

Earth Architectures of South Morocco :

Problems of conservation

by

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Morocco, a country which has been throughout history a confluent and repository of many ethnic influences and artistic traditions still preserves, in its Southern region down to the Sahara, an art of building which has captured in recent years the attention and admiration of the numerous travellers and tourists who have driven along the so-called "road of the Kasbas" running East-West at the foot of the High Atlas. What are these "South Kasbas"? What dangers are threatening their very existence? Why is their safeguard of national and universal importance? How is the Government of Morocco planning to conserve and rehabilitate this heritage?

1. Definitions and typology

The term "South Kasbas" (from the Arabic qasaba, "fortress") is generally understood as designating the fortified dwellings and the large castles built with rammed earth by local squires or chieftains on the slopes and valleys of the Atlas and along the oases lines of the Presaharian rivers -Dades, Drâa, Ziz. The same designation, however, may be extended to a variety of constructions which also incorporate defensive elements -like walls, towers, etc.- and are built with the same technique, namely humid loam pounded layer after layer in a mobile wooden shuttering about 2,00 m long and 0,90 m high, the width of which may be adapted to the thickness of the wall.

According to their geographical location -plain or mountain- and to their specific uses and functions, these buildings may be classified in the following groups :

1.1 The kasbas proper. Their prototype is the one family house (Berber : tighremt or tiguemmi; Arabic : dār), built on a square plan around a central courtyard (which may be reduced to the size of a mere light and air well), with several storeys and towers at each corner. It may be surrounded by a wall forming a precinct within which smaller houses and dependencies are located, sometimes forming a hamlet.

With the power of the "lords of the Atlas", during the 2d half of last century, and especially when the Glawi caïds had extended their authority over most part of the High Atlas and presaharian valleys, a network of large kasbas were built in strategic places (fig.3). They may be described as enlarged tighremts,

which, in addition to continuing the Berber tradition of architecture and decoration (geometrical patterns made with crude bricks on the façades and towers, painted and carved ceilings and doors), have borrowed from the urban hispano-moresque repertoire (stucco and zellij mural coatings, mashrabihs, inner Andalusian gardens), creating a composite style of real originality. Abandoned after Morocco regained its Independence (1956), the former Glawi kasbas are at present in a state of serious dilapidation.

1.2 The fortified villages or ksour (sing.: ksar) are of different kinds, either scattered or compact, vertical or horizontal. In the mountains, where stone would be the "logical" material, earth has gained ground up to very high altitudes (fig.1). There, houses are grouped defensively along the slopes and ridges or on rocky promontories (fig.2).

- Some ksour are formed of several tighremt linked with each other by a network of alleys -partly covered- leading to smaller

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houses and to some public facilities (bath, mosque), the whole being protected by defense works and natural topography. One example of this type is the spectacular ksar of Ait Ben Haddou, situated between Oued Mellah -the river- and a hill (fig.4). - The ksour of the plains and valleys of the oases (Dades, Drâa, Rheris, Tafilalet) spread horizontally and present all the characteristics of the classical Islamic cities. Built on a square or rectangular plan, they are entirely surrounded by a wall and covered way, accessible through one gate, often with monumental proportions (fig.5), which opens on a public space, bordered with various shops and craftsmen workshops, the entrance to the mosque, hammam and quranic school. From the square, one or several streets lead to the different quarters, then to the blind alleys reserved to the inhabitants of the neighbourhood. The average ksar of this type houses some 200 to 300 families, i.e. 1500-2000 persons, most of whom earn their living cultivating cereals, fruits (mainly dates) and vegetables in the oases.

1.3 One important element of the oasis life was the collective granary (agadir or ighrem). It was a building either centrally situated in the fabric of the ksar, or erected like a kasba on an impregnable site, in which case it contained not only the many individual rooms where each ksourian family kept their provisions but a number of facilities designed to sustain a siege : a bread oven with necessary fuel, a cistern, an oil mill, an apiary. Although most granaries have now fallen into disuse, a number of them are still functioning as a reserve in case of drought or have been occupied by rural families.

