RECLAMATION OF RAVINES THROUGH CONSERVATION OF LOCAL BIODIVERSITY AND LIVELIHOOD SECURITY

Govt. of India

Ministry of Environment, Forest & Climate Change

Centre for Environment Education

Sujagriti

BACKGROUND

Morena District, in the State of Madhya Pradesh (located in the Central part of India) comprises of ravines of the Chambal Valley, with temperatures varying from48 deg.C in summers to 1 deg.C. in winters. Inspite of two rivers (Chambal and Kwari) in the District, the groundwater has depleted as deep as 250 to 300 ft. The local population, comprised largely of the Scheduled Castes and other Backward Classes, is poor with no assured, sustainable livelihood.

With over 50 per cent of population being dependent on agriculture, the loss of fertile land and precious top soil has played havoc with the ecological sustainability as well as economy of the region.

SujagritiSansthaMorena M.Pknew that community awareness and support was critical to come out of this situation. In the year 2007, with support from the GEF/UNDP SGP India Program,the Sanstha led and implemented an initiative to help arrest and check soil erosion, which would eventually enhance the local livelihoods as well as agricultural production.

What did Sujagriti do? They mobilized the local community to build a protection wall, locally referred to as 'Dorbandi', 6 feet broad, 3 feet high, tapering to one feet width at the top. Plantation of over 10000 Guggulin an area of about 70 ha, with support from over 400 local families, acted as the most appropriate, local variety and biological agent, soil binder. Guggul is of critical significance in the local ecosystem, as it checks ravines formation.

Guggul, a highly valued medicinal species, was fast dwindling in numbers—both because of loss of habitat as well as unsustainable harvesting practices.Today, Guggul, along with another similar species,Satawar, with similar soil binding properties, act as endogenous biological soil protection measures in the region.

Guggul, which is known for its gum and high value-added products, growsrather slow. A resin based plant, the gum from Guggul cannot be extracted before it matures to 7-8 years.Guggul, due to local unsustainable practices, was under pressure and was close to becoming extinct. Mere ecological and biodiversity conservation rationale would not have worked and would have succumbed to pressures of unsustainable harvest practices for quick gains economic activities, and income generation activities.
Thus, the SGP Project strategy was to link Guggul with the livelihoods of the local people, through systematic plantation, conservation, and proper and sustainable harvesting methods. Production of gum and value added products are tools for local income enhancement.

Further, an institutional structure was formed for the first time in the area by bringing in community ownership and involving women SHGs, linking them to not only Guggul based livelihoods but also with the District Panchayat (local Self Government). Further they were trained in productive plantation methods, protection and improved harvesting techniques.

The above initiatives that were supported by SGP India, led to yielding expected results, the Project was then supported through its second phase as well, where additional ravine, degraded area was brought under plantation, the women SHGs got strengthened and Guggul Nursery groups were constituted as well.

GUGGUL AND ITS PROPERTIES

The mukul **myrrh** tree, or *Commiphoramukul*, is small, thorny, and usually devoid of foliage. Guggul is the gum resin that comes from this tree.The Ayurvedic literature has substantial references of Guggul and its divine actions for healing bone fractures and inflammations to treating cardiovascular disease, obesity and lipid disorders. It has carminative and antispasmodic qualities. As per the Tibetan medicine literature, the plant is used for skin diseases, anaemia, oedema, salivation and heaviness of stomach. Guggul is also used for ulcers, tonsillitis, sore throat, laryngitis and bronchitis, for the treatment of rheumatism, neurological disorders, obesity, syphilis, urinary disorders and thyroid conditions and thus has a high market value.

The Guggul variety, grown in the Chambal valley (ravine), is known as one of the best varieties and hence it becomes all the more important to tap its resources to the fullest.


