to the implementation of an ecological conscience through the prizes awarded to young professionals that nowadays are part of the European sustainability movement.

During the past years, the Award has become internationally renowned even within the academic realm. The submitted entries reflected an ongoing change inside architecture pedagogy. Whereas in the past, sustainability played only a secondary role and was not taken on by the faculties' best design chairs, nowadays it must be part of the young professionals' knowledge and skills.

Keywords: *sustainable architecture awards, bio-architecture, sustainable construction awareness.*

1 The Beginning of the International Prize

In 2003, during the important international manifestation of the tenth anniversary of the foundation of the Ferrara Faculty of Architecture, the School itself and Fassa Bortolo company (Fassa S.p.A., registered holder of the trademark “Fassa Bortolo”) joined their forces to create an award in order to re-examine the relationship between the process of construction and the environment.

In that period, the school, involved since the foundation in a sustainable approach towards architecture, wanted to provide incentives for architecture capable of satisfying the needs of our generations without limiting those of the future by the indiscriminate consumption of resources and the production of pollution.

The Award was created from an understanding of the importance of sharing with a large public the results of research in the field of civil construction, recognizing the fundamental role in architecture of environmental protection, education and social promotion. Of course while maintaining the responsibility of representing the concrete expression of cultural development and of the society’s collective interests.

Thus the prize aims at spreading the concept of a new architecture that is perfectly adjusted to the environment and conceived for the necessities of mankind. Since the first awarding in 2004 it’s been stated that each individual candidate or group can take part to the competition with only one project, which must have been realized and implemented within the past five years.

It was further decided that lecturers or professors teaching in the competition year at the Ferrara Faculty of Architecture may not take part in the competition.

In that first competition the Ferrara Faculty of Architecture and Fassa Bortolo realized how tough it could be to implement an international award based on issues shared only by a few people. At the time sustainable architecture in Italy was a concept addressed only by elite architects).

In that year the Prize collected only 13 projects, the majority of which came from Italy. Only a few entrants were from central Europe. The first winner was the Austrian Georg W. Reinberg, a great supporter of sustainable architecture in his country.

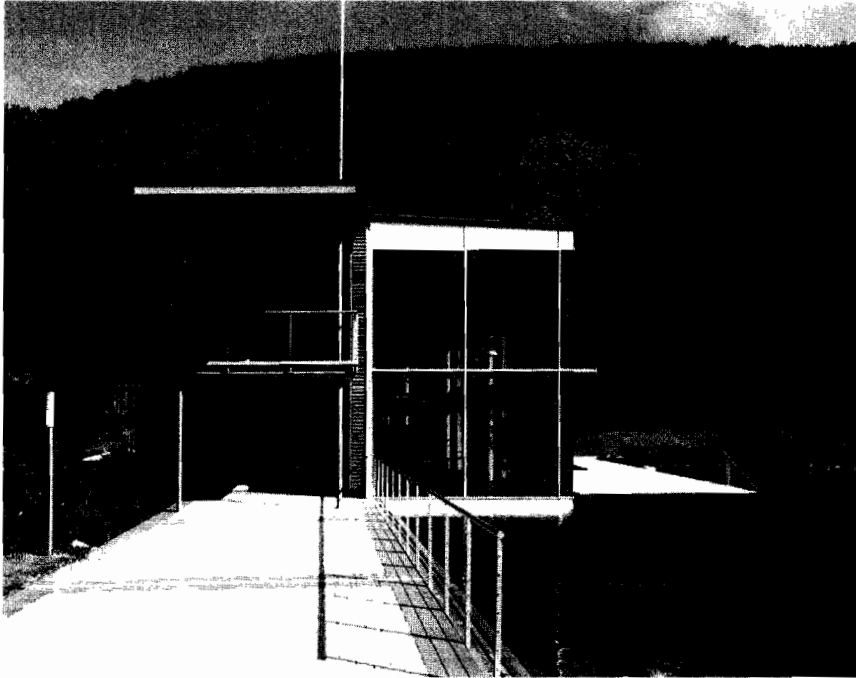


Figure 1: Office and studio of the “biotop” Company in Weidling, by architect Georg W. Reinberg, Prize winner in 2004.

2 The Early Stage

In 2005 and 2006 the Award had slow growth, reaching the number of 20 entries in 2005 and 27 in 2006. The participating projects were mostly from Italy. In Europe the competition was almost unknown but the overall quality continued to be very high as demonstrated by the Jury reports.

