

Khattara and Organization of Water Users

Summary Report

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In arid and semi-arid regions which located at southern and eastern skirts of the Atlas mountain range in Morocco, people live with oases relying upon traditional water system called Khattaras. Khattara is a traditional water taking tunnel system leading underground water to surface by gravity. Especially in Tafilalet region that extends in the southeastern part of Morocco, Khattara has been the most common form of underground water exploitation system since its construction in several hundred years ago.

Khattara is a very flexible and harmonized system not only from the point of natural conditions but also social conditions. There are about 570 Khattaras in this region. However, it is said that only around 250 Khattaras are currently operational. This shrinkage is caused by various reasons such as change in the socio-economic situation and widespread use of motor pumps for exploiting underground water. Although Khattara system nowadays faces various problems, it has been being operated for several hundred years since its introduction. This fact testifies the sustainability of this system.

To make the causes of problems clear, it is needed to fully understand the social and human aspects of the Khattara management system from sociological viewpoints.

The objective of this research is to highlight the importance of Khattara system from the point of social aspects. This research project focuses on the relationship between traditional Khattara organizations and newly formulated Khattara management organizations called "*Association*". *Associations* have been actively formulated in the region with the aim of assisting maintenance and rehabilitation works undertaken by traditional Khattara organizations.

Association is a non-governmental organization. It is established by inhabitants in accordance with Association Law. Its aims and activities vary: such as sports, cultural exchange, rural development and so on.

Moroccan government advocates the importance of participation of inhabitants in developing their agriculture and rural development policy. In this policy, importance

of the existence of NGOs and local organizations is highlighted. It also refers to necessity of reinforcing capability of these organizations to cooperate with other organizations including administrative organs [Ministry of Agriculture 1999].

The Regional Authority for Agricultural Development in Tafilalet (hereinafter referred to as “ORMVA/TF”) has been promoting establishment of *Associations* for the Khattara management since 2000 in cope with high demand on financial assistance for Khattara rehabilitation in the region.

Those *Associations* are receiving financial and technical assistance from external organizations (such as governmental agencies, NGOs, etc.), exchanging information, and carrying out collaboration works among them.

This report focuses on the role of *Associations* for Khattara management. Therefore, I will use the term “*Association*”, as shown above, to refer to the NGOs whose special aim is to assist Khattara’s maintenance and rehabilitation works.

Key Conclusions

The results elaborated in the report led to the following conclusions.

Factors That Determine the Activeness of Association

Factors that determine the activeness of *Association* can be summarized into four major points.

- 1) Sufficient water volume in Khattaras
- 2) Being established by the will of inhabitants
- 3) Activity area within one village
- 4) Existence of strong leadership

Existence of water flow in Khattaras is the most important factor that determines the activeness of *Association* in terms of the features of the economic assistance for Khattara rehabilitation. Since Khattaras without water cannot become favorite choice for aid programs, it is quite normal that such *Associations* have no motivation for being active.

Rural Development Associations tend to be more active than *Khattara Associations*, thanks to the characteristics of its type of the conformity between activity area of *Association* and living area of inhabitants. The activity area of this type of *Association* is always limited within one village where inhabitants therein can easily

share the sense of “We” among them. Therefore, it is much easier than *Khattara Associations* to be active.

And also existence of leadership is an important factor for activating *Associations*. We can find a bad example of *Association* that has not been active since its establishment. However, it is envisaged that once all office members of *Association* are replaced, it would dramatically turn out to be so active.

Problems

In many cases, activities of the *Associations* are limited to seek for economic assistance from external organizations even though it holds other objectives in the statement of establishment declaration. It is also evident from the opinions of *Association* members that witnessing economic aid from external organizations to other *Associations* in the same region certainly motivated them to establish their own *Associations*.

Because there are very few projects for Khattara rehabilitation, there are strong competitions among *Associations* to get aids, and each one of inhabitants urges that their Khattara or Khattaras are badly in need of help.

This competition became more intense after some *Associations* successfully received economic assistance on their activity. This is the main reason of the individualism that spreads among *Associations*, even among Khattaras in one *Association*.

Individualism is the most dangerous factor for sustainable development of Khattaras as well as the regions. This is the most dangerous thing that plagues Khattaras.

There are also complains from *Associations*. When an economic assistance is granted by an external organization to a certain Khattara of *Association* such an organization usually makes a direct contact to the traditional Khattara organization without giving a second thought to the *Association*. Therefore, it is quite natural that *Associations* assert that they should be consulted before selecting a Khattara for an assistance because *Associations* may have their own priority or preferred order for rehabilitation of their Khattaras.

Associations are constantly suffering from financial problems and lack of information to request economic assistance at right occasions. These two are the common problems for all *Associations*. Some *Association* even does not know either how to introduce their current situation or how to request an economic assistance to external organizations.

Lately, Khattaras face so many problems which can be classified in two categories: the first is caused by natural factors, and the second is caused by social factors.

There are many problems that are caused by social factors like pollution to irrigated lands by utilization of detergents for washing, shortage of hands for maintenance because of rural exodus. These problems are also very serious compared with the problems that have been caused by natural factors. In the center of these problems, there is a change of the lifestyle and way of thinking.

Problems of khattaras are complicated by many factors. Therefore it is necessary to take comprehensive measures to solve the problem.

Upon solving such problems, it is needless to say that assisting technical matters are important for Khattara rehabilitation, but considering the reinforcement of organization of water users at the same time is also very important for sustainable development of Khattaras and regions. This reinforcement can be possibly be achieved by the efforts of *Associations* but also external organizations.