

B I O D I V E R S I T Y

D E S E R T I F I C A T I O N

# Range-land Rehabilitation and Establishment of a Wildlife Reserve in the Syrian Steppe

- › ECO-LABELLING
- › ECONOMIC DEVELOPMENT
- › ENVIRONMENTAL SUSTAINABILITY
- › GENDER ISSUES
- › NOMADIC PASTORALISM



Ministero degli Affari Esteri



Camels are well adapted to the badia conditions

## Background and rationale

North-western Syria is predominantly occupied by the steppe, in Arabic *badia*, a word which also conveys the meaning of wilderness as opposed to *ma'amura*, the cultivated area where villagers and sedentary people live. Rainfall registers less than 200 mm per year, which makes it a dry to very dry zone where only low shrubs and grass develop. In this part of the wider *badia* (from the middle of the Arabian Peninsula to the North of the Syrian Arab Republic and Iraq) the dominant plant alliance is the *Artemisian herba-albae deserti-syriaci*. Indeed, it is a natural pastureland, heavily over-exploited by intense grazing, as it supports most of the Syrian population of sheep, goats and camels. It provides now 20-40% of sheep feed requirements, but these estimates reflect a sharp decline in contribution when compared to earlier figures (60-70% in 1993).

Main causes for deterioration are:

- destruction of natural range-land vegetation cover through rain-fed agriculture, particularly in depressions which are considered the main area of growth for fodder shrubs and perennial plants, which form a source of seeds for forage species;
- early grazing and overgrazing by a growing sheep population;
- fuel collection through cutting and uprooting of fodder shrubs as source of firewood;
- off-road driving of vehicles;
- increased stocking around bore-holes and other sources of water.

Since the early 1990s, the Syrian Government has encouraged the conservation and rehabilitation of forest resources, of the steppe and of other natural resources, through policies aimed both at increasing production and economic development and at safeguarding the environment.

Al-Talila Wildlife Reserve was established by the Government in 1991 to rehabilitate habitats, protect wildlife and generate additional income to local communities through tourism. The historical city of Palmyra, an important commercial and political centre since the first century B.C., is the capital city of the area and is a tourism centre of attraction because of its rich historical and archaeological features. In 1992, the Government expressed the wish to define a comprehensive long-term strategy for sustainable range-land development. The Italian Government agreed to fund a preparatory study through FAO, with the objective of formulating a project for the rehabilitation of the Palmyra range-land and the improvement of the contiguous Al-Talila Protected Area. Since 1994, three subsequent phases of the Project have been funded by Italy and executed and implemented by FAO, for the total amount of almost 5 million euros. The currently operational third phase will last until the end of 2002.

## Goal, objectives and expected outputs

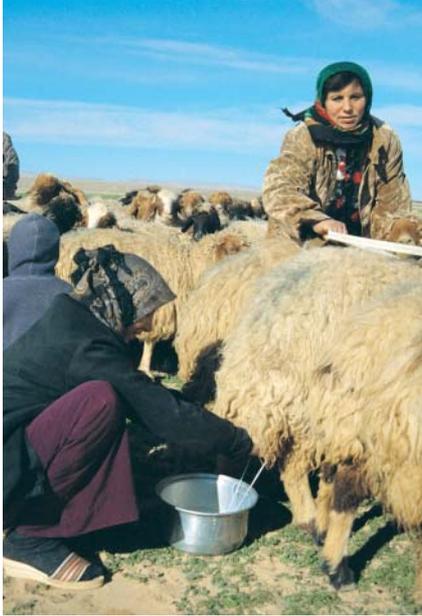
The overall development goal of the Project is to support the Syrian Government and local communities in ensuring the sustainability of range rehabilitation techniques, and to implement the conservation management plan of the Al-Talila Wildlife Reserve. This is to be achieved through the adoption of participatory approaches in planning and implementation.

The specific objectives of the Project are as follows.

- Develop field-tested techniques for rehabilitation of range-lands under dry *badia* conditions, in order to apply them also in other areas of the Syrian steppe.
- Prepare national counterpart institutions, including local community institutions, national Project staff and target groups, to take over full responsibility for the Project follow-up after the third phase is completed.

*The archaeological ruins of ancient Palmyra: the Project is a link in the delicate balance between past and future, between conservation and development*





*Bedouin women have an important role in food production*

Activities relevant to the first objective included re-seeding an area of 1,200 ha, which resulted in 7,400 ha of improved range-land; setting up an environmental monitoring system and preparing a grazing management plan for all cooperatives.

In relation to the second objective, foreseen activities were: advanced training for Project and counterpart staff on integrated range ecosystem management; definition of an approach and programme for training nomadic and semi-nomadic herders in sustainable range management and wildlife conservation; definition of a framework for cooperation and trust in Project activities through improved information flow; identification and start-up of small income-generating activities for women.



*In the degraded grazeland, machinery introduced by the Project for direct sowing improves rain water infiltration in the soil*

## Implementation and results

The preparatory phase of the Project took place in 1994-1995. Main activities included the assessment of local conditions and the formulation of a medium-term strategy to increase sustainable range-land productivity and development, and to establish a wildlife reserve.