In 2005 Ernesto Mistretta’s “Countryside house” (Located in Trapani, Italy) won for its transformability, an important characteristic of an unpretentious country house. The big sliding walls and the external mobile roofing offered a great variety of possible configurations.

An introverted house, closed in itself, that suddenly opens in total harmony with the landscape.

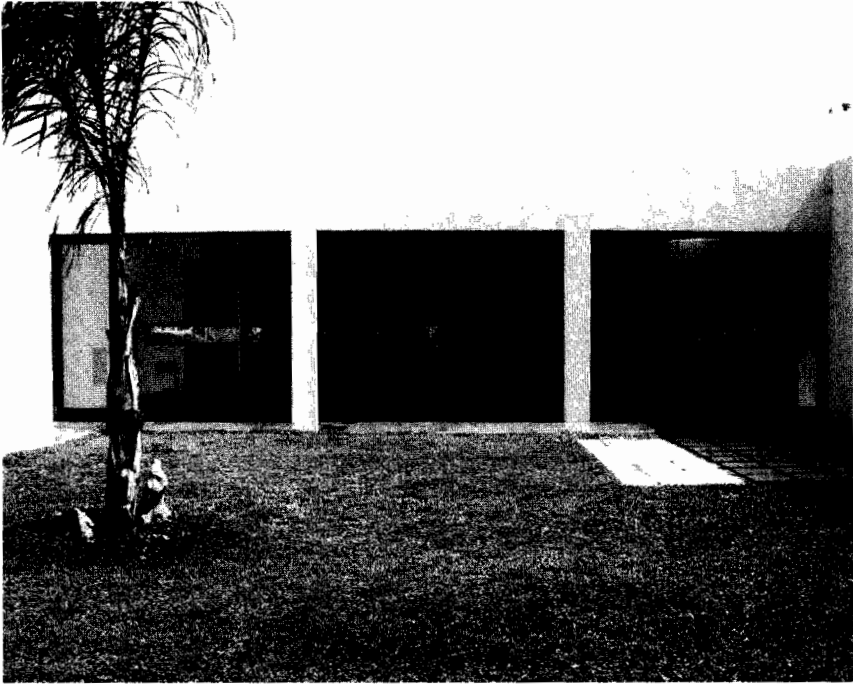


Figure 2: Country house in Trapani (Italy) by architect Ernesto Mistretta, 2005 winner of the Prize.

The 2006 competition was characterized by a first prize and two special mentions of high quality. Furthermore three projects were commended during the Jury evaluation.

The first prize went to the “Wine Facility Collemassari”, a project by Edoardo Millesi, Archos Engineering consulting.

The building, a clear and representative volume inserted in the rhythmic mesh of the vineyards, developed the topic proposed by the competition notice. It proposes the modification of the landscape considering economic drives and architectural contemporary language.

The technological mix of both natural and artificial materials seemed well balanced to the Jury.