Guggul FruitGuggul Gum

PROJECT OBJECTIVES

With sound platform created and with the learning &best practices adopted from the successful implementation of first phase of GEF/UNDP SGP support, the up-scaling of activities was taken up to expand their scope and to reach to sustainable levels. The objectives of the project have been to:

- Reclaimand protect land from erosion by growing Guggul plants involving 2,500 households in 7 villages of Morena District by linking a range of actions, through endogenous technology and water preservation methods;
- Conserve local traditional seed varieties (the lesson learnt from the first phase is that the survival rate from seed plantation is more compared to vegetative method) and promote organic farming;
- Enhance economic returns for biodiversity based livelihoods.

Guggul Seeds GuggulFlower

PROJECT ACTIVITIES:

- Livelihoods Enrichment
  - Establish institutional arrangement for up-scaling piloted action and enhanced economic returns for biodiversity based livelihoods;
  - Capacity building of local community, the user groups, for sustainable harvest and generating value-added products, in 25 villages;
  - Formation of 18 women Self Help Groups (SHGs);
  - Strengthen market links;
  - Links with local financial institutions and insurance agencies;
  - Loan, livelihoods and income connected well through institutionalization of SHGs.
- Preventing Land Degradation
  - Formation of Biodiversity Management Committees, Joint Forest Management Committees;
  - Constructing 'Dorbandi', a protective wall to check erosion and ravine ingress;
  - Check dam construction; improved water harvest practices, leading to improved soul moisture retention;
  - Capacity building of local community in organic farming, Guggul farming, sustainable harvest techniques, micro-finance, etc.;
  - Establishing nursery groups;

- Partnerships and Networking
  - Established linkages with Madhya Pradesh State Biodiversity Board, the State Forest Department, and Jawahar Lal Nehru KrishiVishwaVidyalaya, Jabalpur, Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), and with a private company, Dabur, Delhi.

THE IMPACTS

- About 700 ha of agricultural land protected from immediate ravine ingress;
- Plantation of over 10,000 trees in over 70 ha of ravine land;
- 2 check dams led to greater freshwater availability and soil moisture retention;

- 200 families sensitized and at least 50 ha of land brought under organic farming;
- Several value-added products of Guggul—gum, guggul cones, incense sticks, and other agro-products such as Kareel (tenti)pickle produced. These have already fetched about USD 300, with strengthening of market linkages, this would rise as well;
- 5 Biodiversity Management Committees established;
- 20 scientifically constructed drainage channels made, called 'jalnikasnalis';
- Improved and sustained income of local community, through guggul products and value-added products.

Jal NikashNaali (Water Drain System)

Dorbandi 3000 M. (Ravines between Agriculture land)

Geographic Area: 10,000 hectares under Guggul

No. of households: 2,500in 7 villages of PipraiMaksoodpur, Bhanpur Panchayat Block of Morena District.

Project Budget: Rs.44,98,000
SGP Grant - Rs.24,80,800
Co-financing – Rs.20,17,200 (MGNREGA, MPSBB/Forest Dept)

Project Partners: Panchayat (Local Self Government); M.P. Forest Department; Agricultural Department, Madhya Pradesh Biodiversity Board; Jabalpur Agricultural University; Jawahar Lal Nehru Agricultural University

PROJECT SUSTAINABILITY:

- The project has been designed with full community participation and active role of Panchayat (local Self Government). The Biodiversity Management Committees and JFMCs play the role of conserving the Guggul plants and monitoring them thus adding to the success of the activities.

- The Government of Madhya Pradesh, with the intervention of GEF/UNDP SGP, have issued an official order and fixed the Minimum Support Price (Procurement Price from the growers) to Rs.900 per kg as against the earlier rate of around Rs.450 per kg being paid by the pharmaceutical manufacturers and local traders. This additional income to the community is a big boost to their livelihood and sustainability.

PHOTOGRAPHS OF MANY AWARDS WON BY SUJAGRITI

Best Biodiversity Garden Award, year 2012

Forest Protection and Tree Plantation Award by the Forest Minister, year 2013

Best Biodiversity Garden Award, year 2014

Basaman Mama Award being given by the CM to the President, Sujagriti- year 2015

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