KANJI: THE CONSERVATION MANUAL

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Abstract
This paper introduces the results of the first phase of a preparatory field research carried out over the past two years, aiming to produce a manual for the conservation of a small Himalayan village, Kanji, in the Indian Ladakh Region.

Kanji has an earthen architectural heritage that is now involved in a slow process of architectural transformation due to a new road reaching the village, the recent construction of tourism facilities (camping) and a new public school. Some changes are also affecting the environmental as well as the socio-economic structure of the village.

In order to ameliorate any damaging effects of these changes upon the traditional local architecture, it was considered important to produce a *conservation manual* to promote the maintenance of the existing vernacular architecture.

Since summer 2008 a team from Udine University - School of Architecture, with Giulia Bravo and Désirée De Antoni under the scientific direction of Mauro Bertagnin, and with the participation of John Harrison - has been carrying out research and field work aimed at producing a *conservation manual* for the community of the Kanji village.

This research work continues the conservation approach promoted by Achi Association, which for more than a decade has been actively involved in the conservation of Kanji's Buddhist temples.

The operational scheme of the research work has as its main goals: a basic classification of the Kanji urban fabric; the understanding of local building culture; the surveying of architectural typologies and related building construction details; knowledge of the technology of earthen vernacular architecture.

The research is also considering, in the first phase of the *conservation manual*, the decay processes affecting the vernacular architecture as well as the transformations of the existing urban fabric due to the impact of modernity on the village. In the second phase, the *conservation manual* will include the results of the research on more appropriate best practices and on suitable modifications related to the maintenance and conservation works concerning the small village to be protected, a fine Himalayan earthen architectural heritage.

1. INTRODUCTION

This paper introduces the results of the first phase of a preparatory field research carried out in the past two years that aims to produce a *manual* for the conservation of a small Himalayan village, Kanji, in the Indian Ladakh Region.

The *conservation manual* is also the outcome of a long term research programme carried out over the past decade concerning the impact of global warming on earthen architecture conservation in Ladakh[1].

Kanji is a fine example of earthen architectural heritage (Fig. 1a) that is now involved in a slow process of architectural transformation due to the impact of modernity as well as to the processes of decay and renewal. These changes are also affecting the environmental as well as the socio-economic structure of the village.

The operational scheme of the research work deals with a basic classification of the Kanji urban fabric. In the first ongoing phase, the main goals of the *conservation manual* research include the understanding of history, the environment, the local building culture, the surveying of architectural typologies and the related building construction details and an understanding of the technology of earthen vernacular architecture. The research in the first phase is also considering the decay processes affecting the vernacular architecture as well as the changes of the existing urban fabric due to the impact of modernity in the village. The second phase will provide the guidelines for an appropriate process of conservation.

2. KANJI INTRINSIC VALUES (ENVIRONMENTAL, TOPOLOGICAL, MORPHOLOGICAL, HISTORICAL, ARTISTIC, INTANGIBLE): A BRIEF OUTLINE

2.1. Environmental, topological and morphological values

Kanji, a village in the Leh district of Ladakh (Jammu & Kashmir State, India, 232.864 inhabitants), is situated on an altitude of 3.875 m. Ladakh is divided in two districts: Kargil and Leh. Leh, the former capital of the Kingdom of Ladakh, is today its largest town. The region, known as Ladakh, is situated between the Karakoram mountain range in the north and the main Great Himalayas to the south. The Western Kargil district (14.086 km²) shares the extremely cold winters and temperate summers of the Himalaya region.

The Kanji landscape is scarcely vegetated. On the fields along the river that borders the village, only a few crops are grown, as result of the oasis agriculture system typical for high mountainous areas. The village and its environment can be considered a “cultural landscape” being the typical result of “combined works of nature and man” designated in the first article of the Word Heritage Convention (1972). The village’s morphology is characterized by two settlement areas divided by a dry river bed (Fig. 1b).