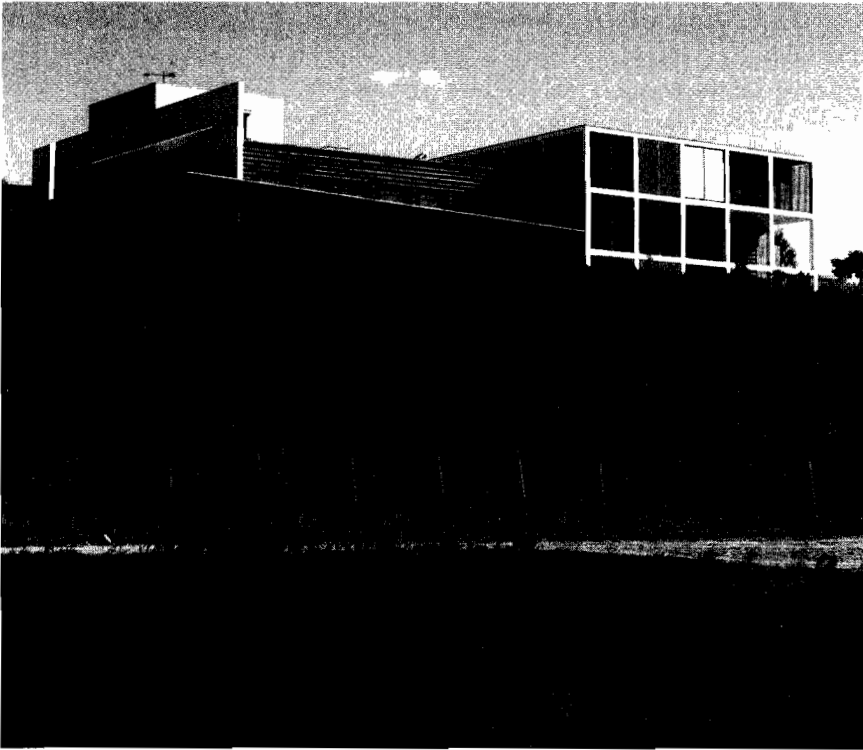


Figure 3: Wine facility “Collemassari” in Grosseto (Italy) by architect Edoardo Millesi, 2006 winner.

3 The Introduction of the “Degree Theses” Category

In 2007, after an in-depth analysis and an internal debate, the Award was opened to academia; the award has a “Degree Thesis” category. Students in various architecture schools involved in sustainable architecture topics can apply to this category.

In his category of the award, the applications for the Prize could be submitted by individuals or groups that have presented the degree thesis in the last 2 years before the competition at a Department of Architecture or Engineering, as well as in equivalent educational. They must have obtained a mark superior to 100/110 or equivalent.

The introduction of this category injected new lifeblood in the Prize. The links between the academia world and the professionals generated a quick profusion of knowledge in sustainable architecture issues, and it has created new momentum for the next cycles of the Award.

The 2007 Jury unanimously awarded First Prize the “restoration of a farmhouse and a new multi-purpose hall” project (located in Altedo di Malalbergo, Bologna, Italy) by Diverserighestudio.

The rigour of the project solved important compositional and climatic topics with an extreme consistency. It paid particular attention to the issues concerning sustainability, environmental respect and ecological requirements, thus it perfectly met the topics indicated by the competition notice.

Among the degree theses entries, the Jury selected a first prize and two special mentions highlighting works’ great architectural quality.

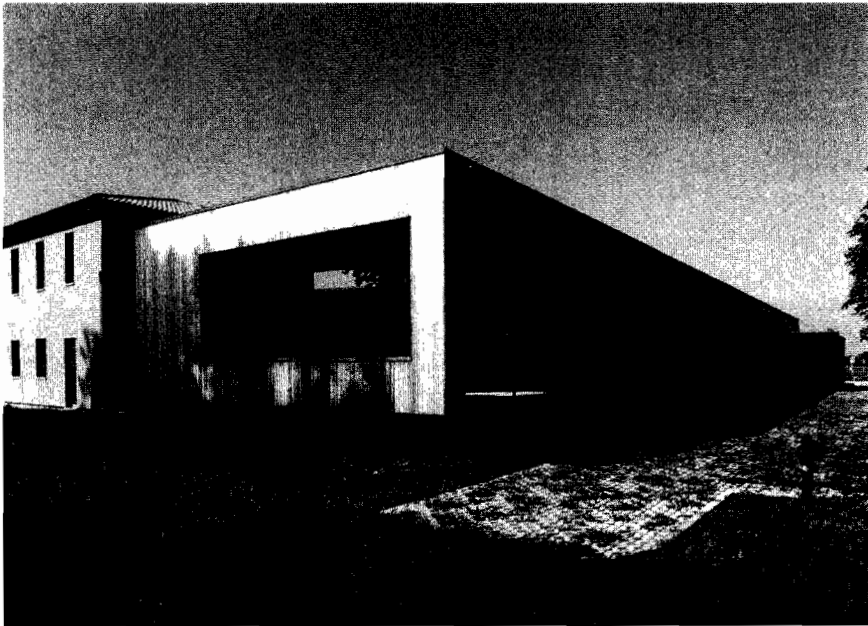


Figure 4: Corte Campedelli restoration in Altedo (Italy) by Diverserighe Studio Architects, 2007 winner.

4 Signs of Change

The 2008 Prize attracted entrants from 11 countries. This confirmed the wide international reputation and growing interest for these kind of awards. Entries included an increasingly diverse range of architectural projects: from new buildings to renovations, from private to public construction, from leisure to industrial sites.

