

10 Site description for Jeypore, India

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10.1 Context

Ancient farming communities inhabit the region with intense upholding of tradition in crop cultivation. These farmers are very poor, 80% of which live below a dollar-a-day, but they also hold rich biodiversity in the range of crops and medicinal plants propagated. This region, known in the literature as the Jeypore Tract, is a secondary centre of origin for rice (Ramiah & Ghose, 1951). This region is also notable for having low agricultural productivity potential, weak market access, poor infrastructure and correspondingly low levels of education. However, tribal communities, although stubborn in their approach, have played an important role in the domestication, conservation and improvement of many rice varieties.

10.2 Institutional and project setting

The lead organization for the Global CBM Study in India is MSSRF. There are several projects active in the study site; three of these have been elaborated upon below. Additional projects, not outlined, are funded by the TATA Trust India, World Food Programme, Department of Biotechnology of the Government of India, Global Environmental Facility, Mitsubishi Corporation Japan and the Food and Agriculture Organization of the UN.

The first project; entitled, Capitalisation of Prominent Landraces of Rice in Orissa through Value Chain Approach, was initiated in January 2009 and concludes in 2012. The main objectives are to:

- enable enhanced income generation from the large scale cultivation of potential and promising rice landraces;
- introduce appropriate technologies and management practices for enhanced productivity of those promising rice landraces;
- facilitate and ensure procurement and primary processing with continuous supply-chain management including appropriate market linkages;
- develop community based entrepreneurship or institutions for promotion, popularisation and commercialisation of rice through value addition and branding; and
- enable the resource poor communities to get reward and recognition for their intellectual property rights and traditional knowledge systems.

The donor is the National Agricultural Innovation Project of the Indian Council of Agricultural Research. Partners include: Central Rice Research Institute (CRRI); Orissa University of Agricultural Sciences (OUAT); and Orissa Rural Marketing Society (ORMAS).

The second project has been described according to its three individual phases of implementation.

Phase-I entitled, Conservation, Enhancement and Sustainable and Equitable Use of Biodiversity, operated from April 1998 to March 2001 with the objectives to:

- revitalize the *in-situ* on-farm conservation traditions of rural and tribal women;
- prepare community biodiversity registers and training in dealing with issues such as ‘prior informed consent’ and ‘material and information transfer agreements’;
- initiate participatory plant breeding and the breeding of location-specific varieties of economic plants;
- integrate the principles of gender and social equity and ethics in biodiversity conservation and sustainable utilization through policy research;
- link primary conservers with markets, thereby creating an economic stake in conservation; and
- facilitate networking and capacity building.

Phase-II concluded in 2006, having started directly after Phase-I, with the objectives of:

- identifying innovative approaches that effectively link biodiversity conservation and enhancement with improvement of livelihoods of the rural poor;
- disseminating and facilitating the adoption of successful innovation approaches, which link biodiversity conservation and enhancement with improvement of livelihoods of the rural poor, into mainstream programmes in Natural Resources Management;
- enhancing the capacities of farmers, local communities, NGOs, Government agencies, policy makers related to biodiversity management at their various levels; and
- improving the legal and institutional framework for biodiversity management through policy advocacy undertaken by MSSRF both at the national and state level.

The objectives of **Phase-III**, which concluded in 2009, included:

- consolidating the outputs obtained from phases I and II;
- piloting the application of the PAN-MSSRF² concept in Orissa;
- establishing one village knowledge centre and one village resource centre in Jeypore;
- intensifying the interactions among various actors and institutions active in conservation initiatives and to contribute to local anchorage and increased sustainability of conservation initiatives; and
- analysing, documenting and disseminating the results obtained in the project, both within and outside India, thus paving the way for increased South-South cooperation.

The entire project is funded by the Swiss Agency for Development and Cooperation (SDC).

The final project, which was operational in the study site up until 2010, was funded by the International Fund for Agricultural Development (IFAD) in partnership with the University of Agricultural Sciences, Bangalore, and LI-BIRD, Nepal. The project was also implemented in a phased approach. Phase-I; entitled, Enhancing the Contribution of Nutritious but Neglected Crops to Food Security and to Incomes of the Rural Poor, Asia component – Nutritious Millets, was run from January 2002 to December 2004. Phase-II; Empowering the Rural Poor by Strengthening their Identity, Income Opportunities and Nutritional Security through the Improved Use and Marketing of Neglected and Underutilized Small Millets, concluded in December 2010.

² PAN-MSSRF is a systemic concept which aims to generate inter-disciplinary and inter-programme synergies through the integration of four components: Biodiversity Conservation Utilization and Enhancement, Food Security, Bio Village and Village Knowledge Centres with emphasis on gender equitable development through people based management.

Project objectives included the following:

- promotion of on-farm conservation of traditional varieties and enhancing income from their cultivation through technological interventions;
- interventions in crop production management with cost effective technologies for yield optimization. Introduction of community level mechanized grain milling to dispense with the drudgery of women in grain processing by traditional method;
- capability building among women and men in value addition of grain with different technological interventions to promote domestic consumption and to enhance market demand;
- networking production, value addition and urban markets eliminating middle-men; and
- use of self-help groups for men and women for achieving above project objectives.