1.4 Religious buildings include the mosques, with their minaret (fig.6) and arcaded prayer rooms, medersas -theological schools- where students will stay for several years and marabouts -tombs of saintly persons- which generally are covered with a dome.

1.5 Externally to the ksar, one may also find some civil -like market places (fig.7)- and military constructions, the latter being simple watch-towers or little forts defending access to the palm-groves and to the irrigation works (fig.8).

2. Characteristics and threats against this architecture

The main features which confer an exceptional value to the Southern kasbas are : their adaptation to the climatic conditions (thanks to the insulating qualities of crude earth, to adequate protective devices against blazing sunlight and sandstorms), the use they make of locally available materials (earth, lime, palm-tree trunks, various kinds of reeds, etc.), the simplicity of the building processes -which nevertheless is based on ancient traditions handed over by generations of "muendiz" or geometers-, and, finally, on an harmony of proportions and volumes which reflects the ability of all buildings to respond to the needs and functions for which they are intended.

In spite of these considerations, a great part of this heritage is in danger of being lost. One often accuses crude earth of being a fragile material. This is not true, as may be amply demonstrated by examples of structures -in Morocco itself the 800 years old walls of Marrakech and Rabat and many a kasba or ksar known from the earliest historians- which have lasted for centuries. The fact is that, as any other building, a kasba will last almost as long as it is properly maintained which, in this case, means kept waterproof by regular coating of the terraces, refecton of the eaves when damaged and proper drainage around the building to avoid hollowing out at the base of the walls.

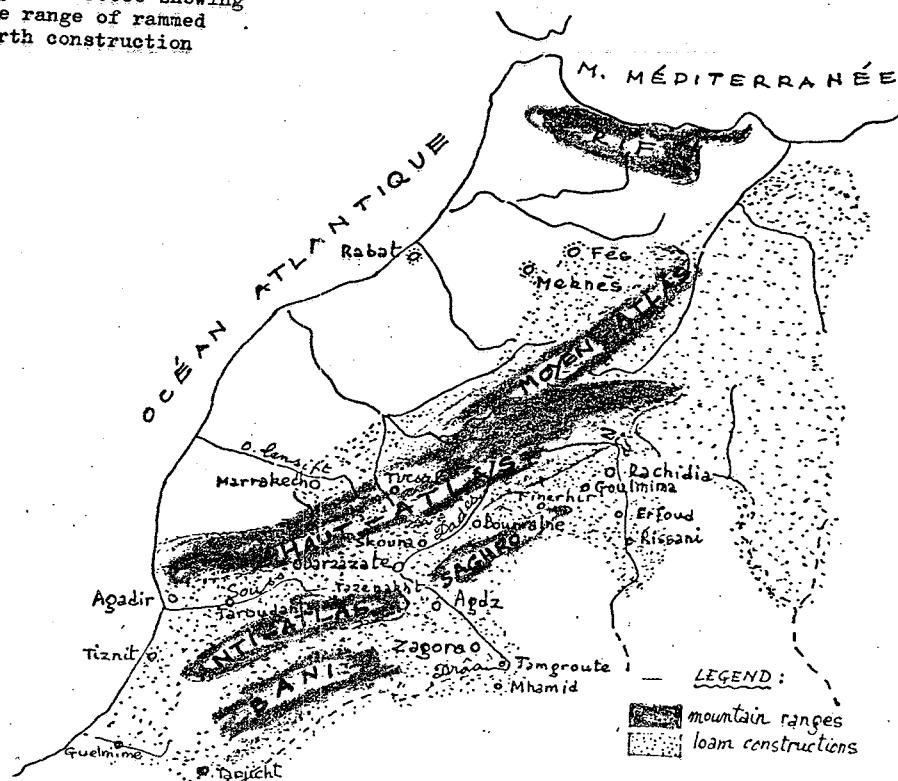
The cause of decay, then, is always a complete or partial abandonment of the building, due itself to human factors. These factors may be linked with historical changes (like the "fall" of the feudal lords), or to economic and social transformations (migration of the rural population to the cities), or to educational and cultural influences (young generations wanting to free themselves from the patriarchal system, adoption of urban-like building patterns). The effect is not long to be felt : a few decades are enough to see beautiful structures melt away (fig.10).