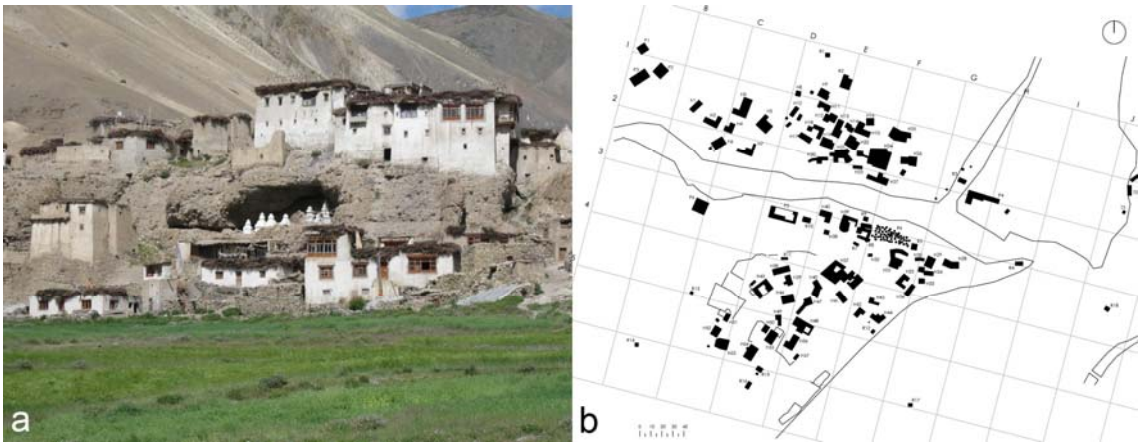

Fig.1 – Kanji: a little gem of Himalayan earthen architecture (a) and the plan of the village (b) (credits: Giulia Bravo, Désirée De Antoni)

The general plan of Kanji village clearly explains the morphological structure of the settlement sloping towards the central axis, the dry river bed. The morphology also shows a scattered settlement along the borders, composed of isolated houses of different types while the old village core is a dense homogenous cluster of tall buildings. This is what makes Kanji a unique survival.

2.2. Historical values

A precise documentation about the history of Kanji village is lacking and the oral tradition of its inhabitants is almost the sole source available. The first settlement seems to date back to the 13th/14th century A.D. It is said to have been made by a population penetrating from an area to the west, in today's Pakistan, stranded here in the wake of the migration of their yaks, their main source of livelihood.

2.3. Artistic values

Ladakh is sometimes called "Little Tibet" because it shares with Tibet such characteristics as: the Buddhist religion; the partially related ethnicity; the language (Ladakhi is, in fact, a particular Western Tibetan dialect pronounced in an archaic way and influenced by other non-Tibetan languages); the architecture (building typologies); and artistic features such as paintings, decorations and sculptures typical of the Buddhist religious tradition.

2.4. Intangible cultural values

As well as in the architectural and artistic values, the influence of Tibetan Buddhism can be found also in the village culture and traditions, including the old Ladakhi dances and chants which are very important in the community life (Fig. 2). During religious ceremonies and seasonal festivities, such as harvest, ritual dances and traditional songs animate the life of the village and contribute to social cohesion. This intangible heritage also represents potentially an important tourist attraction.

Fig.2 - Promoting the intangible heritage (dances) (a) and improving the local awareness (the small exhibition in the school) (b) (credits: Giulia Bravo, Désirée De Antoni)

3. ARCHITECTURAL VALUES

3.1. Protecting a little gem of Himalayan earthen architecture through a *conservation manual*

According to the Word Heritage Criteria for the nominated properties, Kanji earthen architectural heritage can be considered a real "outstanding example of typologies, architectural and technological ensemble related to a peculiar landscape which illustrates a significant stage in human history"[2].

In respect of these criteria the conservation policies promoted by Achi Association emphasize the importance of an integrated strategy of protection that includes the production of a *conservation manual* for the village as an important tool for the maintenance of this fine heritage.

The integrated conservation strategy, promoted by Achi Association, is based on two main sectors, directly related to the "tangible" and the "intangible" heritage conservation. Concerning the protection of the architectural heritage, the Achi action

includes an educational stream, some best practice workshops, related to the conservation strategies to be carried out, and the improvement of local awareness concerning the maintenance of the vernacular architecture. Of course, the conservation of the village cannot be implemented without the participation of the community.

Concerning the “intangible” heritage conservation, a special project is ongoing aimed at investigating and recording the local traditions (agriculture methods, vernacular artisanal tools, dances, chants, music and local tales).