Meanwhile, all around the world, bio-climatic issues were being discussed and, slowly, Italy started to develop an awareness about the great power of attraction of this branch of architecture.

For the first time in the Prize's history, 5 winning projects and 5 special mentions were selected due to the high standard of the works presented and to the fact that all the projects represented excellent solutions able to synthesize the complexity and diversity that characterizes the sustainability issue.

For this reason, the Jury deemed it appropriate to award the prize to several works which, as a whole, emphasize the diversity of the project themes and singularly, represent, in each case, the most suitable solution, showing how each project requires a customized approach.

This is also expressed in the Jury report through the Chairman, the internationally famous architect Prof. Thomas Herzog "All projects have, among their characteristics, pioneering aspects".

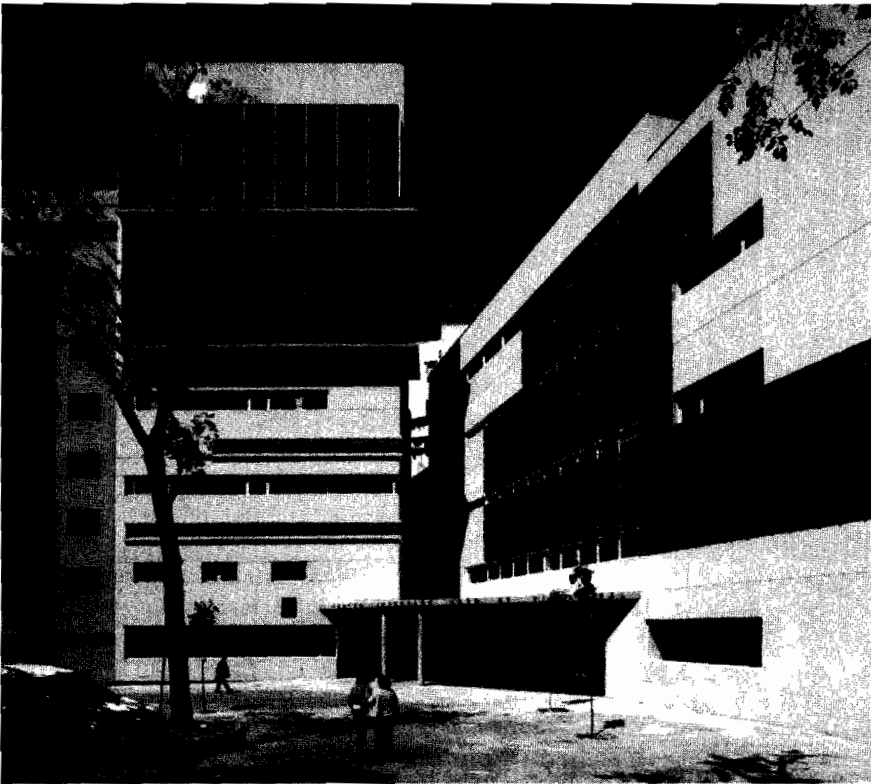


Figure 5: Social Service and Elders Centre, architect Gil Torres Carmen, one of the five winning projects selected by the 2008 Jury.

5 An Internationally Renowned Award

In 2009, under the guidance of Prof. Thomas Herzog, Jury Chairman for the second year, the Prize reached great popularity, being one of the most important competition for sustainable architecture in Europe.

Even the Jury had an international look, due to the presence of famous professionals such as Sir Micheal Hopkins (from UK) and Françoise Hélène Jourda (from France) currently, among the most important “green architects” of the world.



Figure 6: From right to left, Prof. Thomas Herzog, Sir Michael Hopkins, Prof. Françoise Hélène Jourda, Arch. Nicola Marzot and Arch. Gianluca Minguzzi: the Jury of the 2009 Award.

In this sixth competition, after many sessions the Jury unanimously chose 6 projects out of 61 coming from 19 countries worldwide to put on the candidate list for the prize or the honorable mentions.

All of them had a high architectural level and contributed to the scope of the International Prize for Sustainable Architecture in very different ways.

So the Jury decided to award these projects, and also to select another 13 completed projects (included in the final shortlist) worthy of mention for particular interesting aspects.

For the degree thesis division it was decided to award special mention to 4 degree thesis works.