3. A Programme of preservation

In view of the variety of causative factors, a program to safeguard the kasbas had to enlist the cooperation of a number of disciplines and specialists -architects, planners, art historians, anthropologists, ecologists- and ought to be a centrally planned enterprise fully integrated into the strategies for regional and local development. The initiative and lead has been taken by the Moroccan Ministry for Cultural Affairs when, as from 1972, it started putting up a special unit to investigate the present situation of all cultural properties -historical monuments and sites, museum collections, handicrafts and folk arts- and working out protective measures. Since the architectural heritage of the Southern region had up to that time been relatively unrecognized, a special effort was made to make an inventory of the most remarkable buildings and evaluate the needs for protective action. This "presurvey", which included filling up a standard form similar to the one used for the "Survey of European Patrimony" in the early 70ies and taking photographs at least of the exterior façades, bore on about 300 kasbas and ksour in the Province of Ouarzazate. It then became the basis for a program of conservation and rehabilitation which will comprise the following steps : a) creation of a center for the restoration of Southern kasbas located in Ouarzazate; b) urgent measures to help, financially and technically, private owners of kasbas who cannot afford to properly maintain and repair their houses, especially the obsolete defensive elements and the decorative patterns; c) restoration and rehabilitation of the most valuable specimens of traditional architecture, each monument being reused and integrated into the local development context; d) continuation of the surveying works; e) promotion of national and international campaigns of information and study to help arousing interest in these valuable architectural creations. The preparations for the launching of this program are now nearing completion.

Note : For bibliographical references on the subject, please consult my article published in Icomos/Information, dec.1986, pp.13-14.

Map of Morocco showing
the range of rammed
earth construction



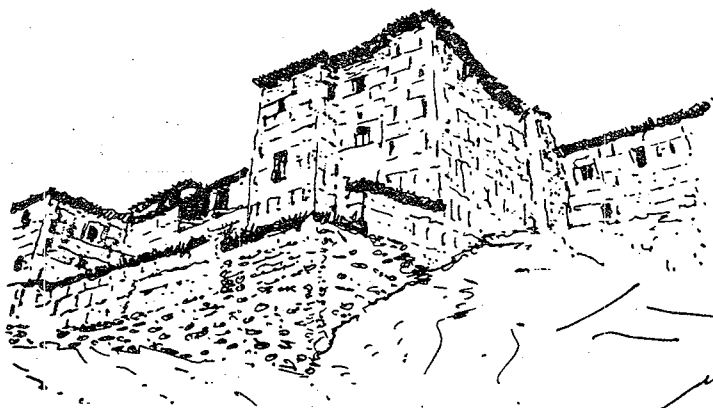


Fig. 1. - Tirsal, a village of the Central High Atlas, shows that rammed earth is used as a building material even at high altitudes (ca 2500m) where rain and snow are abundant.

Fig. 2. A "compact" ksar, where houses are grouped in a defensive manner (Lamettoucht, high valley of the Dades)



Fig. 3. - The kasba Ait Hammou ou Laid, on the bank of the Drâa river, belongs to the network of castles built at the turn of this century by Caïd glawi.

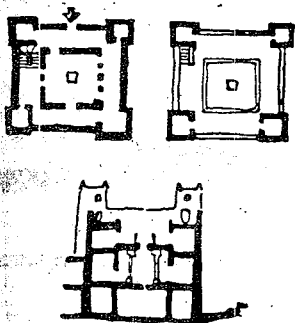


Fig. 4. - The ksar Ait Ben Haddou, near Ouarzazate, comprises several tighremt (see left). On top of the hill, a ruined agadir, collective granary and war refuge.

