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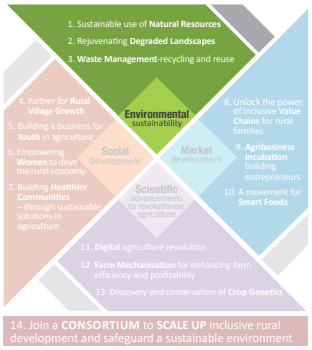
REJUVENATING DEGRADED LANDSCAPES

Revived land

New agricultural livelihoods

Rural communities pulled out of poverty



Why is land rejuvenation important?

- Globally, 2 billion ha of land are degraded annually and as a result 6 million ha area goes out of cultivation each year
- In India, 69% of the total land area (228 million ha) is degraded.
- 6 billion tons of top soil is lost annually along with valuable plant nutrients.
- Common Property Resources (CPRs) are degraded and not able to support landless families in India.
- Increased frequency of high intensity rains, extended dry spells and lack of green cover will cause more land degradation.
- Urgent need to break unholy alliance between land degradation, food insecurity and poverty by rejuvenating degraded lands

Degraded common land at Gokulpura village.

What is achieved so far?

- ICRISAT and our partners have developed science-led farmer participatory watershed management models for controlling land degradation and improving rural livelihoods.
- Rehabilitation of degraded lands using soil, water conservation measures and biofuel plantations (*Jatropha* and *Pongamia*) on common lands
- Mechanization for carbon sequestration and sale of verifiable carbon units piloted
- Through rehabilitation of uplands, runoff reduced by 30% and soil erosion by 50%; increased groundwater availability and enhanced base flow without affecting water resources in downstream areas.
- Generation of employment for women self-help groups (SHGs)
- Rehabilitated biodiversity of flora and fauna and enhanced awareness among the villagers for conservation of biodiversity.

The impact pathway - How it can be implemented extensively

- Implement holistic and integrated management to regenerate eroded and degraded lands
- Initiate rainwater conservation along with innovative rehabilitation practices to increase productivity, profitability and to conserve natural resources
- Improve grazing practices, institutions and rehabilitate mining sites
- Develop a well-defined integrated land use policy and ensure its implementation

Nursery raising and Pongamia oil use for electricity.

1 Rejuvenating degraded common property and conservation of biodiversity, Gokulpura, Bundi, Rajasthan

Challenges

The only source of open grazing, the 95 ha common grazing land at Gokulpura-Goverdhanpura watershed was degraded and unable to supply good quality of fodder to support increasing population of livestock. The fodder and grasses grown were neither palatable nor sufficient for the cattle.

Solutions

The project initially recognized these problems and got involved with the community to find appropriate solutions. The stakeholder community consisting of grazers and farmers through the Panchayat resolved to erect a stone wall around the 45 ha grazing land and did not allow any cattle to graze that particular fenced area. Thus the area was physically and socially fenced and villagers contributed their labor in the development activities.

Impacts

There was perceptible improvement in the density of vegetation in the protected area in contrast to unprotected area. The treated area has attracted many birds and animals, prominent among these are blue bulls.

The community efforts over six years have brought out remarkable changes in the flora and fauna of this piece of land. Most importantly, it is now producing good quantity and quality of fodder for the livestock. These activities generated good income for the community, particularly marginal and smallholder farmers.

2 Community empowerment and new technologies transform a problem village Powerguda, Adilabad, Telangana

Challenges

Low variable rainfall, poor soils, high financial risk, and poor physical and social infrastructure characterize the Powerguda village in Adilabad district. The agricultural productivity was very low.

Solutions

ICRISAT and its partners help the community to implement the integrated watershed management program at their village.

Impacts

The experience from Powerguda has demonstrated that a judicious mix of community empowerment, new technologies and institutional linkages can help to alleviate rural poverty. Public investment in watershed management and agricultural development provided the technology edifice. Building hamlet-level Self-Help Groups (SHGs) and federating these groups at higher levels built the community's self-confidence and increased their bargaining power with local merchants, politicians and bureaucrats.

The linkages with financial institutions helped to leverage the groups' savings to get bank loans. It is remarkable that the people of Powerguda were able to get out of the poverty trap in three years and increase their household income by 77% to ₹ 25,874. It is equally remarkable that the village women who had not stepped inside a bank four years ago now enjoy favorable credit terms from local banks compared with other customers.

The pioneering work in extracting oil from *Pongamia* seeds and sold the carbon credits to World Bank. This has given the people a sense of pride in the village and put Powerguda on the map of the world. Powerguda's action has inspired several other neighboring villages to plant *Pongamia* trees on a large scale.

ICRISAT Science with a human face

International Crops Research Institute for the Semi-Arid Tropics

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