

## **Innovative answers to the erosive crisis in drylands**

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Desertification essentially spoils the dry ecosystems. 38% of world's land surface is classified as semi-arid and sub-humid and another 7% of arid land is used for grazing animals.

As field geographers, we are surprised to notice:

- the gap between the natural potential of drylands and their poor valorisation;
- and, at the same time, the poor effectiveness of the projects;
- a third issue relates to the gap between the specific peasant's knowledge, the practitioner's one and the scientific one.

We shall try to explain our point of view about the genesis of the present day situation of the dry ecosystems. In order to reduce these gaps, we suggest that the treatment of the intermediation crisis observed at different levels could be a relevant part of the solution.

As a result of the so-called current acceleration of time, the interrelations between peasant's knowledge with that of the practitioners and of the scientists are becoming increasingly difficult.

In other words, so as to respond to challenges related to such crisis, we explore different ways to be more efficient in the fight against desertification, mainly through an improvement of the linkages between the knowledge of scientists and that of practitioners. Translators and intermediate objects (such as remote sensing and terrestrial photographs, air photographs, satellite imagery) are needed

The perception of the genesis of the erosive crisis requires a better knowledge of vulnerable lands and of the dry ecosystems. Such areas have unique mineral forms and an outstanding biodiversity, their landscapes and natural features are parts of a rich but vulnerable patrimony.

Drastic living conditions have fostered the creation of ingenious and resilient agro-systems. A high level of mobility enables adaptation to drought: nomadic or semi-nomadic cattle rearing are specificities of pastoral societies.

The adoption of the western model of development, based on high levels of inputs and on mechanisation, has boosted marginalisation of both drylands and their societies. The disturbances induced in this way overcome the regulating capacity of local societies in these drylands.

**Let us now describe the poor efficiency (effectiveness) of exogenous answers brought to the erosive crisis:**

- **The first generation of exogenous erosion-control projects** relies on the experience gained by industrialised countries in this field. But the validity of such a transposition of the western models to the developing countries has not been called into question. According to the “bureaucratic approach” as defined by sociology, the success of the projects was very seriously considered as resulting from applying the right methodology; the standardised production line producing projects were similar to these producing cars.

- **The second generation of exogenous projects** refers to the principles of sustainable development. It challenges the modernist ideology and the illusions of technicians giving too much importance to the technical aspects: from now on, the peasant will be at the heart of the project ... The idealized peasant is put on a pedestal, but the real farmer is ignored.

For most actors involved, getting access to financial resources became the main concern, leading to short-termed thinking, generalisation of stress and to a permissive professional deontology.

Simultaneously, gaining visible and fast results becomes an obsession for the projects, it comes into contradiction with the lengthy time necessary for field

training and also the development of knowledge based on experience. In short, time lacks to implement sustainable answers to the crisis.

Finally, the results of the second generation projects are not different from the first ones. In short, with the second generation of projects, principles have been changed, but unhappily, the success of a project is not in relation with the principles referred to.

### **The endogenous responses of the local society**

The relative weakness of the local institutions conflicts with the research of innovative solutions bringing answers to the agricultural production crisis which implies the erosive crisis. Neither the traditional institutions, nor the modern ones, have the capacity to play the role of translators, go-between or middlemen.

The accelerating natural and societal changes and the vacancy of local institutions combine their negative impacts. At the level of local societies, the tyranny of short term increases and pushes the poor to adopt short-termed survival strategies. These societies, in spite of their capacity of resiliency, are unable to solve the crisis.

Where the prerogatives of decision-making in range management slides from traditional institutions to administrations, a breakdown in the transmission of experience and knowledge occurs.

*Finally, let us develop some proposals and suggestions.*

Given the situation observed, defining a catalogue of principles is not a priority; anyway, the likelihood is low of having such a catalogue taken into account by decision-makers. We are rather suggesting a persevering effort to strengthen links, to bridge disconnections and to dismantle barriers, thus allowing projects to better take roots in reality.

Instead of a catalogue of principles and methodologies, we suggest the practitioners to analyze the components of landscapes as a result of natural and human dynamics, so as to explore different evolutions and changes he could induce. They will then be able to negotiate with the peasants and the scientists the feasibility of their proposals. The solution lies neither in a careful application of a given methodology nor in a blind confidence in the ability of the peasants to define the right answer.

Thus, we consider the landscape of a project as the result of the combination of ongoing and past processes which have shaped it. The priority for an experimented practitioner is to read this landscape; in other words, to conduct an investigation allowing him to understand the natural and human stories which have created it. For the purpose of such an inquiry, he takes into account the knowledge of peasants being the living memory of past events. In this way, the practitioner is getting familiar with the landscapes modified by the local

societies; this enables him to establish effective partnerships with the peasants, the cattle breeders and the scientists.

If we want to improve the valorisation by the practitioner of scientific knowledge, intermediation becomes necessary. It is quite different from popularization of knowledge for a broad public or from documentation. Considering a given practice, we have to discover deposits of knowledge which are relevant and then let translators or facilitators do their work. The task of intermediation can be achieved either by scientists having some interest in the valorisation of knowledge or by practitioners paying attention to scientific knowledge. The implementation of networks and of documentation centres creates serene working conditions, protected against stress and the feeling of permanent urgency which are not consistent with intermediation.

Decision-makers do no more find the time for reading? We need cleverness if we want to catch the attention of stressed politicians or of practitioners who never learned to read a landscape and to create personal interpretations.

In conclusion, stressing the opposition between the different kinds of knowledge is useless; the revitalisation of both the traditional peasant's knowledge and the practitioner's experience-based one is a condition for the production and dissemination of innovative responses to the crisis. Off course, if we consider fundamental research, this problem of valorisation is not relevant; the resulting

knowledge is evaluated by the pairs. But the scientist who wants the decision-makers to take into account the results of his research has to dedicate time to tackle the problems related with the dissemination and the valorisation of scientific knowledge in to-days conditions.