Cataloging and typological study of Mgoun Valley’s traditional fortified architecture, Morocco

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ABSTRACT: In the first workshop held in 2011 by the School of Architecture of Malaga in the Pre-Saharan Mgoun Valley (Morocco), a documentation project of historical earthen buildings with heritage value was implemented. The Mgoun Valley, to date, has been inadequately studied, so the project has a double aim: an inventory of the currently existing elements and the ones at risk of disappearing; to identify and document the evolution and transformations of these typologies. The methodology applied in the field is reviewed, as well as the results of the different kinds of typologies recognized.

1 INTRODUCTION

"Des qu'on a passé le cols de l'Atlas, on se sent à l'entrée d'un pays nouveau. Là expire le monde méditerranéen et là commence le monde saharien. Là se place la frontière entre l'Europe et la véritable Afrique" (Terrasse 1938).

In September 2011, within the volunteer program of the University of Malaga, financed by the Andalusian Agency for International Cooperation, the University of Architecture of Malaga cooperation group, eAM’ Coopera, carried out the “First Workshop of Landscape and Heritage in the south of Morocco: proposal for the development of a responsible tourism model in MGoun Valley (High Atlas)”. This workshop was formed by professors, researchers and fifteen students with the purpose of allowing students to experience a close but very different reality in a rural environment far away from all comforts, to understand another way of living and relating to the environment. It is a step towards sensitizing in the field of international cooperation, and allows us to do some field work and elaborate projects focused on responsible tourism models connected to the in situ discovered heritage: buildings, urban evolution and landscape. Transversely, we have considered the socio-anthropological aspects as necessary for the comprehension of the way of life and the relationships between inhabitants and the environment. Combining heritage aspects with sustainable tourism should be realized on the short run, while tourism is scarcely exploited due to its embryonic state, in order to avoid significant transformations with no possibility of turning back. These models could offer solutions which would improve the level of living in an indirect way, beyond protecting the environment, an essential part of their productive activity.

The interest for the High Atlas zone is not recent. After Roger Mimo’s publication, “Fortalezas de Barro” (Mimó 1996) and Vicente Soriano’s splendid work (Soriano Alfaro 2006), there have been several workshops promoted by the University of Architecture of Valencia and Barcelona, and supported by el Colegio de Arquitectos, which have focused their attention on this singular architecture in order to bring the richness of rammed-earth constructions in Morocco into our western context. Other experiences were developed in Todra Valley (Cerkas, UPC/Colegio de Aparejadores y Arquitectos técnicos de Barcelona, 1998–2001), Skoura heart (Cerkas/ETSA V-UPV) as well as in Draa Valley (Cerkas/EPFL), with interesting results, that have been part of our preliminary studies.

2 RESEARCH AREA

The ambitious research area is formed by the totality of MGoun Valley, a pre-Sahara area featured by a massif called Mgoun, on the north side of the Central High Atlas, and the Assif Mgoun River. Lately it has been known as Rose Valley due to the activity related to rose cultivation, which helps us to understand the growing interest in tourism in this area as well. Limits are defined by the city called Kelaat Mgouna in the south, which is the first access to the Valley and close to other renowned locations in Dades Valley, and El Mrabtín located 60 kilometres to the north, which lies on the High Atlas. Many urban settlements, of different sizes, are located generally on the two

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banks of the river or on the dry riverbed, becoming a well-organized system in the territory. The highest zone of urban settlements in the north has different typologies, organizing themselves along the transversal migrant passage that characterizes the sector. In general, it is an arid landscape in which cultivations, an essential part for the development of occupied settlements, stand out along the river.