All of the projects which have been awarded a mention have developed certain significant aspects in relation to their different functional typology that as a whole make an interesting contribution to the subject of sustainability. The winner of this important edition was the Simone Solinas and Gabriel Verd project “26 social housing dwellings in Umbrete” (Seville, Spain). The Spanish residential complex represents a significant response to that challenge.

The excellent result of the design process undertaken by the architects has found just the right compromise between the countless overall aspects that influence the realization of building work. Issues connected with the setting (climatic, town-planning, cultural), technological problems, energy assessments and economic balance were harmonized.

6 Shigeru Ban Project

During the built up phase of the first years the contributions understandably came mainly from Central Europe. This fact has changed considerably: in 2010 there was material from all over the world, varying in characteristic, size and use.

Part of the reason could be the high level jury of internationally renowned architects. It guarantees a changing individual understanding of architecture every year. They take into consideration different regional and cultural views which show important development and qualities.

Compared to the previous years, in 2010 there was an enormous difference in the student contributions. An ongoing change in the universities can be clearly felt. Whereas in the past, sustainability and the use of environmental energies played only a secondary role, and was not taken on by the faculties’ best design chairs, this year for the first time we had a remarkable range of complex, high level contributions.

The winner of this edition was a Kyeong Sik Yoon-Shigeru Ban project for a new golf club-house in Seoul, South Korea. The project makes a valid contribution to the development of new uses for wood in construction. The building system provides an integrated solution to the many different functional requisites, while at the same time meeting static, architectural and technical systems criteria.

The wooden structure supports the building envelope, providing good natural and artificial lighting of the interior and creating channels for natural air movement. The essential, elegant structure illuminates and colours the inside of the building, defining the atmosphere of the spaces and the architectural identity.



Figure 7: Haesley Nine Bridges Club House by Kyeong Sik Yoon + Shigeru Ban
2010 prize winner.

7 Contemporary Sustainability Concepts

7.1 Traditional materials and new technologies

The clubhouse awarded in 2010 designed by Shigeru Ban and Kyeong Sik Yoon could be an example of how we can improve the way of using traditional materials in new, more efficient ways. The building, located near Seoul, is composed of three buildings. One of these, the regular members' clubhouse, has a wooden hexagon grid shell on the roof. This ecological and natural ventilated concept of hexagon pattern occurred from Korean traditional summertime pillow (called "the bamboo wife").

This wooden structure is fire-resistant and the roof and columns are exposed in the interior spaces. Using the most advanced computers and cutting machines technology the designers were able to find the most efficient structural form and minimized the assembling process and quantity of timber.

