

## **Partnerships for Saving Biodiversity and Strengthening Livelihoods**

India is ranked as one of the 12 mega-diversity-rich countries of the world and is a signatory to the Convention on Biological Diversity (CBD) (1994). Public policy for conservation of this immense biodiversity heritage is expressed in two ways: on-site (*In situ*) conservation and pursued through National Parks, Protected Areas, Biosphere Reserves and World Heritage Sites and off-site (*Ex situ*) conservation pursued through Sacred Groves, Botanical and Zoological Gardens and Gene Banks.

In the domain of *in-situ* conservation, on-farm conservation by rural and tribal women and men has remained largely unrecognised and unrewarded. These communities continue to possess the traditional knowledge to cultivate, use and preserve a large number of land races and folk varieties of crop plants and animal breeds. These practices, which are of great value to sustainable food and nutrition security, have so far been sustained without any benefit or reward accruing to the community.

Orissa, located in the eastern part of India, is rich in biodiversity but its people are mostly poor. The Jeypore tract of Orissa is regarded as the primary center of origin of rice with around 1750 varieties once recorded in the region. It is a region known for its ecological wealth coexisting with poverty, which is sometimes referred to as the paradox of economic poverty in the midst of genetic prosperity.

In Orissa, the M.S. Swaminathan Research Foundation (MSSRF) has attempted since 1998 to recognize community conservation and mainstream it into poverty reduction. Partnerships have been created for conservation of such practices and knowledge through an innovative approach, which seeks to make commercialisation a trigger for conservation, among the tribal communities of Tola, Baliguda, Patraput, Kashiguda, Nuaguda and Mohuli villages of Orissa.

### **The Partnership Program**

The objective is the revitalisation of *in-situ* on-farm conservation traditions and livelihood systems through conservation of agro-biodiversity, in partnership with local communities.

### **Process**

To begin with, rapport with the local community was built through Participatory Rural Appraisals (PRAs), village meetings, exhibitions and other extensive interactions. Partnerships with democratically elected institutions such as Panchayats (i.e. grassroots elected bodies with one third representation for women) and Central

Village Committees (locally known as *Palli Samitis*) were created to ensure sustainability of the interventions.

### **Approaches**

- Community Biodiversity Registers
- Participatory Plant Breeding
- Linking primary conservers to the market
- Networking and Capacity Building

### **Major Innovations**

- Establishment of a 'Community-Gene-Seed-Grain-Bank' continuum to ensure both food security and biodiversity conservation; areas of acute water scarcity, water banks have also been established to promote community water harvesting.
- Creation of market linkages to integrate livelihood security with ecological security.

### **Banks with a Difference**

Gene Bank – Land races with distinct characteristics are stored for long-term, both by ensuring their continued cultivation in the farm and through cold storage at the 'Community Gene Bank' at MSSRF. The seeds of these landraces are accessed for their genetic material and the economic benefit arising from such use will go to the individual or community who conserved the landrace.

Seed Bank – a facility for storage of excess seeds of farmers, which can be accessed during times of seed shortage. The Seed Bank ensures that seeds are available for cultivation.

Grain Bank – a facility for storage of excess seeds of farmers, which can be lent (and returned with interest) to families in need. The Grain Banks ensure food security of the region and also reduce the danger of seeds being consumed in times of stress.

The three banks have been integrated to support each other. Loss of viability of seeds from the seed bank can be met by gene bank samples. The grain bank supplies excess grain as seed and gene material in times of need. These banks are managed by the *Palli Samitis*, and the Panchayats, with support from MSSRF.

In addition, a Participatory Plant Breeding initiative has helped impart and evolve techniques for quality seed selection, and for new 'formal' methods of cultivation to maintain soil fertility and increase crop productivity.

## **Creating an Economic Stake in Conservation**

The cultivation of local landraces of rice has been encouraged for sale in the markets. Some are sold as grain and others after value addition as puffed rice, or other attractive food items. Awareness about market demand for local landraces with special characteristics like fragrance, taste, and medicinal properties has been created. Some farm families have been encouraged to take up organic farming, which has reduced the need for expensive purchased inputs and led to a renewal of interest in the cultivation of native varieties.

## **From Forest to Homestead**

The local community has wide knowledge of medicinal plants in the surrounding forests. But this knowledge base is deteriorating fast, due to loss of species in the surrounding areas and the impact of modern, scientific medicine system. But this knowledge can still be a livelihood option in the tribal tract.