Supported just by the cartography existing in Google and the bibliographic references we could obtain, which were, in many cases, outdated and ambiguous with regards to the location of the described buildings, and the help of forms prepared before the journey, in just four days of hard work, we registered and catalogued eighty-eight elements (Fig.1) with heritage interest constructed with rammed-earth and, at times, complemented by adobe. We focused our attention, above all, on kasbah, tighremt and agadir (barns) and the elements which stand out in these settlements not only because of their height but because of their meaning and relevance as well. A first observation must be noted in the use of terms that identify the different functional typologies, as our attempt of classification based on western knowledge has demonstrated how complex and easy it is to make mistakes. Our experience in situ has shown us that the local population does not differentiate several terms within the different typologies, minimizing the importance that we, a priori, intended to assign to them. This aspect leads us to consider the necessity for combining the result of our work generated in this first workshop with a glossary which is obligatory for a better comprehension of the results, as the experience of similar work recommends (Cancino 2008) (Sykes 1984). Despite some advances realized, the unavoidable linguistic barrier, Arabic or Berber, obliges us to carefully check our conclusions and this work can only be carried out by natives specialized in preservation and heritage due to their capacity to scrutinise our conclusions.

From the elements considered in our field work, the Kasbahs stand out on the landscape because of their height and the towers that flank their perimeter, which also has a defensive function. These kasbahs were used to control the entire territory during periods of conflict between nearby settlements. They are residential buildings occupied by one or more families. The barn, usually known as agadir, was another interesting element due to its strategic location and the relationship between families which is reflected in the French term—grenier collectif. We must emphasize the constructive solutions which probably come from experience and optimization of constructive techniques such as rammed-earth (tabut in Berber) used in other typologies of buildings. In addition, we have identified two other common typologies, one marabout and two fortified villages (ksar in Arabic), which were found in a state of neglect. Finally, we have found a mosque whose identified ruins are not significant for a typological classification.
Being responsible for the relevance that a catalogue involves in order to understand a certain culture (Kölbl et al. 2003), we have decided to include the information related to buildings in ruins as well, firstly because we believe it is the best way to keep a registration of some buildings which otherwise might disappear leaving no evidence and, secondly, because they could ease the research on the evolution of these elements in this context. It is known how the buildings made with rammed earth suffer a great deterioration above all due to the effects of heavy rain, which is not so common in the area we are studying. Because of that, ruined buildings are more sensitive to a faster and greater deterioration in comparison with those still in use.

The field work has been focused on the central zone of the valley, identified as sectors S3 to S6 (Fig. 1), leaving the southern zone for the second workshop which will take place in 2012. This scheme cannot be understood as a definite collection of patrimonial architecture in the valley due to the existence of other settlements included in the sectors but not visited (Aifar, Tourbist, Tamalout, Tighanimin, Znag), but as a first approach to their richness and variety that must be completed in future workshops.

3 FIELD WORK

The work realized has consisted of a wide compilation of information which has led to a great diversification of studies once the workshop was finished, not only from a patrimonial field but from the aims already announced. There cannot be the slightest doubt that this type of field work offers the information necessary not only for a patrimonial evaluation, but also to determine the priorities for a conservation project or the origin of pathologies, having great relevance in any level of intervention on the constructions.

As mentioned before, the methodology we have used has consisted of analyzing each settlement in groups thoroughly to allow us to identify the buildings that will be studied afterwards. The groups involved in this project were composed by a professor and two or four students, depending on the circumstances. The time invested in each settlement has depended on the previously unknown amount of patrimonial elements we could find and the possibility to have access inside. We estimate that we have spent one hour on each building, with heterogeneous results due to different determining factors that the group has found in situ: difficulty to gain access to the inside of the buildings, extreme complexity of settlements or buildings to catalog, scarce means used for construction surveys (realized by hand or with a laser range meter in the best of cases), and even lack of time due to having to travel long distances to places where access was only possible on foot, as happens in sector 3. It is also significant how the fact of showing the inside of buildings has become usual for the population, who finds this is a way to have some extra income as well as it allows us to do our work. Using identification

![Figure 2. Identification form after elaboration of hand draft. Form: Own production eAM’ Coopera.](image-url)
Figure 3. Central staircase and corridor typology.

Figure 4. Kasbahs with staircases located next to a tower.

Figure 5. Detailed graphic representation of the old kasbah in Bou Taghrar. Own production eAM’ Coopera.

