



## Urban Agenda Platform

The global platform for sharing progress, action and knowledge on the implementation of the New Urban Agenda to achieve sustainable urban development.

# 400 Housing units El Oued, ALGERIA

Region	Middle East and North Africa
Award Scheme	Dubai International Award
Themes	Housing Planning & Design Regeneration Social Inclusion
Sustainable Development Goals	Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable

## Summary

The project comprises 402 housing units on 40000 m<sup>2</sup> of desert land in addition to two schools, a commercial center and a cultural center in the city of El Oued, located in east-central Algeria. It is set in a mountainous desert area, characterized by scattered settlements and small villages. The project was implemented as a response to government policy to improve living conditions in desert towns so as to curb migration to the capital.

## Background and Objective

**Situation Before the Initiative Began:** Before the project some 50000 residents lived in primitive inappropriate housing in a harsh desert environment. There were no educational or cultural facilities. There was a tradition of using local materials but with some damage due to earthquakes. After the project, the town rapidly grew to over 100000 residents.

**Establishment of Priorities:** The project priorities were to: - Deliver socially appropriate housing which addresses the needs of local families and provides women and children with appropriate social spaces - to construct housing with minimal thermal gain using ventilation and shading techniques and materials which do not absorb heat - using local appropriate construction materials and knowledge for sustainability and replicability - provide public spaces which are socially appropriate and easy to maintain - coordinate with the public authorities to achieve ownership and policy support.

**Formulation of Objectives And Strategies:** to design and implement an appropriate settlements in the same desert area taking consideration dialogue with the representative of the communities (man, women and children) their priorities.

**%2 Mobilisation of Resources:** The El Oued project was completely funded by the government of Algeria, which allocated an amount equivalent to approximately 4.5 million USD. the unit consists of two bedrooms and living room, we reduced the cost of the unit 20% and added a family room to the unit and open air court (patio). The project was constructed by local contractors and local workers which they are trained to build with local materials and appropriate technology and they are aware of the traditions and culture of the communities, their needs and priorities. There were events held for social meetings to discuss the components of the project such as the urban fabric, design of the housing units, how to group buildings, the experience of heritage with climatic conditions in this desert area, how and where to create spaces for children and open areas and pathways for women.

## Actions and Implementation

- The site was composed entirely of high sand dunes that were levelled for the construction of the project. It slopes from the north to the south with a variance of 2.5 to 3 metres, and from the west to the east with a variance of approximately 3.5 metres. Previously, the

## Outcomes and Impacts

\* Initially, the architects conducted social surveys and met with some of the expected users to investigate their cultural traditions, lifestyles and spatial requirements. \* Climate was the most influential factor on the design. This was addressed by staggering the masses of the complex and projecting the rooms on the upper floors to maximize shade. The small, narrow openings allowed for minimal thermal gain. The staggered units and the close proximity of the clusters supplied the idea of developing hierarchical spaces and creating shaded walkways. \* Façades are mostly solid with minimal voids. The exterior patios serve as public spaces between the volumes and are intended for general social interaction. \* The architects attempted to develop a desert urban fabric in two directions: the first is the social fabric of public spaces, including patios, pedestrian pathways, covered and open play areas for children, and spaces for women's activities; the second is a climatically appropriate fabric with densely shaded areas and direct ventilation to help combat



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the summer heat. \* Vaults and shallow domes are constructed of tufla bricks over the concrete roofs. In a few cases, domes replace the concrete roofing. Painted plaster is used as a finish for interior walls, while fired gypsum mixed with sand has been applied on the exterior walls in a manner that creates a harsh, lined texture. \* Natural gas has been supplied to only a few of the units. \* Visual links between the architecture of this project and the vernacular architecture

## Gender and Social Inclusivity

Significantly, the El Oued Housing Project has created a new image for the city. Several more recent projects have introduced the same architectural features and elements, namely massing, domes, vaults and arcades. The complex is often called by the name of the architects, Qasbet El Miniawy (the Oasis of El Miniawy). The el Oued project was influenced by the concepts of earth architecture and indigenous architecture. In turn, the projects of our office have influenced desert architecture in Algeria and Egypt. In the El Oued project the design has been replicated by the local authorities and the community to the point that it is difficult to distinguish the initial project from its extensions. The replication of the process is the most important issue. It includes designing based on an understanding of the communities social needs by group, using local environment-friendly materials and construction techniques modified to only the extend needed to combat deficiencies such as being resistant to erosion or earthquakes. Transfer of knowledge to younger generations is also important. In the schools of architecture in Biskra and Constantine this type of design process is part of the teaching curriculum.

## Innovative Initiative

1- To design and build communities based on an understanding of the local social fabric and to incorporate the needs of the various social groups including women and children into the design 2- Using appropriate architectural design from the climatic perspective including elements such as double walls, vaults and domes , wind captures, proper ventilation, shading and orientation to induce a local breeze. 3- Using natural building materials that are available in the environment such as the timshont available in this project area 4- Using construction techniques derived from local practice, to train local builders in any modifications to insure sustainability of the techniques used. 5- To involve the community and local government in the entire design and construction process to achieve ownership, transfer knowledge and insure sustainability and replicability. These principles are the foundation of architectural and urban design in our office. They have been implemented in Algeria since the mid-seventies and continue to be implemented in our projects in Egypt today as in the St Catherine Visitors Center in Sinai

## Resources devoted to delivery

St katherine Visitor Center . (<http://www.youtube.com/watch?v=G22PNqIxEO4> Edit 2 400 Units Housing Project El Oued, Algeria  
<https://archnet.org/sites/4691/publications/597> Ashraf Salama 400 Housing Units El Oued, Algeria PDF / 1.46 MB May 2001 20 Edit 3 Appropriate Technology <http://www.youtube.com/user/GreeLux#p/a/u/0/XFNU5u7sY4> Edit 4 Hany Hassan El Miniawy : prix Vassilis Sgoutas, Un architecte hors du commun et tellement humain. Vies de Villes no. 15 – Nov 2010, Algeria. Vie de Villes no 15 Nov 2010 Edit 5 Appropriate Technology <http://www.youtube.com/watch?v=O-ib4KxvFkc&NR=1> Edit 6 Appropriate Architectural Design <http://www.youtube.com/user/GreeLux#p/a/u/0/XFNU5u7sY4>

## Conclusion

The main goal of the social housing programmes developed by the government was to satisfy the constitutional laws. The decentralization policy, the need for public housing, and the growing population of the small desert settlements all led to the decision by the Central Ministry of Housing of Algeria to enable local authorities to develop housing projects in desert areas. As a result, the land was donated by the government, a budget allocated, and the project commissioned in collaboration with the housing authority of Biskra regional government. The public housing project of El Oued was part of a larger programme that sought to accommodate the growing desert populations and create semi-urban environments. In addition, the government aimed to encourage the relocation of an educated section of society and to develop the region in urban terms. The goal of the programme was to construct a large number of housing units, varied in surface area and contextually appropriate, in order to encourage people to move away from the crowded cities and/or to relocate other strata of society living in poor, primitive conditions in the nearby small desert settlements.