10.3 Key project activities

Below is a summary of the main project activity areas. A comprehensive list of all practices which relate to CBM is provided in the section *CBM practices* at the end of the chapter.

- scaling-up quality seed production;
- making technological investments;
- improving entrepreneurship, processing and value-addition;
- increasing networking and marketing;
- forming community institutions and building capacity;
- initiating community seed banks and medicinal plant gardens;
- characterizing germplasm both on-farm and molecularly;
- internalizing participatory on-farm approaches in biodiversity and natural resource conservation and management.

10.4 Social and institutional organization

Despite this region being endowed with rich natural resources, many tribal groups continue to uphold the traditional practice of shifting cultivation, whilst continuing to live in abject poverty. Subsistence agriculture is the predominant livelihood in Jeypore site. Landholding varies from half a hectare to two per household. Some households are landless and so rely on wage labour for a source of income. Alternately they can share or rent land from others. The community has tenure over part of the land, dividing this among villagers for cultivation, and the rest is privately owned. Women have no right to land ownership. Villagers also rely on the surrounding forest for non-timber products, which can be harvested at a small fee payable to the Village Forest Committee.

MSSRF has been working in two tribal villages in the Jeypore area for over 5 years, having already withdrawn activities in the one village. These villages have considerably higher levels of literacy than those adjacent. Through participatory rural appraisal and frequent discussions with the farming communities of these villages, MSSRF has been able to assist in identifying and consequently prioritizing local landraces for cultivation. Consensus was reached between researchers and the community on the modification of traditional farming methods to improve the availability of quality seed. Farmers and scientists are working closely together on improving farming techniques, selecting preferential germplasm and promoting superior local rice varieties.

A community seed bank has been constructed in one of the villages in Jeypore site. Farmers rely on each other to store seed within their homes in the other village which has not formally constructed a store to bank seed. However, in both villages, a seed bank committee works towards the management of stored seed. In one example, to become a member of the village seed bank, thereby gaining access to its resources, households must contribute at least two kilograms of grain per year to the committee. Seed can also be accessed through purchase or on loan at a defined interest rate. All necessary information regarding to the various germplasm is documented in the seed bank book, which was originally kept up-to-date by MSSRF but is now the responsibility of the institution.

Despite the absence of institutionalized community organizations, the community does meet to discuss conservation strategies based on the results of diversity block and demo village trials. One institution, which MSSRF helped to establish, is the Kalinga Kalajeera Rice Growers Cooperative Society (KKRGCS), which focuses on value addition to indigenous aromatic rice varieties. The KKRGCs is also supported by the Orissa Rural Marketing and Development Society, which helps farmers in the cooperative with the formation of a marketing plan. Further support to the community has been received from MSSRF through the establishment of a small community processing unit which should free (particularly) female labour from the burden of rice dehusking.

10.5 Plant genetic resources

The main crops cultivated are rice, finger millet, little millet, maize, sorghum, Niger seed, pumpkin, black gram, green gram and some other vegetables. Villagers also harvest tubers, bamboo shoots and some other non-timber forestry products from the surrounding land.

The area is rich in rice diversity but much of this has been lost over some years. Many varieties have had to be re-introduced from other areas and, with the inclusion of some demo village variety trials, a total of 102 different rice varieties are at the communities' disposal. One indigenous aromatic rice is marketed vigorously under the brand 'Basna Rani', which literally translates as 'the queen of aroma'.

10.6 CBM practices

This list serves to enumerate all the different activities taking place in the Jeypore site which pertain to community-based conservation and sustainable utilization of agrobiodiversity.

1. Generating awareness and an understanding of local diversity:
 - through participatory rural appraisal and frequent discussions, a sense of concern regarding the loss of indigenous landraces of rice was generated among community members;
 - creating awareness within the community regarding the conservation of local varieties was achieved using street-plays, documentary screenings, and biodiversity and seed fairs.
2. Establishing community institutions, developing their capacities and consolidating CBM in their working modalities:
 - reaching agreement within the community to modify cultural methods of cultivation, embracing technology and modernized approaches, whilst retaining traditional knowledge;
 - providing training on improved farming methods;
 - encouraging the formation of community institutions and setting-up a village seed bank committee and various self-help groups;
 - coordinating the establishment of the KKRGCs and linking the society to the ORMDS for support in marketing activities.

3. Developing conservation practices (including entrepreneurship and marketing of agrobiodiversity), monitoring and evaluating practices, promoting social learning and scaling-up:
 - re-introducing local rice varieties through the set-up of diversity block trials and demo villages;
 - initiating community seed banks and documentation on germplasm;
 - promoting participatory approaches to CBM;
 - endorsing entrepreneurship such as the 'Basna Rani' marketing initiative.