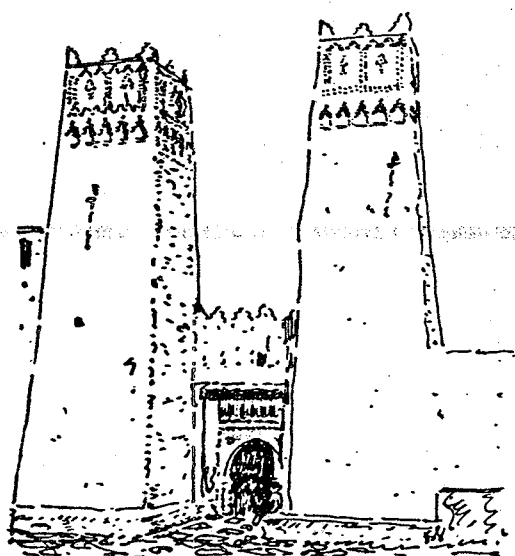


Fig. 5. — The entrance gate to the ksar may reach monumental proportions. (Rissani, Tafilalet)

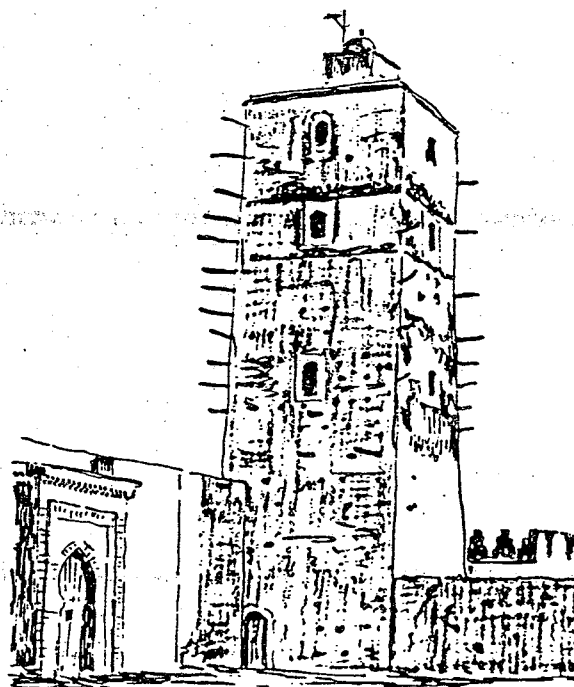


Fig. 6. — The great mosque, Lixmit. (aft. photo. Moir-Baude, in *Le Maroc*, 1957)

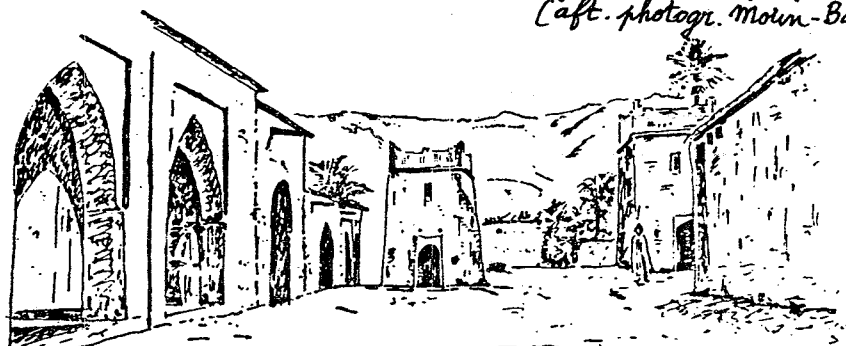


Fig. 7. — The souk of Larjicht, at the foot of Anti-Atlas, is alive only once a week, on Thursdays. Entrance door & arcades sheltering shops.



Fig. 8. — A little fort & watch tower in the Draa valley.