Conservation of medicinal plants in community gardens has enabled the younger generation, less familiar with forest wealth to understand the value of medicinal plants in their region. Some landless families have taken up selling of certain medicinal plants and forest products in the local market. This initiative also reduces pressure on medicinal plants in the wild and helps preserve and popularize the associated traditional healing methods.

## **Community Rainwater Harvesting**

Contour bunds on hill slopes and reservoirs at suitable sites in the foothills have brought back large upland and medium elevation land into cultivation, ensured water scarcity and created employment opportunities for landless labourers through agriculture and aquaculture.

## **Outputs**

Of the existing, 150 land races found in the region, 102 land races have already been collected and conserved by the local communities with MSSRF's technical guidance. At the same time, new cultivation techniques have increased the productivity of the traditional varieties. As a result, the area under the local land races has increased. Marketing of local landraces like *Kalajeera*, *Barapanka*, and other rice varieties, medicinal plants and organic cultivation have had an impact on local incomes. The chain of gene-seed-grain banks offers both ecological security and livelihood options.

Local institutions have been strengthened and now the *Palli Samitis* maintain and managed the Community Biodiversity Registers where information relating to biodiversity resources (flora and fauna) is recorded. This will help to establish prior art wherever problems relating to patenting arise.

## **Wider Recognition**

These conservation strategies are not restricted to the local community but find an echo at the policy level. In 1994, an initiative was taken to give recognition to the efforts of farmers as conservers and cultivators, resulting in the formulation of the 'Protection of Plant Varieties and Farmers' Rights Act, 2001' in the drafting of which MSSRF played a major role. In addition to acknowledging the important role played by farmers as cultivators, it also recognizes the role of tribal and rural farming women and men as conservers and enhancers of agro-biodiversity, and legally provides for their recognition and monetary reward. The work in Orissa is a living field-level demonstration of the possibilities, which has relevance for the entire nation. This partnership for saving plants to save lives and livelihoods is an example of the power of synergy between people's participation and professional know-how.

## **Spreading the Message: Power of Partnerships**

Linkages have been developed with Government Departments (the Fisheries Department, the District Rural Development Agency, Integrated Tribal Development Agency and others) and with international agencies like UNDP and DANIDA to promote cross-project interaction and learning. This process enables information dissemination to interested parties, facilitates the transfer of technology and builds capacities to implement such efforts. This innovative socially and ecologically important project is being implemented with the generous financial and technical support provided by the Swiss Agency for Development and Cooperation (SDC), New Delhi and supplementary funding from the Ramon Magsaysay Award Foundation, the Phillippines.

M.S. Swaminathan Research Foundation (MSSRF) is a non-profit, autonomous research and development organisation working to reinforce the link between ecological security of agro-ecosystems and the livelihood security of rural farm men and women. One of the major thrust areas of MSSRF is conservation and enhancement of biodiversity, with particular focus on agro-biodiversity, which has been selected and conserved by tribal and farming communities over many centuries. The basic mandate of MSSRF is to impart a pro-nature, pro-poor and pro-women orientation to a job-led economic growth strategy in rural areas, through harnessing science and technology for environmentally sustainable and socially equitable development.

The *Equator Initiative* is a global movement committed to identifying and supporting innovative partnerships that reduce poverty through the conservation and sustainable use of biodiversity. The programme is based on the recognition that, while biodiversity losses and poverty are increasing in most tropical countries, indigenous and other local communities are rising to meet these challenges in creative and effective ways.

This *Initiative* is a partnership of UNDP, the UN's global development network, with BrasilConnects, the government of Canada, International Development Research Center (IDRC), IUCN – The World Conservation Union, The Nature Conservancy (TNC), Television Trust for the Environment (TVE), and the United Nations Foundation.

The *Initiative* aims at showcasing highly successful and innovative partnerships. MSSRF's efforts in creating partnerships in conservation of biodiversity and reduction of poverty involving tribal women and men at Jeypore, Orissa was one of 25 projects that were awarded the Innovative Partnerships Award for Sustainable Development in Tropical Ecosystems on 30 August 2002 at the World Summit on Sustainable Development, Johannesburg.

M.S. Swaminathan Research Foundation  
Site Office: Lingaraj Nagar, Jeypore, Koraput 764 004 Orissa, India  
Phone: +91-06854-230 350, 231 912  
Fax: +91-06854-233 151  
Email: [mssrf\\_jeypore@msn.com](mailto:mssrf_jeypore@msn.com)