Kanji is in fact an intact (for the time being) little gem of Himalayan earthen architecture and a precious heritage that should be preserved in its integrity[3].

The village, however, is undergoing a process of structural and architectural transformation. The first signs of this process are a new road reaching the village, the recent construction of tourism facilities (camping), as well as the new public school, which is the first building, constructed with mostly “modern” materials. These changes will affect the tradition of vernacular architecture and threaten its fine earthen architectural heritage. Similar constructions and tourism facilities elsewhere must be analysed in order to set up design guidelines for the future development in Kanji.

3.2. Architectural typologies: an ongoing research

Since 2007, within the framework of the activities of the Achi Association, the team of the Faculty of Architecture of Udine University (Italy) helped by the British architect John Harrison, is devising a conservation project for the whole village and the related *conservation manual*. The surveying and investigation campaign will be completed in about four years.

During the 2008 and 2009 summer missions, an extensive and detailed photographic documentation of the village and the assessments of the quality of some traditional buildings were carried out.

During the missions, the different building typologies of the village have been identified. These are basically three:
- buildings used as housing (Fig. 3a)
- buildings used for worship (temples and monasteries) (Fig. 3b)
- public buildings (schools and local meeting places) (Fig. 3c)

The buildings were then further distinguished according to their state of conservation. The identified conservation categories are:
- building in a good state of conservation;
- building in a sufficient state of conservation;
- building in a poor state of conservation;
- building in a serious state of decay

For the buildings falling into the category of housing, further subcategories based on typological criteria and on the number of floors have been used. Analyzing the historical development of the village, we can distinguish between the original dense defensive core on the cliff top and later expansion across the riverbed.

The vernacular tissue is an organic sum of common features characteristic of the typical Himalayan villages architecture and its formation obeys typological rules. In fact, in the first area, the cliff top, we can observe some tower houses (Fig. 3a) which can reach the height of four floors, while in the second area, across the river bed, there are houses which are one or two floors high.