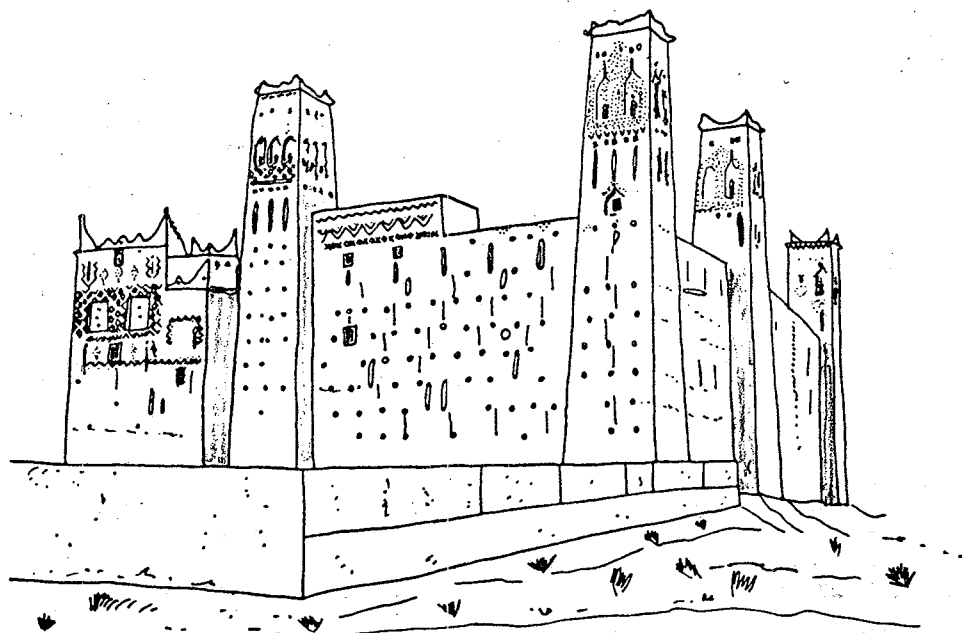


Fig. 9. — Imassin, Tighremt of the Chorfa, as photographed in 1938 by H. Louvassé (*Kasbas berbères de l'Atlas et des Oasis*, p. 96) and described by this author as "one of the most beautiful architectures of the middle-Jades valley".

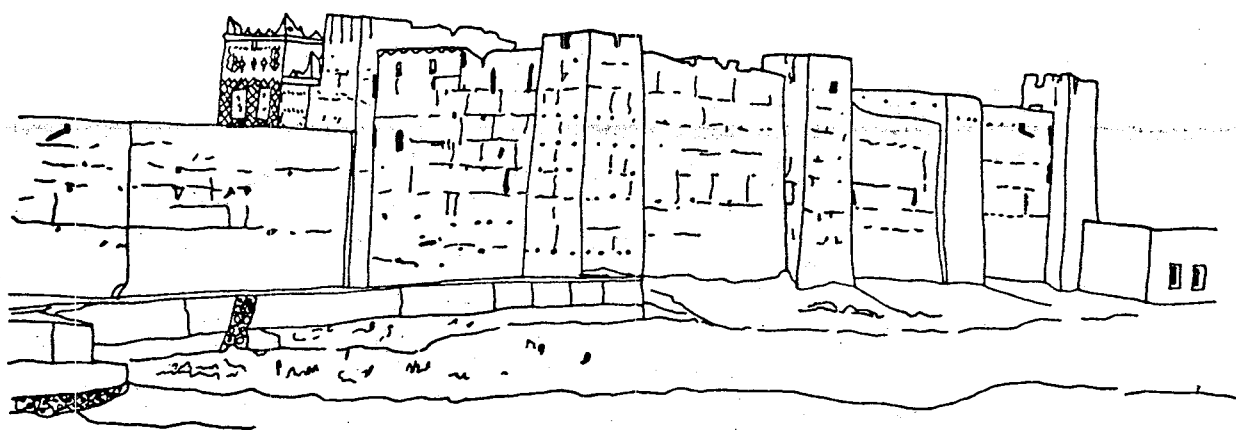


Fig. 10. — the same tighremt, as photographed in 1976. The stately and elegant towers have melted away under the influence of water infiltrating through the unprotected eaves.

