

Carbon sequestration in desertified rangelands of *Hossein-abad*, Iran: a participatory approach

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Keywords: carbon sequestration, Iran, rangelands

Introduction The Hossein-abad (H.A) area is located in Southern Khorasan Province of Iran and covers some 148,000 ha.. This is one of the poorest regions in the country and has a large area of degraded rangelands. Following a request from local people and in line with national and global goals, a carbon sequestration initiative has been funded by I.R.Iran and GEF(Global Environmental Facility) from April 2003. The objective is to promote and model carbon sequestration through developing range species in cooperation with local people and using a participatory approach. The immediate target beneficiaries are the people living in the project area and communities living in the watershed basin.

Approach The project addresses three areas: capacity building, social communication and carbon sequestration.

Capacity building While the main development objective is to sequester carbon through the rehabilitation of desertified areas, the project will involve capacity building for communities who will carry out the activities to sequester carbon. The project will empower communities, especially the poor and other marginalised groups in H.A. and within the larger sub-watershed to manage their own resources, as well as to have the capacity and therefore, the confidence to influence policies and to access support from outside. Following the results of questionnaires, capacity building workshops have been held and local people have been completely familiarised with the project. An inception team composed of local men and women have been trained and become knowledgeable and skilled in related subjects including the aim of project.

Social communication Social communication is a necessary ingredient for the successful launching and replication of the project and will receive considerable attention.

Carbon sequestration Carbon sequestration through rehabilitation of the area will involve the planting and reseeding of at least 9,000 ha of degraded land with various woody and non-woody species, with the woody component providing about 80% of the cover. The proposed species are mainly indigenous, have been verified by the local population. They include *Haloxylon persicum*, *H. aphyllum*, *Atriplex canescens*, *A. leucoclada*, *Calligonum spp.*, *Zygophyllum spp.*, *Amygdalus spp.* (Almond), *Berberis spp.*, and wild pistachio. These are going to be planted by the local population in designated areas based on the results of comprehensive study . According to the results of the baseline studies results and experiences of local people, the selection of appropriate species will be based on climatic and topographic conditions.

Conclusions Although the project is still at an early stage, it has demonstrated that desertified lands can be cost-effectively reclaimed by and for the benefit of the local people and that there is significant potential to sequester carbon in plants and soil in these areas for overall global benefit. To the present the most quantifiable improvements in livelihoods resulting from the project are (a) most of the local communities have been trained in various aspects of livelihood support activities and (b) according to the baseline studies, about 10% improvement in the Human Development Index (HDI) and in overall productivity and income generating activities of the H.A area have been achieved

The lessons drawn here from true collaborative rehabilitation and management of natural resources could be applied in similar places in other countries with similar topography.