

REVIVING EARTHEN ARCHITECTURE IN THE JORDAN VALLEY TOWARDS ADEQUATE HOUSING FOR MARGINALIZED COMMUNITIES

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Summary

The programme is designed to respond to the protection and livelihood needs of selected vulnerable Palestinian communities and to improve their living conditions by providing them with the skills, tools, and techniques to mitigate and cope with the threats they are confronted with. There are many factors affecting the situation in the Jordan Valley, politically and environmentally. To combat inadequate housing and improve living conditions the programme, implemented by UNESCO, focuses on the development and utilization of renewable, recycled and alternative natural materials. The production and utilization of mud-bricks, as the primary material for construction, is considered the point of departure to foster the change towards sustainability in the construction sector.

Keywords: Sustainability, Development, Renewable energy, Marginalized communities, capacity building

1 Introduction

The right to adequate housing is an international recognizable right; it provides the foundation for the realization of other rights, including the rights to family, work, health, and education. The Jordan Valley represents approximately 30 % of the land area of the West Bank where Palestinians are denied their right to adequate housing. Today, 94 % of the Jordan Valley and Dead Sea area is closed to Palestinian residential or community use and development, due to institutionalized difficulty of obtaining building permits from the Israeli Civil Administration.¹ Currently, 62 % of the West Bank, including 87 % of the Jordan Valley, falls in Area C, in which Israel has full military and civil control.²

The Jordan Valley is situated along the western border with the Jordan River and extends from the Green Line in the north to the Dead Sea in the south. The Jordan Valley has rich agricultural land, a warm climate, and abundant water resources. Today, the Jordan Valley is home to 56,000 Palestinians living in 29 agricultural and herding communities, which rely on the land and water resources for their livelihoods,³ while; there

¹ OXFAM, "On the brink :Israeli settlements and their impact on Palestinians in the Jordan Valley", July 2012.

² Humanitarian Fact Sheet On The Jordan Valley And Dead Sea Area, February 2012.

³ Palestinian Liberation Organization Negotiations Affairs Department, "A Village in the Way: al-Aqaba and the Grab of the Jordan Valley," June 2006.

are 37 Israeli settlements with a population of 9,500.⁴ Today, Israeli settlements control a full half of the land of the Jordan Valley, closed military zones and natural reserves that include an additional 44 percent.⁵

2 The crisis

Restrictions on zoning, planning, and construction, imposed by the Israeli authorities in order to protect settlements, prevent Palestinian communities from developing vital infrastructure and accessing basic services such as water, electricity, schools, and health clinics. As a result, the Jordan valley residents live in structures constructed with cement, metal sheets and tents, which are not suitable for human livelihoods. In 2011, the Israeli authorities demolished over 200 Palestinian-owned structures in the area, displacing around 430 people and affecting the livelihoods of another 1,200 Palestinians. According to OCHA, thousands of Palestinians in the area are at risk of forced displacement due to home demolitions, forced evictions from closed military zones and a range of restrictions imposed by Israel.



Fig. 1 Mosque built in Area C with metal sheets, ©UNESCO

3 Theory of change

Earth is the most accessible building material in the world, half of the mankind live, work, or worship in structures made of earthen architecture. It is presented across the globe in different forms, styles and technologies that contained an intangible tradition; the wisdom of the builders has been improved into a sophisticated knowledge that matches the local culture, and climate. It presents cultural landscapes of great beauty and strong complexity. (ETS, 2009)

3.1 Creation of the Oasis culture vs. end of tradition

Old Jericho named Tell es-Sultan is the oldest mud brick settlement in the world, which grew up around a perennial spring, fertile alluvial soil that attracted hunter-gatherer groups to settle down, and to start a process of plant and animal domestication.⁶ The ancient walls of the city were built with mud bricks that are still intact showing the glory of the old city.

⁴ United Nations OCHA, Humanitarian Fact Sheet on the Jordan Valley and Dead Sea Area, February 2012.

⁵ MA'AN Development Center, "Palestine's Forgotten Displacement: The Plight of the Jordan Valley Bedouin," December 2008.

⁶ UNESCO, World Heritage Centre, tentative list

Since 1950's and the introduction of the modern building materials to the area, the earthen architecture lost its value in local communities, and was replaced with materials that are low-maintained and fast constructed; thus the skills and experience of earth buildings are not almost non existent, resulting in structures which lost their architectural quality and do not provide the minimal adequate living standards.