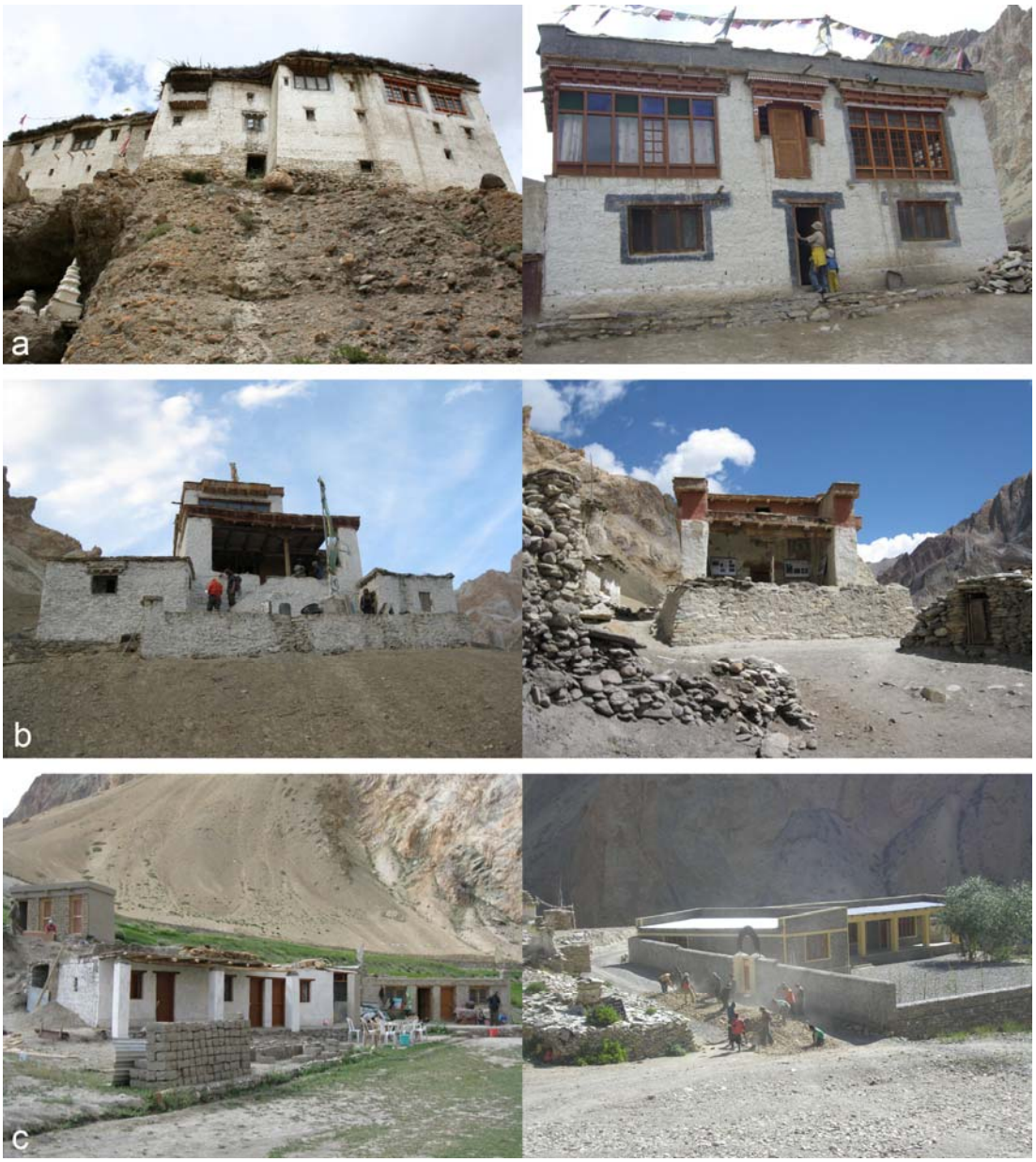

Fig.3 - Identifying the basic architectural typologies: (a) tower house and two floors house, (b) monastery and temple, (c) camping facilities and the new public school (credits: Giulia Bravo, Désirée De Antoni)

The buildings dedicated to worship, the temples and the monastery, are distinguished from other buildings by a range of features characteristic of Buddhist construction practice, such as the red colour of the roof parapet. The well-conserved monastery presents the front porch plastered in ochre yellow and red. The colour blue is used for the decoration of the wooden capitals. In the interior, all the religious buildings are decorated with statues and paintings and further enriched by painted scrolls, called *thangka*, which all display sacred images of Buddha, Bodhisattvas and other cult objects, occasionally, Buddhist stories.

Of the public buildings, a part of the older village hall, the new public school falls outside any traditional type of construction. Materials alien to the traditional context have been used for its construction, such as stone and cement for the walls and iron sheet instead of wooden roof.

Vernacular technology displays the typical features of earthen architecture. Over a stone base, the bearing masonry of the walls is normally made of earthen blocks, called *pakbu* (Fig. 4). The earth used for *pakbu* and the subsequent layer of plaster, is very clayey. In the interior, the vernacular buildings have a wooden structure serving as the support for the roof.

Fig.4 - Studying the vernacular building technologies: production of the the *pakbu*, the local mud brick (credits: Désirée De Antoni)

A first technical observation concerns the lack of straw or other strengthening vegetable fibres, in the *pakbu* production. The addition of sand and stones in the *pakbu* and the earthen roofing is a normal practice.

A series of sketches and drawings representing the doors, windows, capitals etc. were plotted during the survey campaign. Those drawings were aimed at understanding the architectural details (Fig. 5a-b-c) found in the vernacular buildings of Kanji. The drawings, made by hand and subsequently transferred to the computer, will also be an important part of the *conservation manual* of the village.

Particular attention, for example, was devoted to the graphic representation of the roofs and to the investigation of their particular arrangement in layers (Fig. 6).

The vernacular roofs have a first structure, generally consisting of round section poplar trunks, which support a second structure of wooden boards, small branches, or cut willow sticks. Successive layers of earth and *markallak* are spread on that second structure, in order to form a stratum of insulation and surface protection.

4. IMPROVING LOCAL AWARENESS

During the 2009 mission a small exhibition was produced with pictures of the village. Meetings between the conservation team and the local community were also held (Fig. 2b). The purpose of those activities was to stimulate awareness about opportunities for architectural heritage conservation within the community.