Figure 6. Detailed representation of the kasbah in Bou Taghrar. Back façade (main street). Own production eAM’ Coopera.

Figure 7. Detail of one adobe decorated tower of Bou Taghrar’s Kasbah. Picture: Alberto Montiel Lozano.

Figure 8. General ornamental patterns in El Fouqani’s kasbah. Picture: Alberto Montiel Lozano.
Its interest is remarked in the rich exterior decoration made of adobe, in the tower (borj in Berber) and in the parapet which means the end of the three lower levels realized with rammed-earth as well as it is used as an example to reflect the evolution that these buildings are suffering. There is clear evidence of the building’s deterioration (loss of a part of two of the towers, loss of the top of the parapet, besides the general deterioration of the wall section and some sun-dried bricks), provoked by neglect. In fact, the tighremt has suffered a process of evolution and transformation by adding, on one hand, a construction against the main façade, keeping the old part as a warehouse, and, on the other hand, another construction made of concrete blocks that have distorted the building’s appearance. (Fig. 6)

These transformations are supplied by elements which do not suit traditional architecture, such as basements made of concrete or drain pipes made of PVC. Despite intending to resolve, somehow, the pathologies that have appeared along time, they do generate often irreversible transformations.

4 CONCLUSIONS

As mentioned, the result of this first workshop must be considered as an approach towards a bigger project whose previous actions are defined and whose conclusions will be able to establish future lines of intervention. This first phase cannot be concluded, in especially in connection with this group dedicated to heritage that we have introduced, because not having completed the catalogue on the high part of the valley, necessary in order to get final conclusions about patrimonial buildings as a whole, their state of conservation, the most common typologies and in short, conclusions that broaden speech and knowledge about a certain geographic area.
However, the great quantity of identified buildings brings some first reflections, basically about the most used typologies, which cannot be considered definitive until completing the work. Compact buildings have been identified, which in most of the cases, stresses the inexistence of a central courtyard and repetition of schemes introduced before, above all the second one in which the location of the staircase permitted smaller variations. A large number of one-hundred-year-old buildings have been registered during our field work, Ighrem Aqdim being especially remarkable due to the great number of forms filled in and also the existence of many recent reconstructions using the same traditional techics: rammed earth and adobe.

In this context, adobe (tub in Berber) is often used to finish the top of the buildings; however, the possibilities this material offers to realize decorative elements are not exploited in the valley, except for small remarkable parapets, which can be found in the tighremt in Bou Taghrar’s or in El Fouqani’s (Fig. 7 and 8). It should be noted that the relation between the use of adobe and wealth is direct, as the buildings with decorative figures belong to the most influential and powerful families, the only ones who can afford it.

The state of deterioration in ancient buildings is generally linked to its scarce use or neglect, aspects in which the cost of periodical maintenance is indispensable. When receiving public funds in order to rehabilitate or conserve buildings is unthinkable and where means are poor, this project we are undertaking, which combines heritage, landscape and tourism, may have, as a result, not only one more step in our individual learning process, but a new look for the local population at their own heritage, which leads to the acknowledgement of the values of earth architecture.

The changes in way of life and organization of families is translated, generally, in transformations in the tighremtin by adding new volumes, leaving the original ones and settling down in the newer, more comfortable ones (Fig. 9). A lack of maintenance is the origin of the deterioration of the tighret. However, it also means that it is possible to recuperate the original units, which have not been transformed yet.

We consider it, therefore, a great opportunity to preserve and value a heritage with priceless cultural and architectural weight, which is immersed in a crucial moment with respect to the neglect of the buildings for new typologies and materials that risk its future preservation and the increase of tourism with no constructive criticism, based on trivialization, that might lead to an end of such wealth, as has occurred in many other places in the world (Pié in press). Our aim is not just to catalogue and extend information related to this heritage, but to create viable proposals for sustainable touristic development through the analysis of landscape, urban development, and society. It is a long way we have just commenced, which needs the collaboration of many institutions to succeed.

NOTE

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