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How impoverished tribals have saved extremely precious bio wealth against odds and extreme poverty conditions:

Koraput Region is the project location of SKS Ultra Poor Program¹. The region is paradox of genetic prosperity and economic poverty. With more than 70% of tribal population, Koraput is host of 52 aborigine tribal groups. The socio economic conditions here made it one of the ultra poverty hot spots of the world, what is termed as KBK District Poverty Syndrome. (Koraput, Bolangir and

Kalhandi DTs of Orissa) The BPL % is ranging here from 75 to 82%. But the genetic wealth especially rare rice land races are extremely precious for the entire human race in the world. Apart from rice, the region has significant diversity in minor millets, pulses, oil seed crops such as Niger and mustard. 79 Angio sperm species are endemic to the region.

Despite extreme poverty and study progression of improved varieties of rice in and around, the tribal farming communities have persistently conserved several land races and farmers' varieties derived there, at high personal cost. While the non tribal communities have switched over to high yielding improved varieties long back abandoning the traditional varieties, the tribal communities are persisting on traditional varieties and preserving genetic diversity by foregoing the possible economic gains of improved varieties. The larger beneficiary of this genetic and on farm conservation is entire human race at large during the past, present and future. However very little has been done by national and international communities to recognize the profound service being rendered by the tribal women and men and to reward them adequately commensurate with the value of the bio resources being conserved and economic loss being suffered due to the conservations of land races. One important reason promoting this conservation is the traditional way of life and the cultural ethos and practices. Many of the varieties being conserved have important role in traditional rituals, festivals and way of farming.

¹ Swayam Krishi Sangam is NGO working with extreme poor tribal community in Koraput DT



While time may erode the cultural base of conservation, institutional support in terms of reward and other assistance to benefit the economy of the community may reiterate the conservation traditions.;

Another and most important aspect is that several of the land races and varieties the communities have been conserving possess many rare and economically

valuable genes such as better adaptability to biotic and abiotic stress situations and nutritional and culinary quality. There is growing threat of abandoning conservation under increasing economic aspirations and the desire to come out of poverty. Recent studies reveal that the local land races are being rapidly phased out and only a few tribal communities are maintaining their steadfastness in conservation. The communities have selected over hundreds of years with considerable diligence rice varieties suited to different kinds of lands the growing conditions and methods of cultivation as well as the different tribal cultural needs. This is in tandem with the agro climatic difference of the region has generated wide diversity embedded with very valuable genes. The communities have fair understanding of specific attributes of each variety and its sustainability to specific needs. The communities also classify varieties suitable for direct sowing and transplanting and uses such as cooking popping and puffing and special traits such as aroma and use in traditional rituals. In addition to the traditional varieties of rice people also collect and consume wild rice. This dependence on wild species has created a stake in conserving the wild species naturally growing in common land areas like canals, marshy areas. Roads etc.

The communities conserving and improving land races through cultivation and selection belong to the tribes Kandh, Paroja, Savara, Bhatra, Bonda, Koaya, Didayi and Amnatya. They all belong to the Proto Australoid group with a long history of settlement in the region and engagement in rice cultivation. These tribes were largely used to the Jhum cultivation (shifting cultivation) With continuous denudation of forests, intensification of shifting cycles and discouragement from Government the rice cultivation is now largely confined to settled agriculture with specific cropping pattern deployed by multiplicity of varieties. The communities continue to practice traditional varieties with traditional practices with nil or little application of chemical fertilizers and pesticides.

Apart from rice which is the most predominant crop in the region both in terms of land area (40%) as well as production the local communities conserve significant genetic diversity in crops such as maize, finger millet (*Eleusine Coracana*) Foxtail millet (*Setaria italica*) little millet (*Panicum sumatrense*) pigeon pea (*Cajanus cajan*) horse gram (*Dolichos biflorus*) green gram (*Vigna radiata*) black gram (*Vigna mungo*) niger (*Gouzotia abyssinica*) mustard (*Brassica juncea*) sesame (*Sesamum orientale*), ground nut (*Arachis hypogea*) etc., The community has also contributed immensely for the conservation and utilization of medicinal plants some of them being endemic to the region. In these crops there are different traditional varieties adapted to different growing conditions. It is essential that steps be taken to both safeguard dying wisdom and vanishing germplasm.

We have been conserving the determination important landraces which have provided the basic genetic raw material for many modern varieties. The Central Rice Research Institute, Cuttack and the Orissa University of Agriculture have both used extensively the Koraput germ plasm. Koraput rices have also been used internationally through the gene bank of the International Rice Research Institute (IRRI) Manila. As a result of the conservation efforts of the tribal communities this region has become a unique site for valuable genes.

In recent years our conservation efforts have been intensified by linking conservation, cultivation, consumption and commerce in a mutually reinforcing manner. Our innovative efforts of community gene and food security have received international recognition through the Equator Initiative Award at the World Summit on Sustainable Development at Johannesburg in 2002 on the basis of an international peer review process.

Efforts in conserving our bio resources need to be recognized and be motivated. Protection of Plant Varieties and Farmers' Rights Act need to be sharpened. Determination to conserve our bio resources in order to promote bio happiness not only among our communities but also among all people in India and outside having rice as their staple.