



ILEIA



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Dry land management

take a fresh look at local traditions

There are traditional techniques and traditional forms of social organization which have kept their value and proven their use in sustaining the livelihood of farmers and nomads in dry areas.

Local populations have lived for many generations in these dry areas and have thereby accumulated a deep knowledge of local resources and how they can be used for survival. However, this knowledge, which is often reflected in the culture of local tribes, threatens to become lost.

In this issue of the ILEIA newsletter we want to stress the importance of indigenous knowledge. In close collaboration with the local population, projects should use this knowledge as the base for new concepts of sustainable development.

As we promised in the last two newsletters, the fifth newsletter is especially written for semi-arid regions. However, we hope that people from more humid regions will also find this issue interesting. The place of action is not theirs, but the message: "take a fresh look at local traditions" certainly can be translated to their situation also.

Another reason that we want to write about the semi-arid zone is our deep concern about its ecological and social-economical situation which is becoming more and more serious.



A growing population is intensifying the use of natural resources in such a way that ecological degradation of entire rural areas is increasing and the productivity of the land is declining. Perennial grasses, shrubs and trees are becoming relatively scarce, soil erosion is general, and soil fertility is decreasing.

"There are no signs that desertification of semi-arid zones will come to a halt in the near future" (1).

"Most anti-desertification projects neither succeed in controlling erosion nor in improving agricultural productivity" (2).

► In addition, continuing external aid can lead to situations where local forms of social organization and traditional knowledge and experiences are being lost, inducing disorientation and dependence.

Strategies to sustain livelihood

Before the colonial time, the inhabitants of semi-arid zones, farmers and nomads, had effective strategies to sustain their livelihood without deteriorating their environment too seriously. It is obvious that much has changed, which is making these strategies inadequate. Not only is population density much higher, but the socio-economic and political situation has changed as well (markets, transport, cash crops, international trade, terms of trade between farmers and nomads, political influences, etc.). Still, there are traditional techniques and traditional forms of organization which have kept their value and proven their use in sustaining the livelihood of farmers and nomads (not that it will be possible to go back to earlier times). But a process of reflection on the use of traditional techniques and forms of organization by local communities themselves can be a way to find basic elements in creating new local strategies to sustain livelihood.

To some extent, insights and innovations from outside can be useful. However, the main focus of development has to be indigenous, adapting itself to the local situation and culture and being as much as possible independent from external aid or domination.

To illustrate this argument, we have included three articles about development projects which build on local traditional experiences:

- "Water and soil conservation by farmers"; in this article three different types of erosion control projects in Burkina Faso are discussed. The OXFAM project in Yatenga, which is based on local water harvesting techniques, proved the most successful.

- "Taking indigenous knowledge seriously" gives us insight into the traditional strategies for survival of Turkana nomads from northwestern Kenya. It is also made clear why these strategies were so important for the Loyapat Integrated Rural Development Project.

- "Herders association, a cooperative development experiment among nomadic herders in Niger". In this article different recommendations are described, based on traditional nomadic strategies of livestock production.

Picture 2: Mulching in Khongoussi area, Burkina Faso.

Waterharvesting

In semi-arid and arid regions water shortage and lack of soil fertility are the most important constraints for crop production (3).

Better management of water availability and soil fertility can improve yields considerably in many ways. Especially techniques of water and soil conservation are important. One of these techniques is called "water harvesting".

Water harvesting aims at increasing water availability for the crop by guiding the rainwater runoff of from a catchment zone into the planting zone (thus also harvesting nutrients) which improves soil fertility and the water holding capacity of the soil.

In this newsletter a series of articles deal with water harvesting. First a review of different techniques is given, followed by a case study from Tunisia in which the traditional water harvesting techniques (runoff farming) and their importance are described.

"Water harvesting in Baringo" describes the use of old and new water harvesting techniques by the BPSAAP-project in Baringo, Kenya.

In the article "Traditional techniques for new concepts", experiences with and research on water harvesting in India are described, and the constraints and possibilities of water harvesting in general are discussed.

Trees and shrubs

Another method to improve water availability and soil fertility is the planting of trees and shrubs.

They not only improve the microclimate, but also positively influence soil fertility.

This subject is not dealt with in this newsletter; however, we think it necessary to mention because of its great importance not only for crop,

fodder and fuel production, but also for the local ecosystem in general. Traditionally, forestry took part in the agricultural production system.

The leguminous tree *Acacia albida*, which improves crop production considerably is a well known example. (5)

Generally speaking, trees are nowadays disappearing, particularly those on agricultural fields. This contributes to desertification and declining soil productivity.

A successful example in which trees and shrubs are interlinked with agricultural production is the Care-project in the Majjia Valley of the Bonza District of Niger. In this project shelterbelts of neem trees (*Azadirachta indica*) and lately also *Acacia nilotica*, *A. senegal* and *A. tortilis* have been planted.

These shelterbelts increased the crop production of the area by about 25 - 30 %, which evoked enough incentives among local farmers to continue planting shelterbelts. This success was made possible by effective control of access of animals to the fields. (4)

If there would be one reason why farmers are nowadays not happy with trees on their fields, it could be mechanization; still, the positive effects of trees are surely not yet forgotten by them.

Trees, shrubs or perennial grasses on the borders of the farmers' fields, on contour lines or in combination with water harvesting systems may be good alternatives to the traditional system of trees randomly scattered on fields.

Whether these alternatives are adaptable to your situation can only be learned from the farmers themselves !

The editors.

Literature and addresses see page 20

Photo: Chris Reij

