



منظمة الأغذية
والزراعة
للأمم المتحدة

联合国
粮食及
农业组织

Food
and
Agriculture
Organization
of
the
United
Nations

Organisation
des
Nations
Unies
pour
l'alimentation
et
l'agriculture

Organización
de las
Naciones
Unidas
para la
Agricultura
y la
Alimentación

“AGROBIODIVERSITY COLLECTION, CHARACTERISATION AND CONSERVATION AND FARMERS RIGHTS EMPOWERMENT IN TRIBAL REGIONS OF EASTERN INDIA”

A STUDY BY
GENE CAMPAIGN

FAO- Netherlands Partnership Project

AGROBIODIVERSITY COLLECTION, CHARACTERISATION AND CONSERVATION AND FARMERS RIGHTS EMPOWERMENT IN TRIBAL REGIONS OF EASTERN INDIA

A CASE STUDY

Rationale

The current project was undertaken with the objective of working with the rural and tribal communities in Jharkhand to conserve the agro biodiversity of the region, especially rice, for which India is the primary center of origin. The predominantly tribal region of Jharkhand, Orissa and Chattisgarh in Eastern India is particularly rich in rice genetic diversity.

The other aspect of the project was rights awareness: specifically, generating awareness about legal rights over agro biodiversity and other biodiversity granted to farmers and local communities in national legislation and supported by international instruments like the International Treaty on Plant Genetic Resources.

Apart from rice, India is home to a number of food crops like cucurbits and other vegetables, legumes, mangoes, bananas and other fruits. The Green Revolution which brought increases in food production also resulted in the loss of several thousand crop varieties. Unfortunately, little effort was made to conserve this germplasm that was being lost from farmers' fields. More recently, a Seed Exchange Program has been undertaken in Jharkhand, with the objective of promoting HYV and hybrid rice for supposedly higher yields. Under this program, farmers are to deposit seeds of their traditional rice varieties and take an equal amount of hybrid or HYV seeds. There is no provision to conserve the traditional rice seeds collected. This is resulting in even greater loss of rice genetic diversity in an area where substantial rice diversity is still found. Given that agro biodiversity is recognized to be one of the key underpinnings of global food security and its conservation is a key concern, this is a major focus of Gene Campaign's work. Today as the effects of climate change become more visible and there is a growing understanding of the damage that global warming can inflict on agriculture, especially in South Asia and Africa, the importance of agro biodiversity in adapting to new agriculture zones cannot be overemphasized.

Project Activities

I. In situ and Ex situ Conservation of Agro biodiversity

Ex situ Conservation

Four village level Gene-Seed banks have been set up under the one year FNPP project for ex situ conservation of agro biodiversity of the region.

Setting up Community Seed Banks

Date	Community seed bank
20.01.07	1. Vill. Nayatoli, Block: Ormanjhi, Distt. Ranchi, Jharkhand
25.06.07	2. Vill. Pannakhunti, Block: Katkamsandi, Distt. Hazaribagh
26.07.07	3. Vill. Kachhabari, Block : Karra, Distt. Ranchi, Jharkhand
16.02.08	4. Birsa Agriculture University, Kanke, Ranchi, Jharkhand



Gene- Seed Banks



Gene - Seed Banks

Traditional varieties collected in these banks

Rice	Millets	Legumes	Vegetables	Others (oilseeds, Chilli etc)
730	15	40	28	18



Traditional Rice Varieties



Traditional Rice Varieties



Fields of traditional rice



Seed Multiplication

The Gene-Seed bank model is an attempt to foster a sustainable, longer-term basis for self-reliance in food and to conserve the diminishing agro-biodiversity of the principle food crops of the region. This approach will have to go hand in hand with other critical issues like water management as also training and capacity building of local people to manage water, bioresources, and other resources....necessary to build in long term sustainability of the efforts.