For that reason, the drafting of the *conservation manual* should be a process involving the participation of the local community in order to:

- improve awareness of vernacular architecture as a treasury which must be protected, reflecting or rediscovering its value for actual life;
- analyse (SWOT – Strengths Weakness Opportunities Threats) the perspectives of this community in regard to the pressure of tourism, the needs deriving from building activities of new inhabited nuclei, the needs following restructuring, etc.;
- prepare tools promoting the long-term preservation of the local heritage through a sustainable local management programme.

The *conservation manual* is intended to, and hopefully will, contribute to a village development which combines:

- the respect for important cultural heritage, which must be protected and maintained;
- the possibilities offered by modern building technology to make life more comfortable;
- the respect for nature and the benefits of local building materials.

Fig.5 - Understanding the architectural details: (a) doors, (b) windows, (c) capitals (credits: Giulia Bravo, Désirée De Antoni)

Fig.6 - Details of the vernacular roofs (credits: Désirée De Antoni)

5. THE DRAFTING OF *THE CONSERVATION MANUAL*: THE EXPECTED RESULTS

Once the analysis of the whole architectural heritage of the village is completed, the ensuing *conservation manual* will be a review of the architecture of Kanji and it will report analyses and pictures of all surviving architectural typologies, as well as of all the building technologies and the vernacular architectural details employed.

The manual will provide a large number of pictures and drawings, illustrating the written comments on examples of doors, windows, various construction details, colours, plasters, and so on. These should be able to represent visual guidelines for the future construction of new buildings appropriate to the surrounding context or for the conservation and maintenance of the existing traditional buildings. The manual will contain:

- the different building typologies of Kanji village;
- the state of conservation of the buildings;
- a proposal about which buildings of Kanji should be preserved as important specimens of cultural heritage.
- suggestions for conservation, restoration, maintenance
- recommendations about how to improve the local building technology and materials;
- recommendations about which modern materials, the village development could take advantage of and which should be avoided and why.
- recommendations, guidelines and best practices about suitable solutions to be adopted when changes related to contemporary living standards occur, during the maintenance and restoration works

The final version of the *conservation manual* first phase is still in progress.

Following the last phase of investigation and measurement of the buildings in the village (June 2010), a presentation of the first steps of the conservation project and the manual, within the framework of the activities of Achi Association, will be offered to the village and its inhabitants. An expert of Achi Association will accompany this presentation phase, and will ask for feedback from the community.

The *conservation manual* will help to raise the awareness of the local community for a better sustainable development and an appropriate process of maintenance to avoid the effects of decay in the vernacular architecture.

It will be a guide for any maintenance and restoration work in the existing urban fabric and at the same time it could also help the appropriate design and construction of new housing in the village. Therefore the *conservation manual* will also consist in “good practices” including ethical principles of conservation, guidelines on use and function and construction materials, management and planning recommendations for better

monitoring, action planning and recording and documentation activities. Guidelines on homogeneity of materials, temporary protection, insertion of foundations, drainage, monitoring and treatment of cracks and reinforcement of the walls, exterior and interior wall-coatings and flat roof finishes, will be included in the *conservation manual*.

Beside this tool, a final exhibition will complement the *conservation manual*, contributing to improving the local community's awareness of the quality of its environment and vernacular architecture. A well-conserved and maintained vernacular architecture, a balanced development of new construction with a well-preserved landscape in a sustainable environment can be, in fact, a real resource for the villagers in the future.

Therefore the final outcome of the *conservation manual*, of the exhibition as well as of the awareness process promoted by Achi in the Kanji village, is a part of the Achi goals for a conservation programme involving the local community in an increasing process of awareness of their heritage through a participative approach. The *Conservation Manual* of Kanji represents also an experiment to test its impact, as a protective tool, on the real conservation process of a small Himalayan earthen architecture heritage. If hopefully the result will be positive, Achi Association intends to promote similar experiences in other small Himalayan villages of the region such as Wanla and Skurbuchen to improve the conservation of the earthen architectural heritage in the Ladakh region.

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[2]Cfr. UNESCO, Word Heritage Centre, Operational Guidelines for the Implementation of the Word Heritage Convention, II.D Criteria for the assessment of Outstanding Universal Value, (iv).

[3]Cfr. UNESCO, Word Heritage Centre, Operational Guidelines for the Implementation of the Word Heritage Convention, II.E Integrity and/or authenticity, Integrity.

Curriculum

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