Abstract—In Algeria, the most impressive and most known prehistoric art is the painted or engraved rock art which is present with abundance in several regions. The existence of rock art in Great Kabylia region has been known for over sixty years.

The main purpose of this research is to show the dangers facing these rock paintings and engravings and what are the arrangements for their protection and recovery.

As every vestige destroyed is a part of the world's memory which disappears, some steps have to be taken in order to protect these historical and archaeological heritages.

Keywords—Kabylia, preservation, rock paintings and engravings, valorization.

I. INTRODUCTION

In Kabylia paintings and engravings are relatively abundant. of the 54 sites discovered, 25 are holders of Libyan inscriptions. Most of these rock paintings and engravings were discovered by MM. Poyto and Musso [1]. The researches were conducted from 1965 to 1967; total of the discovered sites is fifty two. Later, other sites came to be added. The majority of these inscriptions include ornaments painted with red ochre. They are found in caves, on rocks and sandstone blocks from the northern part of Kabylia. It has long attracted tourists from several countries and from all over Algeria to discover this magnificent archaeological piece and satisfy their curiosity. These rock paintings and engravings depict not only human figures but also several animal species that once lived in this region and the various characters used by the ancient Libyan Berbers.

The main reason for choosing Kabylia sites is for their particular interest in more ways than one:
- They are open air museums with exploitable precious heritage legacy for the creation of sustainable cultural and tourism development project.
- They reflect the great skill of the region in the field of rock art.
- They demonstrate a great human movement facing the region for millennia.
- They provide indications as to the changing environment and climate changes during prehistory

II. SITE DECORATION TYPE

From the aesthetic point of view, all appear poor when compared to other regions of Algeria. These discovered decorated sites present a variety of decoration:

- Human Silhouettes,
- Animal Silhouettes,
- Enigmatic Drawings,
- Symbolic Drawings,
- Etchings,
- Libyan Characters.

A. Human Silhouettes
Among the human silhouettes we found normal silhouettes, other ithyphallic, and other stylized.

B. Animal Silhouettes
Some animal silhouettes are difficult to identify. Among them can be distinguished a dog, a bovid and an animal of species of antelope.

C. Enigmatic Drawings
These enigmatic drawings are represented by:
- Dashed,
- Sticks,
- Combs etc...

D. Symbolic Drawings
These symbolic drawings are represented by:
- Hands,
- Arrows,
- Shields.

E. The Engravings
Only four sites are adorned with engravings that represent spirals.

F. The Libyan Characters
Of all the motifs and these rock paintings and engravings, the Libyan characters are the most numerous, indeed, 25 sites are bearing inscriptions among the 54 sites discovered. Most of these inscriptions (Fig.1) are transcribed in writing that we call Western, with signs whose values are not fixed yet. The large majority, 24, is arranged in the vertical direction and only 1 in the horizontal direction.

The site of Ifigha [2], [3] (Fig. 1(a)) is the largest and mainly the richest in inscriptions discovered by S. Boulifa, [4]. This site is recorded under number 848 in the collection of Libyan inscriptions of Chabot [5]. This historical document of exceptional richness includes nearly 550 signs arranged in vertical lines. Other inscriptions represent only three to five characters and other some dozens. These paintings may have been realized to testify:
- Different animals that existed in this region such as antelopes, cattle and dogs.

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- The writing system used by the ancient Berber population of North Africa which was called "Libyan writing" [6]. The prints of this writing often accompany figures of animals, characters and sometimes enigmatic drawings and symbolic drawings.

Theses sites' attendance is very low in Kabylia and concerns only some researchers and students and some tourists, it is mainly due to the eccentric location and difficult access of these sites. On the other side, the integration of this heritage in the daily life of the local population is very poor or inexistent.

The few occasional and isolated interventions that have been developed are the result of local associations. Their actions suffer from lack of resources. Nevertheless, they are responsible for raising awareness, exploration and protection and do their best.

III. DEGRADATION OF ROCK ART HERITAGE IN KABYLIA

Unfortunately, the rock art of Kabylia sites continually undergo a number of forms of degradation of the natural order, as they are located almost exclusively in the open air, their engravings and paintings do not necessarily escape the various impacts of the weather such as snow, rain and changes in temperature and with the man's action who does not hesitate to plunder and destroy them.

To better visualize the different dangers that watch out the cave sites in question, we have chosen some examples that perfectly illustrate this engraving heritage degradation. These are the sites from: Ifigha, Tarihant, Tifra and Yakouren [5] …

A. The Cause of Site Destruction

The destructive action (Fig. 2) of river erosion and thermal variations generate cracks and fissures within the rock, eventually, rock representations of the features, when they are traversed by its cracks, are doomed to disappear under the effect of the dismantling of superficial film of the surface of the rock. Rainwater also washes out those rock paintings.
Vandalism of some visitors (Fig. 3) who write and draw on the paintings and engravings (there are initials and dates, years were listed).

Illegal researchers do not hesitate, in some cases, to make casts on engraved rocks, using unauthorized chemicals for such operations. The rock surfaces are quickly affected and begin to crumble and decompose.

Some people used the rocks from the site after breaking them to pieces for their house construction purpose. The nonexistence of keepers, facilitates the degradation and destruction of these sites. Thus, sites that have stood for thousands of years to the vagaries of nature can disappear in less than a decade.

The caves misused by shepherds as shelter which may cause their deteriorations. (Fig. 5)

IV. THE SAFEGUARDING OF ROCK ART SITES

The measures that must be taken to ensure this protection:

1- The application of the law on measures against the destructors of these sites.

2- Installing a local study center which should provide different functions, it must:
   - Identify all the engravings and cave paintings,
   - Study them,
   - Preserve them,
   - Expose them to the public,
   - Exploit the documents collected both for research purposes and for direction of education at the local level.

3- Cleaning methods of engravings and paintings designed to remove all graffiti.

4- The establishment of means of communication and liaison with the various sites and monitoring and control stations.

5- Put fences around the sites (Fig. 6) with a sign displaying all necessary information about the site.

6- Awareness of the inhabitants of the region to the great importance of their heritage and the denunciation of any practice aimed at the destruction of these rock art sites.

7- The integration of these sites into tourism projects that will help develops the region culturally, economically and socially.
Archaeological sites are a gold mine for local development if, however, a genuine awareness is displayed by local managers of public affairs. Also, a comprehensive strategy for backup and enhancement must be implemented immediately.

It is important to reinforce the fact that rock art is not casual decoration; it is part of the archaeological record and it has the potential to illuminate many parts of a culture. It can tell us about belief and ideology, myth and cosmography.

If adequate funds were available, a greater effort could be made to conserve, preserve, or to move sites to safer locations. The Archaeological Conservancy in Algeria often acquires sites which are endangered in order to protect them. Once acquired, however, problems such as vandalism will continue unless an on-site curator is present to prevent it.

A precious treasure which needs to be protected is everybody's responsibility.

A. Steps for the Future

Despite all the good work, huge losses to our rock art heritage are foreseeable. As a consequence, we must apply our efforts in two directions: first, to better protect the art and eliminate or at least significantly diminish the impact of natural and human destructions; and second, to safeguard knowledge of the art in case the worst should come to pass.

Education and knowledge are essential, including relentless educational efforts directed at the general public, along with pressure on governments and decision makers to provide and above all enforce legislation for the protection of the art.

Fig. 6 Safeguarding of rock art site

Fig. 7 Map of Kabylia region

REFERENCES