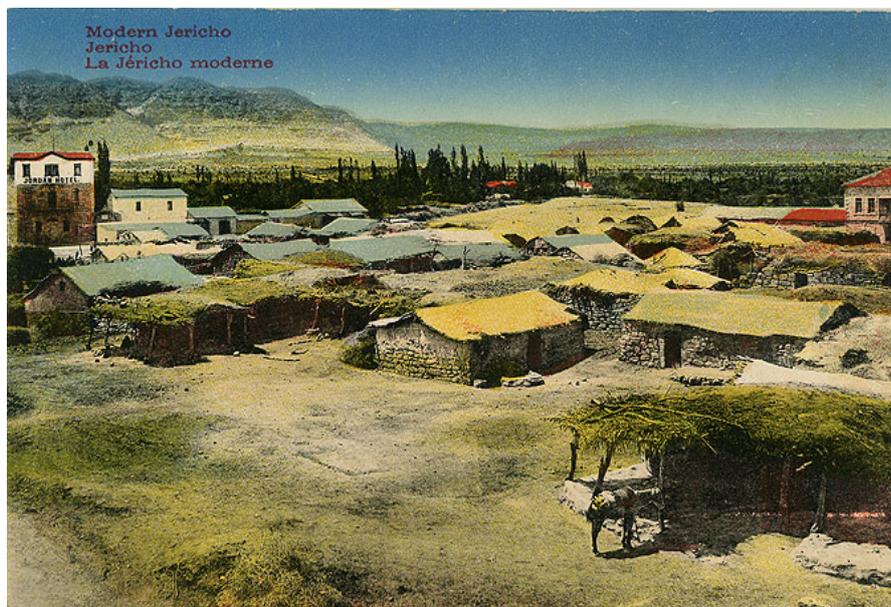


Fig. 2 Old Jericho, Unknown photographer

4 The reviving of earthen architecture towards adequate housing for marginalized communities

4.1 The strategy

UNESCO is focusing on the development and utilization of local assets, both human resources and materials, to address the shortage of adequate housing in the target area. The strategy is to utilize mud-bricks as the lever for change to raise the change towards sustainability in the construction sector; by reviving lost low-cost skills and utilizing materials that are accessible and cheap.

The programme is centered on innovative and participative planning practices and community upgrading schemes, by integrating the communities as an essential asset in the process of the project through training programmes, workshops, and introducing the technique to a larger audience other than the Jordan valley communities. The project includes one pilot project, three women's centres, one model sustainable building, and one demonstrative low-cost self-constructed housing unit.

The strategy is to present earthen architecture; combined with new and recycled materials, that are locally found in the surrounding areas, thus reducing the costs and the difficulty of access and associated to a substantive use of solar energy; to be an alternative to ecological housing by providing shelters in emergency situations. These solutions contribute to social cohesion, and economic sustainability, to enhance dignity and resilience within the marginalized communities that exist in the Jordan Valley.

4.2 The implementation

The implementation modality of the project is innovative for the communities as these skills were neglected; the concept of the project present a solution to a long existent problems such as the inadequate housing for the communities, the discrimination and exclusion of women and young girls, the lack of skills in earthen architecture, the restrictions of movement and access within the Jordan valley, and poverty and acute livelihood crisis.

The implementation is People-centred enhancing the capacity-building by providing technical on-the-job training through showing diverse building techniques, e. g. different masonries, vaults, domes, flat ceilings, multiple types of plastering, etc., the techniques were implemented by local expertise in order to train the unskilled and semi-skilled labour in addition to young architects on different practices, as well as for experimental and demonstration purposes. The scheme aims to provide local people with self-construction abilities to address the shortage of adequate housing through on-the-job training programme as the material it self has the aptitude for use in self-constructed buildings; the workers are chosen from the communities directly; both men and women to present the essential role of each gender in creation of sustainable market.



Fig. 3 Women working in mud-brick production, ©UNESCO

4.3 The results

The tangible results for the programme are, suitability as environment-friendly construction material for all typologies of buildings, such as; community centres, women centres, housing projects, schools and other types. CSEB retain a number of advantages compared to other construction materials, such as excellent insulation capacity, availability of the raw material on site avoiding transportation costs and the restrictions on movement imposed by Israeli policies, the capacity to be used for self-construction, reducing total building cost and energy consumption. The intangible results are breaking the stereotypes about durability and use of mud-brick architecture; local resilience and human security for the communities as the use of earthen architecture can be utilized as a tool to counter restrictions; job opportunities are created by the construction of six structures which created more than 4000 working days for over 240 workers, training of architectural

students on the modern uses of earthen architecture as an alternative to common materials and the creation of the mud-brick market in several areas in the west bank, as three structures are being constructed by private contractors for public and private use; based on the experience of UNESCO in reviving of earthen architecture.

The programme is constructing 6 structures with different types of uses. One of the most important structures yet the smallest, is a module self sustainable house built as a response to emergencies in areas that have the highest demolitions rate, the module house will be built in less than 48 hours; by the owners of the house. Also a women Centre will be built by combining the traditional earthen architecture and the modern renewable energy systems, roof gardens, reusable water solutions.

Two of the important tangible results of the programme are the approved certificate of the mud brick as an appropriate building material, which is absent, and an illustrated manual; the manual will be used as a tool for the communities to build their own structures of mud-bricks, alongside with renewable energy solutions to be introduced accordingly.

The cooperation with other NGO's is seen as one important result; as these NGO's based on the experience of UNESCO are utilizing the programme's strategy to implement their housing projects.



Fig. 4 Aqbat Jaber Community centre under construction, ©UNESCO



Fig. 5 Aqbat Jaber Community centre kindergaden, ©UNESCO

5 Conclusion

The Jordan valley represent one of the most complex areas, culturally and politically, in Palestine; as a result the work of the human security programme has been rough, though some communities were sceptic towards the programme, others presented great interest in the idea of reviving of earthen architecture.

UNESCO is working on disbursing the skills to the communities, as this is the most essential tool for them to enhance their sustainability and improve their resilience.

The community participation in the implementation process is one of the focus points of the programme; the community of the Jordan valley is very knowledgeable in the context of the area and presented solutions for the conditions they live in; by furnishing them with the tools they need the programme was effective to increase the resilience.

The industry of earthen architecture was presented as one of the most appropriate materials in the programme, and thus opened the door for more experiences with earthen architecture to be started as initiative from international NGO's and private sector.

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