SUMMARY

The loam structures of South Morocco present some unique characteristics with regard to the antiquity and simplicity of the building techniques used by the local "masters", their adaptation to the harsh climatic conditions of the Atlas mountains and Presaharian valleys, their blending into the environment, the harmony of their volumes, proportions and decorative elements and the efficiency with which they meet the community and individual needs of the users : defense, grouping by social or ethnic affinity, religious practice, economic functions linked to the oasis way of life.

Often included under the general term of "Southern Kasbas" because of their defensive role and their fortifications, these architectures in fact encompass a wide range of buildings, namely :

- the Kasbas proper, which are castles built by local chieftains in strategic places; the most famous of these belonged to the "Lords of the Atlas" (Glawi, Goundafi) and are now in a state of extreme dilapidation;
- the smaller kasba, known locally as tighremt, is a fortified one-family dwelling built on a square around a courtyard, with several storeys and towers at each corner; many are still inhabited but are in need of repairs and restoration works - especially for the conservation of the fine crude bricks decorations - which the present owners are economically unable or unwilling to undertake;
- the ksar (plur. ksour) is the fortified village, which may be either a grouping of tighremt or, as in the valleys of the Ziz and Drâa, a miniature city, surrounded with walls, planned and organized according to the standard of the classical ordo islamicus, with a strict separation of public and private areas;
- the fortified granaries (agadir, ighrem);
- a variety of religious, civil (like market places) and military structures (watch towers) belonging to the same architectural tradition.

In spite of their "quality of life" and aesthetic value, many of the South kasbas are in danger of falling into ruin, even though they are the main attraction for tourists visiting the "Kasba Road".

The main cause of decay is not -as is too often believed- the fragility of the building material, i.e. earth. In fact, the same material, used by the same craftsmen and masterbuilders employing the same techniques, has served to build the still standing walls and gates of all the imperial cities. When properly maintained, a kasba will last for many centuries. If physical agents, mainly rain water, have succeeded in attacking the loam structures until they collapse, it is because human factors had, prior to this, condemned these buildings to a situation of relative or total neglect. Such factors may stem from historical circumstances, socio-economic changes (rural migration, breaking-up of family ties) and educational and cultural changes leading to the adoption of an urban, Western-type housing model and a move away from the grouped dense forms of housing towards more dispersed and individualistic patterns.

In view of the variety of causes leading to the decay of this valuable heritage, an interdisciplinary approach, with a participation from various departments, is the sine qua non condition for an efficient conservation and rehabilitation program. Such a strategy has been developed in Morocco where the preliminary phase, consisting in a protective survey of around 300 kasbas has already been completed.

Las construcciones de tierra machacada del Sur de Marruecos constituyen un patrimonio arquitectónico de una calidad excepcional por la antigüedad y la sencillez de las técnicas utilizadas por los alarifes locales, por su adaptación a las duras condiciones climáticas de los montes del Atlas y los valles presaharianos, por su integración en el medio ambiente, por la armonía de sus volúmenes y de sus proporciones, por sus elementos decorativos y por su aptitud para satisfacer las necesidades individuales y colectivas de sus moradores. Con frecuencia designada con el término genérico de "Kasbas del Sur" (del árabe kasaba, "fortaleza") por su carácter defensivo, esta arquitectura abarca una amplia serie de edificios, a saber :