These are scientifically organized farmer level gene banks, set up with the help of local farmers who have been trained by scientists from NBPGR and Birsa Agricultural University to correctly clean, dry and store their seed and scientifically control pests, using both indigenous and new technologies. The bank contains seed samples of traditional varieties of rice, millets, legumes and vegetables collected from farmers' fields and characterized by identifying their properties.

In-situ conservation & seed multiplication:

As a result of Gene Campaign's efforts, a number of farmers have begun cultivating traditional rice at least on part of their land and this trend is growing. The reasons are the high risk and often adverse cost-benefit ratio for hybrid rice, awareness and motivation by Gene Campaign and most of all, because the seed of traditional varieties became available again through Gene Campaign's Seed Banks. Gene Campaign enables small and marginal farmers to access seed because instead of charging cash, the arrangement is that farmers will return three times the amount of seed they have taken, when their harvest burden on small farmers when they are most vulnerable and helps short of ready money, which is usually the case.

These farmers also host seed multiplication renewal plots for Gene Campaign to refresh and renew the seed in the Banks. This kind of field level conservation is greatly desired but is difficult to achieve. Gene Campaign has begun to achieve a breakthrough with sustained field work, training and involving

local youth and including community elders in planning and execution of activities.

Seed samples were multiplied to provide viable and healthy seeds to a large number of farmers. The multiplication work was carried out by farmers as well as by Gene Campaign. GC multiplied 415 varieties in the demonstration plot of Birsa Agricultural University with four goals:

- to increase the seed quantity and refresh the seed samples
- to conduct morpho-agronomic characterization of the varieties to register them as Farmer Varieties under the India Farmers Rights Act
- to organize field training programs for master trainers
- to conduct demonstrations and awareness programs about genetic diversity for students and civil society.

Difficulties faced:

Collection and curating of seed collections is a task requiring careful attention and must be done within three months of the harvest, from November to January so that fresh seed can be collected. Seed should not be collected after this period since mixtures happen easily when the farmer has put away the harvest. He is not overly concerned about keeping the seed of different varieties strictly separate since traditionally farmers often plant mixtures of varieties so seed collections at this time can be mixed. At this time the farmer is also not very willing to give seed samples since he has packed and sealed the baskets in which seeds are stored and is reluctant to open the baskets.

The rural communities celebrate most of their festivals in this season also so sometimes farmers consider it inauspicious to give away seeds at this time, sometimes they are just busy with the festivities. Because of cultural beliefs, some farmers avoid giving away seed on specific days like Saturday. Collecting teams must keep this in mind and not give offence by asking for seeds on such days. Some farmers do not give seeds of certain varieties because those varieties may be rare or special in some other way, they may be found only with few farmers who are reluctant to give other farmers access to the seed. For the same reason, farmers may be reluctant to share information about the varieties. Sometimes farmers, specially younger farmers are not so familiar with traditional varieties and may give wrong names or distorted names. For instance Panchphore for Pant-4, Suragwan for Saryug-52 etc. Vigilance is needed to double-check the names of the varieties from 3 or 4 other sources.

Gene Campaign is training members of the local community, especially elder women, to form committees to administer the Seed Banks but this appears to be difficult. Administering the Banks is a complex process requiring detailed and accurate record keeping. The seed multiplication has to be done systematically following a specific methodology; in well-designed plots. The low literacy levels are an impediment. Because of the need for scientific accuracy in a collection that must also serve as a source of genes for further breeding work, Gene Campaign's presence in some form will be required to oversee the administration, even when the committees learn to handle most of the work.

The greatest difficulties we face in in situ conservation are from the government, both at the national level and at the level of the state. Neither pays any attention to conservation of rice agro biodiversity even as it promotes hybrid and high yielding rice. This lapse is particularly grave since Jharkhand is part of the East India region comprising of Orissa, Jharkhand and Chattisgarh which is considered to be the Center of Origin of Rice and rich in the genetic diversity of rice . In this backdrop there is an even greater need to continue and intensify the work on Gene and Seed Banks in areas like Jharkhand, Chattisgarh and Orissa.