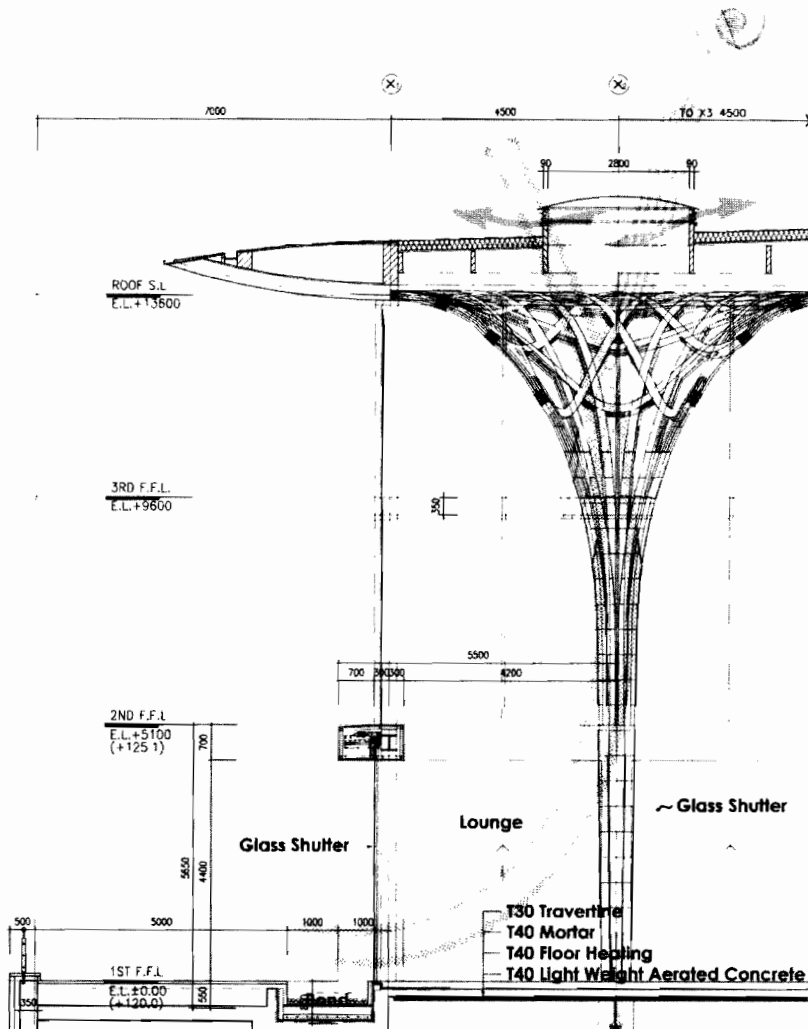


Figure 8: Haesley Nine Bridges Club-House by Kyeong Sik Yoon + Shigeru Ban natural lighting and ventilation, a remarkable example of traditional materials and new technologies

Although the design was developed through innovative research, it's based on practical principles. These result from careful analysis of the points of reference to the local building tradition. Beyond of its uniqueness, the project therefore reflects some aspects of local traditional architecture.

This development of a new timber structural system will encourage architects, engineers and clients to utilize traditional materials such as wood in future sustainable buildings.

7.2 Social housing projects

The need to construct efficient and architecturally high quality buildings under stringent economic working conditions is a major challenge for the building sector today.

For example, in the above mentioned Solinas-Verd 2009 awarded project, the dwelling units inside the developed area are delineated according to a very simple, clear and functional plan. This simplicity is accompanied by a division of the space that generates a measured sequence of solid and void, which defines the interaction between the internal and external dwelling space in a functional way. It does this both in terms of use and in a bioclimatic sense, resulting in a high complexity of relationships.

In Umbrete, the perimeter of the area is occupied by the system of buildings in such a way that it forms a city block with compact frontages. This gives a feeling of unity, of interaction with the urban fabric and harmonious coexistence in terms of scale and proportion with the surrounding examples of conventional domestic architecture.

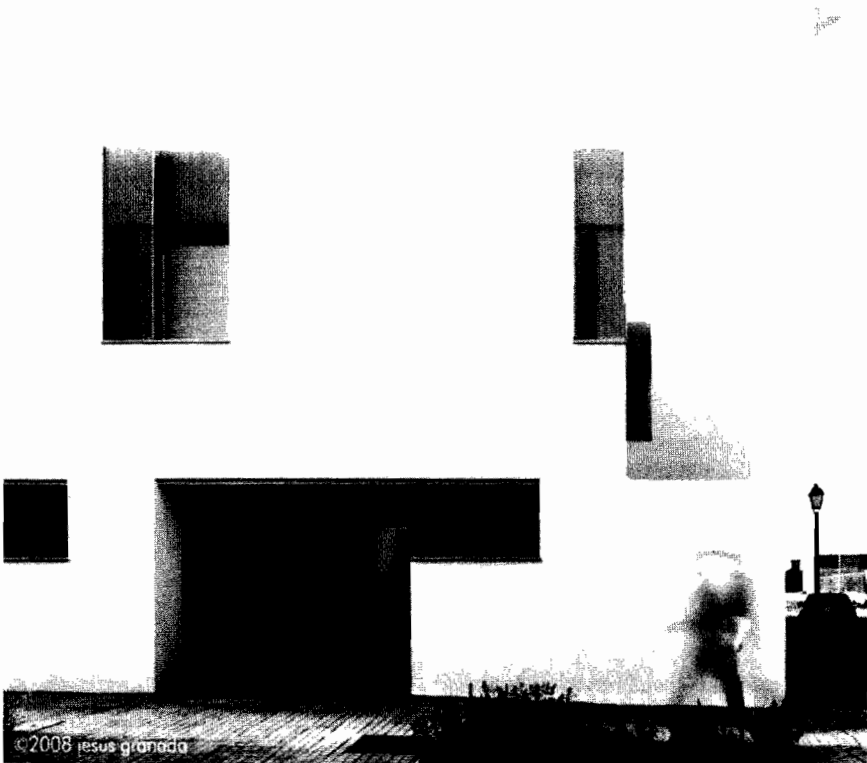


Figure 9: Social housing dwellings in Umbrete (Spain) Solinas-Verd arquitectos, winner of the 2009 competition.