The main phase was implemented from 1995 to 1999: it established guidelines to protect the severely degraded ecosystem of the Palmyra steppe, implementing findings and suggestions developed during the previous preparatory phase.

It focused on preserving wildlife and increasing range and livestock production, while at the same time strengthening people's awareness about environmental degradation. It also elicited the participation of local communities in Project activities. Important and widely acknowledged results were achieved.

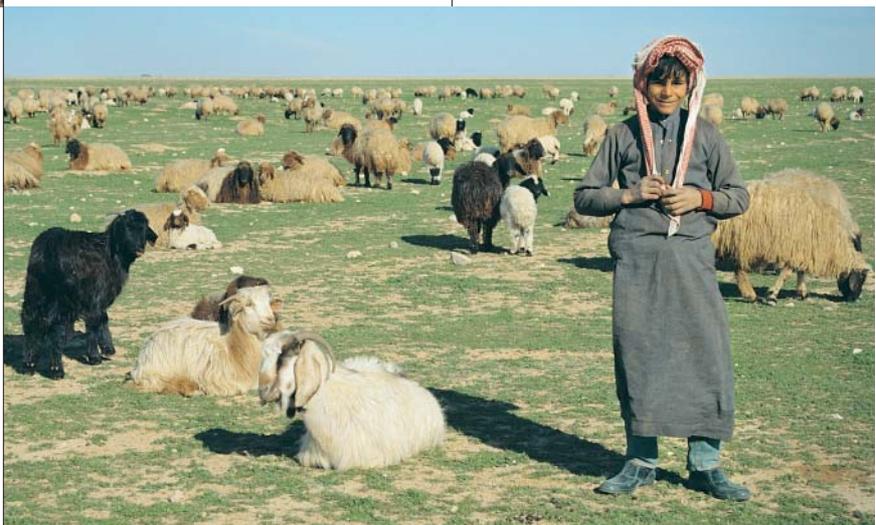
In order to ensure the sustainability of the intervention and to consolidate the Project's achievements, the present phase was formulated, and funded for a three-year span.

The Project became operational in March 2000. During the first year, the Project, among other activities, supported the organisation of a

workshop on Participatory Land Resource Management, held in Damascus in November 2000.

**In particular, the following activities are being accomplished.**

- An environmental monitoring system is being established and field tested, as a tool for range-land management planning; vegetation measurements have been conducted and herbarium specimens collected; socio-economic monitoring data has been gathered.
- Grazing management plans based upon the already successfully tested exclusion technique have been developed for all cooperatives in the Project area, including the mapping of customary systems.
- An area of 1200 ha has been re-seeded with native plants, resulting in 7400 ha of improved range-land.
- Project staff and members of counterpart institutions have received advanced training on integrated range ecosystem management.
- The final extension programme for nomadic and semi-nomadic herders has been elaborated and field-tested, aiming at sustainable range management and wildlife conservation.
- Small income-generating activities have been initiated, such as dress-making and the commercialisation of medicinal plants, specifically addressing young Bedouin women and poor Bedouin households.



*Traditionally animals are cared for while pastureland is exploited beyond its capacity: the Project aims at improving the relationship between Man and the Environment*



*The Project has introduced a herd of oryx from Saudi Arabia into the Al-Talila Wildlife Reserve, and has provided Syrian staff with veterinary training*



*Thanks to the care of staff and good feeding, more than half of the gazelle population has reproduced*

- The management plan of the Wildlife Reserve has been implemented, and the development of the information centre (eco-museum) for conservation education started. Through the 12-month survey of Palmyra's ecosystem, a considerable amount of data has been collected and stored and the national staff is taking over the monitoring of gazelle and oryx populations.
- An environmental education kit has been produced for school children and teachers, in Arabic, with particular emphasis on local biological diversity.

The Project is very successful in several aspects.

First of all, in the Palmyra Protected Area there has been a tremendous increase in wildlife population and in biodiversity. There is evidence that at least 42 species of birds and large-sized mammals have already disappeared from the Syrian *badia*. However and most noticeably, seven Bald Ibis (*Geronticus eremita*) individuals were found during Spring 2002 in the Palmyrean desert, nesting on the rocky outcrops.

This bird, venerated in the past all over Western Asia, is an important ecological indicator of range-land productivity and unpolluted

environment. It had disappeared from Turkey in the 1950s, most probably destroyed by DDT spraying against malaria, and from the Syrian *badia* about twenty years ago because of low productivity due to overgrazing. The Wildlife Team of the Project will publish in the near future on this important ecological event.

Secondly, the Project is playing the role of catalyst for other donors: funds are being provided by other institutions for initiatives in the field of traditional medicine (Government of the Netherlands and FAO Regular Programme), promotion of income-generating activities for women (Arab Development Bank), development of links with other Protected Areas.

In particular, in July 2002, a group of twelve from the Palmyra Wildlife Reserve staff was invited by the Italian *Parco del Cilento* and *Parco di Calabria* to trade experiences, in view of developing a "twinning" agreement among the three.

Lastly, the Project is taking action to certify Palmyra range-land as a zone of "natural production", in view of possibly marketing its animal products with eco-labels in the future.

*The Project follows a participatory approach in identifying and solving problems, which proves successful also with women*