II. Awareness and Empowerment Programs on Farmers Rights

The Rights Awareness program is being conducted in villages of Ranchi district. Instead of holding training workshops as in the initial phase,, we have decided to change the approach and have prepared fresh materials and communication strategies using a range of audio-visual materials.

The national legislation related to bioresources and farmers and communities rights have been paraphrased into simple text, and translated into Hindi. The legislation being discussed are the Protection of Plant Varieties and Farmer's Rights Act, The Biodiversity Act, The Patent Act and the Geographical Indications Act. The key messages relevant to community rights are extracted and used in different ways. This text has also served as the basis for songs, slogans and banner messages as well as the scripts of Street Plays .

Awareness approach

Gene Campaign has considerable experience in the field of IPR and drafting national policy and legislation, particularly the Protection of Plant Varieties and Farmer's Rights Act and the Biodiversity Act.



Wall Writing – Rights based Slogans

Marginalised communities who have very little sense of rights and empowerment find it difficult to understand empowering legislation so easily. That is why the legal messages were presented as more easily comprehensible texts. Songs containing legal messages have been composed in the prevalent tribal dialect. The rights awareness programs do attract a lot of people but how much of the message is retained remain to be seen.



Rights Awareness – Street Plays

A Street Play has also been developed which is enacted by tribal boys and girls. The communities identified well with them and they could use the local language effectively. The script was written with the help of local people. The legal matter was provided by the GC team.

The ground where the Rights Awareness programs are held, is typically dressed up in colourful banners and posters to create a celebratory atmosphere. Banners carry rights based slogans like “ Hamara beej Hamara Adhikar” (My seed, My Right), “Hamare Beejon par Patent nahin- Hargiz nahin” (No Patents on my Seeds..No Never) , “Beejon ka Panjikaran karao, Beejon par adhikar Jatao” (Farmers Register your Seeds, Register your Rights), “Hamare Gaon Ke Aaspaas ke jungle par Hamara Adhikar” (The law says the forest belongs to us), “Desi gyan par koi Patent nahin”. A popular activity is trying to get the communities to come up with new slogans.

Analysis of Rights Awareness work.

Gene Campaign has devoted considerable attention to generate awareness about Farmers Rights and other legal rights granted to local communities over biological diversity and the IK associated with it. This work is complex and difficult because of low literacy and extreme marginalization of the communities in the area where we work.

Because of its presence in the region and decent track record of working with the local community Gene Campaign could take up the work on generating awareness about legal rights on abstract issues like Intellectual Property Rights and Bioresources. We find that since the rights granted in the new legislation are rather abstract compared to the more concrete provisions of legislation such as the Employment Guarantee Act and Right to Information Act, they are not so easy to communicate.

Communities are glad to know that they have legal rights in law but it seems to them that this operates in a far away world which they do not understand or have access to. Explaining and convincing them of their rights will need sustained long term work. It will be important to demonstrate how these rights can work for them locally, with real life examples. At the moment the nexus of the 'power elite' is intimidating and communities are diffident that they can exercise their rights against this elite who in fact are the encroachers of their rights.

However difficult the task, generating awareness about their legal rights and thus empowering the community is crucial in the changing globalized world where the resources of the community and their knowledge are being increasingly privatized, a process that threatens to alienate them from their resources and marginalize them still further.

Another challenge we encountered was a cultural clash. Indigenous communities live and work in a culture of sharing and mutual support. Exercising 'rights' over bioresources to exclude others from its use is culturally alien to these people, even if the 'others' are outsiders. Our work attempted to show the larger picture of biopiracy and how they stand to lose both in terms of the environment (overexploitation) as also lose economically because they themselves overexploit the bioresources that could bring sustained incomes. This matter needs to be dealt sensitively since it would be unwise and undesirable to promote change in the culture of sharing bioresources. We are working with the help of village elders and others who are respected by the community.

