



## 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.

# TAKATONA

Region	Middle East and North Africa
Award Scheme	Dubai International Award
Start Year	2017
Sustainable Development Goals	Goal 11 - Make cities and human settlements inclusive, safe, resilient and sustainable

## Summary

The TAKATONA project is a proposal to improve and enhance two rural areas of the Souss Massa Region Morocco carried out by the Government of the Canary Islands the Souss Massa Region the University of Las Palmas de Gran Canaria the Green At las Agrotech Association the Technological Institute of the Canary Islands and local associations from the two Moroccan villages

## Background and Objective

The aim of the work carried out has been to promote living conditions in the rural villages of the Region of Souss Massa Drâa integrating architecture, urbanism and renewable energies. The corresponding objectives include those listed below: 1.- To project and build a prototype of sustainable earth architecture by including natural additives and innovative typologies that either stop or reduce the replacement of this traditional technique by other modern building modes based on concrete blocks, which entails a loss of heritage values. 2.- To project and build a prototype of sustainable, highly energy-efficient architecture in an integral design that combines the adaptation of earth architecture to different climatic conditions and to the use of renewable energy technology. 3.- To slow down emigration from rural areas to big cities, maintaining employment in the agricultural sector and enhancing the economic resources of local communities. To this end, these buildings are used as small-scale resources for rural tourism, social facilities, neighbourhood centres and women's training centres. 4.- To train local communities in these techniques. The whole development and execution process of the project has been used as a way of training the rural communities in these techniques, with special attention paid to women, a fundamental objective of the project. General contents: Throughout the project urban and landscape planning, typological study and architectonic proposals have been dealt with in order to improve and make the rural hábitat more sustainable. Prototype projects were developed for a neighbourhood centre and for basic compact urban facilities for rural areas, and sustainable urban services and infrastructure projects were developed by introducing and optimizing renewable energy. Theoretical and technical concepts: we have tried to research the physical topographical, economic, social and environmental conditions of the urban morphology of the rural settlements in order to offer improvements in their urban and landscape structure in order to achieve an urban environment that is more sustainable. Likewise, the typological characteristics of the rural habitat were studied, including: ensuring appropriate proposals, values and failings, in order to propose a prototype for an expandable rural dwelling that was appropriate for conventional domestic use in these settlements, that was also inexpensive, highly energy-efficient, producing zero emissions and that would also ensure a comfortable, long-lasting habitat. In parallel, research was also undertaken into the formulation of a prototype of a minimum multi-functional architectonic complex to house the facilities and equipment needed to support daily needs, as well as the particular needs of rural tourism, the training of women and the peaceful co-existence of rural communities. These latter include health, sport, training and education, leisure, a place to get together and hold meetings, shows, wifi, etc. This complex was inexpensive, has a maximum level of energy efficiency and ensures zero emissions, thereby assuring a minimum standard of living that makes these places attractive and helps to retain the population in the villages rather than emigrating towards the big cities. Work was also carried out on basic urban infrastructure: water, electricity and drains, in order to design appropriate techniques using renewable energy with zero environmental cost and making the maximum use of natural resources. Lastly, a number of basic norms are given regarding the quality of the urbanization process to guarantee a good urban landscape. It is worth pointing out that these proposals are understood to be prototypes that can then be reused in other similar rural settlements in the area, and that can also easily be reassembled for other places working with the architectural conditions for each respective place. Following the initiative of the Région Souss Massa Drâa, the construction system chosen for the prototypes is one of earth architecture to guarantee that these types of buildings, typical of the region and of Morocco in general, continue to be built. TAGMOUTE: Mountain village with 407 inhabitants (218 women) and continental climate very hot in summer and cold in winter in an area of difficult access. BIZOURANE: Village flat with 481 inhabitants (254 women) and continental semi-arid climate very warm in summer. In both cases dependence on the primary sector, associative experience, especially male rural exodus, abandonment of traditional building techniques, energy dependence and serious educational deficiencies, equipment and services.

## Actions and Implementation



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In general, there were no difficulties in starting the initiatives since the projects were previously presented to the villagers and the Moroccan institutional Partners. The development work took place with absolute normality and full cooperation in the village of Tagmoute. From the first moment the population was directly responsible to provide the craftsmen and manpower needed for the house construction. The mayor of the village directly took responsibility for the management of the team. In the village of Bizourane it was not possible to count on the local people due to labor issues, but were the same workers of Tagmoute the ones that moved in after finishing the first earth house prototype. The responsible of the Targante association was the responsible for the coordination duties. In both villages a Canarian company as site contractor, were responsible for the construction management, carried out all necessary contracts with all the construction crafts and provided the tools and necessary means for the execution of the prototypes. Currently, are the villagers who make use of the built facilities.

## Outcomes and Impacts

**FINANCIAL:** As an international cooperation program FEDER POCTEFEX "Spain Exterior Frontiers" management, use and resource leveling has been audited directly by the State of Spain. **SOCIAL AND ECONOMIC:** The project pursue to incorporate women into the labor market. Pursue to find an economic niche in the field of rural tourism. Pursue to generate specialized employment in the techniques of earthen architecture. Pursue to stem the rural exodus from this pioneering experience. **CULTURAL:** The Project has helped to provide techniques for the conservation of built heritage. **ENVIRONMENTAL:** Systems of self-sufficiency energy through renewable energies are key elements of sustainability, zero emissions and combat climate change. Earthen architecture is absolutely environmentally friendly. **INSTITUTIONAL:** The experience has been designed from the start as a pilot practise to be put into action in other villages in Morocco.

## Innovative Initiative

Best practice transference. The project TAKATONA initiates a process of cooperation involving training in special techniques and objectives of improving living conditions in rural villages. This process has evolved over time with exposure, dissemination and discussion of the program in various fields, in local communities, at the headquarters of the regional administration with stakeholders and international diffusion, from the publication of results and the achieving of different awards. a) The process includes the exchange of skills and competences between two countries with the goal of improving the living conditions, specifically, of rural environment. The transfer starts from the grant of an international cooperation program FEDER POCTEFEX "Spain Exterior Frontiers". The institutions directly involved are: the Regional Council of Souss Massa, the Canary Islands Government and the University of Las Palmas de Gran Canaria. b) The tranference purpose involved the material tests carried out by researchers of the University of Las Palmas, travels and cooperating displacements with the aim of providing training and skills associated with generating sustainable improvement of the villages. c) The process involves the improvement in equipment and tools of traditional production of urban and rural areas. For example the research of natural additives in the composition and production of earthen architecture, the adaptation of typologies and architecture morphologies to bioclimatic conditions and efficient integration of energy technologies and water. d) Innovation in traditional construction and training of local population. e) Part of the lessons learned has been the implication with local groups and associations of the rural villages. The involved women associations or training based ones, have been fundamental in the involvement of the population in order to improve local conditions. For future transferences, the organization of different networks of local villages that potentially can create a domino effect of the project can be improve.

## Resources devoted to delivery

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