- las Kasbas propiamente dichas, que son fuertes contruidos por jefes locales en lugares estratégicos, entre los que destacan los que pertenecieron a los "señores del Atlas" (Glaoui, Gundaifi) y que hoy día están muy deteriorados;
- las kasbas menores, conocidas asimismo con el nombre de tighremt, que son viviendas familiares de planta cuadrada en torno a un patio central, con varios pisos y torres en los cuatro vértices. Aunque siguen habitadas, muchas de estas kasbas merecerían ser restauradas, sobre todo para la salvaguarda de las torres y la decoración de ladrillo crudo cuyo costo rebasa los recursos de los propietarios;
- los ksur (sing. ksar) aldeas fortificadas formadas a veces por un conjunto de tighremt o de casas agrupadas en forma defensiva sobre un acantilado o un picacho. En los valles de oasis (Draa, Dades, Ziz) forman pequeñas ciudades rodeadas de una muralla cuadrangular que reproducen a escala reducida el plano y la organización del espacio de las grandes medinas clásicas;
- los graneros fortificados (ighrem, agadir);
- diversos tipos de edificios religiosos, civiles (plazas de mercado) y militares (atalayas), que pertenecen a la misma tradición arquitectónica.

A pesar de las apreciables ventajas que ofrecen en lo que atañe a la autonomía local, el confort térmico, el aspecto estético, etc. y de su gran atractivo turístico en la "ruta de las kasbas", las construcciones tradicionales de tierra se van abandonando poco a poco y muchas de ellas amenazan ruina. Consciente del valor de este patrimonio, el Gobierno de Marruecos ha emprendido un programa cuya primera fase ha permitido inventariar cerca de 300 edificios de interés manifiesto. En la continuación de este proyecto está prevista la creación de un centro de rehabilitación de las kasbas y de una serie de obras a plazo más o menos largo.

Les constructions en terre battue du Sud Marocain forment un patrimoine architectural d'une qualité exceptionnelle de par l'ancienneté et la simplicité des techniques utilisées par les maîtres d'oeuvre locaux, leur adaptation aux rudes conditions climatiques des montagnes de l'Atlas et des vallées présahariennes, leur intégration à l'environnement, l'harmonie de leurs volumes et de leurs proportions, leurs éléments décoratifs ainsi que leur aptitude à répondre aux besoins individuels et collectifs de leurs utilisateurs. Souvent désignées par le terme générique de "kasbas du Sud" (de l'arabe kasaba, "forteresse") en raison de leur rôle défensif, ces architectures englobent en réalité une large gamme d'édifices, soit :

- les kasbas proprement dites, châteaux forts construits par les chefs locaux à des emplacements stratégiques et dont les plus célèbres ayant appartenu aux "seigneurs de l'Atlas" (Glaoui, Goundaifi) sont actuellement très délabrées;
- les kasbas plus petites, aussi connues sous l'appellation de tighremt, sont des demeures familiales bâties sur plan carré autour d'une cour centrale, comportant plusieurs étages et flanquées de tours aux quatre angles. Bien qu'encore habitées, beaucoup auraient besoin d'être restaurées, notamment pour la sauvegarde des tours et des décors en brique crue que les propriétaires ne sont plus en mesure d'assumer;
- les ksour (sing. ksar) sont des villages fortifiés constitués parfois d'un ensemble de tighremt ou de maisons groupées défensivement sur une falaise ou un piton rocheux. Dans les vallées d'oasis (Draa, Dades, Ziz), ils forment de véritables petites cités entourées d'une muraille quadrangulaire et reproduisant à une échelle réduite le plan et l'organisation spatiale des grandes médinas classiques;
- les greniers fortifiés (ighrem, agadir);
- divers types de bâtiments religieux, civils (places de marché) et militaires (tours de guet) appartenant à la même tradition architecturale.

Malgré leurs avantages notables sur le plan de l'autonomie locale, du confort thermique, de l'aspect esthétique, et bien qu'elles soient le grand attrait touristique de la "route des kasbas", les constructions traditionnelles en terre sont peu à peu délaissées et beaucoup menacent ruine.

Conscient de la valeur de ce patrimoine, le Gouvernement marocain a lancé un programme dont la première étape a permis d'inventorier près de 300 édifices intéressants. La suite du projet prévoit la création d'un centre de réhabilitation des kasbas et une série de travaux à plus ou moins longue échéance.