The irony is that rights empowerment, one of the most important tools for promoting confidence, independence and self reliance among marginal communities, is one of the most difficult to achieve in areas like this where the need is greatest. This is an area of work that needs to continue steadily over a longer period of time.

The irony is that rights empowerment, one of the most important tools for promoting confidence, independence and self reliance among marginal communities, is one of the most difficult to achieve in areas like this where the need is greatest. This is an area of work that needs to continue steadily over a longer period of time.

III. Training and Capacity Building

Apart from the community based awareness work, GC has also started training a cadre of trainers from among the local youth .They are given a more intensive theoretical grounding and are encouraged to conduct programs without overt support from GC staff. With some practice and exposure, local trainers can become effective agents of multiplying and disseminating the awareness and rights empowerment work as well as the work on agro biodiversity conservation

Training Workshops

GC has conducted three large training programs and one workshop so far.

Subjects for training programs



Training Workshops

Collecting samples from farmers fields in locations where traditional rice (and other) varieties are being cultivated.

- To explain to farmers the purpose of such collections, seek their support for it and to explain the importance of conserving the genetic diversity of the region.
- Processing seed samples for long term and medium term storage in the Gene/Seed/ Bank
- Proper sorting of samples and labeling and storing them , then documenting the collection.
- To characterize the agrobiodiversity by faithfully recording information provided by the farmer, in a survey form
- To try to develop a community based system for using and administering the material in the Gene/ Seed bank

IV. Producing Information Materials

Booklets and wall papers have been produced in Hindi , Urdu and Nagpuri, the prevalent tribal dialect. These are used to reinforce rights awareness programs. The task is difficult because of low levels of literacy but we use intermediaries like school teachers and educated youth to convey the messages. The subjects covered relate to the national and international developments related to bioresources and seeds.

The way ahead

GC is now in a position to share its experiences and learning with other civil society groups to broad base the work on conservation of agro biodiversity and empowerment on Farmers Rights. We could conduct training programs on community led scientific collection, characterization and conservation of genetic diversity

Conservation of well characterized agro biodiversity in farmer level Seed- Gene Banks can form the back bone of adapting to global warming and developing new crop varieties for the altered agro climatic conditions predicted by the . Selection of suitable genetic material for breeding can be facilitated because detailed documentation of the properties of the variety is done at the time of collection.

The tribal belt of Jharkhand is backward and rich in germplasm, The conservation of agro biodiversity and the rights empowerment of the farming and tribal community can show the way both for conservation and sustainable use of agro biodiversity.

Recognizing the rights of farmers and involving them in equal partnerships with scientific institution opens up ways to develop plant varieties through a participatory approaches.

We should aim to build a network to facilitate both, the conservation of genetic resources and the spread of awareness about the rights that farming communities have been granted in law. Farmers Rights were achieved after a long struggle in which FAO, civil society and certain national governments have invested a lot. It is only right that the rights are translated into action for real farmers on the ground.

Summary

The most important impacts of the FNPP project in Jharkhand have been on small and marginal farmer. These are:

1. The start of community led ex situ and in situ conservation of agro biodiversity and the motivation of the local communities to engage in agro biodiversity conservation.
2. Our Gene- Seed Banks have made available many traditional varieties that the communities had lost. This has helped to revive field level conservation.
3. Some awareness has been generated about Farmers Rights and an overall awareness that communities have rights over bioresources has begun to be internalized.
4. Some local youth have become enthusiastic trainers and can in the longer term develop skills to become effective in disseminating the work begun under the FNPP program
5. Local youth particularly are becoming articulate in advocacy programs and are able to raise demands related to their rights over seeds, forest produce etc.
6. Sensitization of local government and policy makers about agro biodiversity conservation and Farmers Rights has begun, if for no other reason than frequent run ins with officials.