The arrangement of the rooms thus creates an architecturally interesting spatial organization, which is also ideal for generating efficient natural cross ventilation and adequate shading of the openings in the summer. The latter is achieved through precise control of the seasonal variation in the angle of incidence of solar radiation at this latitude, thereby avoiding the risk of overheating.

The preference for extreme constructional simplicity and the use of materials well known to local workmen also meant that a quality constructional level has been reached which is very affordable.

7.3 Affordable projects

Another big issue is making the housing projects for the neediest classes of our society working. This problem has always been difficult to resolve, especially in the poorest regions of our planet. The social housing project in Iquique (Chile) by ELEMENTAL, awarded with a special mention in 2009 edition of the Prize, is one possible specific approach for tackling this emergency.

The principle that has been adopted is one of using the limited available budget to build the minimum living spaces for each household, fitting them out with the structures and services that only a specialized firm can do. This basic work has been conceived as a minimum structure featuring alternating solid and void functional spaces. They are designed to provide a support for subsequent extension, although within a well-defined layout which ensure controlled expansion of development.

Therefore the construction layout approach manages to offer the actual owners the best conditions for extending the dwelling units. This can be done in the times and ways according to each one's needs with low-cost self-help housing systems and in all safety.

The project fulfils the idea of social housing that can appreciably increase its value over the years with minimum investment. The architecture is not used as a formal justification, but as a tool and a useful resource to help overcome poverty and extreme social inequality. It does so without forgoing a recognizable, elegant, modernist heritage enriched by the spontaneous process of progressive saturation of the voids.

The work therefore emphasizes the ethical importance of the architecture in a period when the image often prevails over the substance, and the social function, of the architect's professional services.



Figure 10: affordable housing in Iquique, Chile, by Elemental, an example of a house expanded by local resident.

7.4 The importance of the local context

But even projects bearing an humble background, such as the project for a new school in Africa, perfectly represent a suitable direction in order to have sustainable buildings. For example the work of Kerè-Architecture, an high-school building in Dano, Burkina Faso, answers the need to enlarge an existing school complex in a small African town. The design philosophy guides the construction process towards a building that truly belongs to the place.

This is achieved through the use of materials that are available on the spot, plus operating strategies that are calibrated according to an analysis of the local microclimate. It is a basic design, providing a comprehensive answer to a need for functional spaces in conditions of poverty, and with few means available. Such aspects are also clearly explained and documented in the presentation of the work.

The roofing framework is made with modular lattice elements consisting of iron bars welded on the spot and assembled in situ. Inside, a convex ceiling with white paint distributes the light into the classrooms. Meanwhile crosswise slits communicate with the outside to provide efficient natural ventilation of the rooms helped by shuttered openings arranged along the walls.

Throughout the entire construction process, local workmen were trained to use new techniques. This ensured that they learned building methods seen as precious knowledge to be used for the future construction of other buildings for the local community. These techniques will be handed down to future generations.

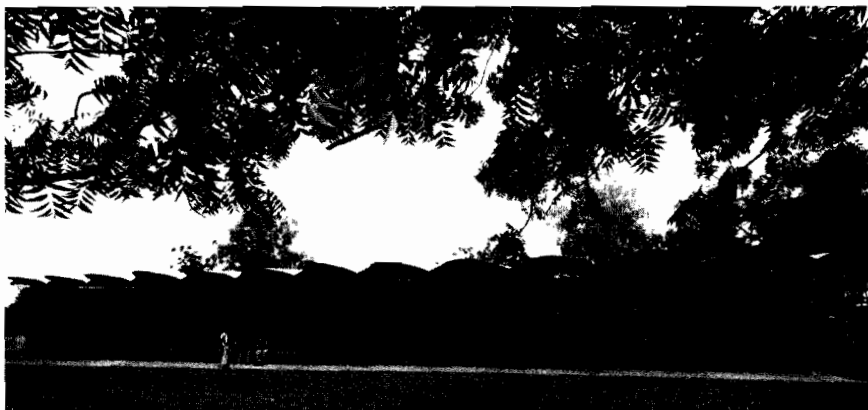


Figure 11&12: self construction, a school in Dano, Burkina Faso, by Keré Architecture. Special mention project in 2009 competition

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