The International Treaty
ON PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

Benefit-sharing Fund of the International Treaty on Plant Genetic Resources for Food and Agriculture

Project Cycle 2010-2011

WINDOW 2

IMMEDIATE ACTION PROJECTS
PR-113-India

First Implementation Report

*This first implementation report must be sent to the Secretary of the International Treaty on Plant Genetic Resources for Food and Agriculture electronically at the following address **Treaty-Fund@fao.org** or by fax +39 06570 56347 by 22/01/2013.*

I. PROJECT INFORMATION

Letter of Agreement Number: LoA/TF/PR-113/INDIA/2012/AGPMT
Project title: Using rice genetic diversity to support farmers' adaptation to climate change for sustainable production and improved livelihood in India
Target country/ies: India
Organization: Gene Campaign
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Report due date: 22/01/2013
Period covered by this report: 01/05/2013 to 31/12/2013

It will take you around three hours to compile this first implementation report.

II. RATIONALE OF THE FIRST IMPLEMENTATION REPORT

The monitoring and reporting requirements proposed in this first implementation report are in accordance with the Interim Procedures for Reporting, Monitoring and Evaluation of the Benefit-sharing Fund, adopted by the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (IT-PGRFA) at its Fourth Session through Resolution 3/2011. Following the conditions and schedule of reporting established in Annex 1 of the Letter of Agreement, the Service Provider will submit to the Secretary of the IT-PGRFA the first implementation report after eight months of the starting of the project activities. It shall report on progress and results for activities to be implemented within the corresponding period of the project implementation. This first implementation report will be followed by more detailed Midterm and final reports.

The objective of this report is to provide a brief update of progress in project implementation and identify risks that need to be resolved to ensure an efficient and inclusive project implementation.

The reporting and monitoring principles of the Benefit-sharing Fund projects require that the information provided by our implementing partners be focused and specific, qualitatively and quantitatively measurable in terms of what has been done, with what purpose, who and why has been involved in the activities (number of people, their gender, socio-economic status and the reason for their involvement) the nature of the implemented activities, the methodology used, the outcomes realized and their contribution to achieving the stated goals.

III. STATUS OF PROJECT IMPLEMENTATION

1. Background (Maximum length: 0.5 page)

Describe who was involved in elaborating this monitoring report and detail their roles and responsibilities. (Maximum length 0.5 page)

The following persons were involved in implementing project activities:

1. **Dr. Suman Sahai, Gene Campaign:** Overall coordination and supervision of the project implementation and supervision of technical and administrative staff. Support was provided in identification of rice germplasm for farmers' field trial being conserved at community genebank of the Gene campaign, identification of project sites, organization of inception meeting, coordination for the organization of farmers' field days, farmers' exchange visits, and organization of seed diversity fair.
2. **Dr. P. N. Mathur, Bioversity International:** Overall scientific backstopping for planning and implementation of project activities, including site selection. Liaising of project activities with other national partners such as National Bureau of Plant Genetic Resources and identification of rice germplasm for farmers' field trials from *ex situ* collections, being maintained at national genebank. Support was also provided in designing of experimental design for germplasm field evaluation trials, data recording and analysis, and organization of inception meeting.
3. **Dr. S.S. Singh, Gene Campaign:** Role of Project Manager in implementing all project activities which includes: overall supervision of field trails, organization of farmers' field days, farmers exchange visits, training of farmers and project staff in data recording, participatory variety selection, crop management, data gathering across project sites and synthesis of information and report writing.
4. **Sarika Mittra, Bioversity International:** Supporting field experimentations, designing data recording sheets and compilation of information, data documentation of rice germplasm being maintained at community genebank of Gene Campaign and assigning geo-reference coordinates for mapping and analysis for climate suitability using GIS and climate modeling.
5. **Project field staff and administrative staff, Gene Campaign:** Staff hired for project administrative and financial accounting as well as field staff across all sites were hired and are in place.

2. Project inception: enabling environment (Maximum length: 1.5 pages)

2.1. Describe the executing arrangements and implementation mechanisms put in place to enable project management and effectiveness and specify whether finance, personnel and materials were available on time and in the right quantities.

The following executing and implementation arrangements are in place:

1. Project Manager was hired to coordinate project activities at national level and is based in New Delhi

2. Project activities at Vaishali were coordinated in partnership with Bioversity staff and also hiring local site coordinator to monitor day to day activities.
3. Project activities at Unnao were undertaking in partnership with Humana People to People, as advised by Bioversity international to have at least one common site so that some of the capacity building programmes can be undertaken jointly as well as exchange of farmers visits involved in the two projects.
4. New office setup and staff were hired to coordinate activities at Orakhan project site in Uttarakhand.
5. Administrative and finance staff are based at Gene Campaign office in New Delhi.
6. Sufficient seed materials of 150 germplasm of rice were provided by Gene Campaign for field evaluation across three sites.
7. Bioversity International organised selected 200 rice germplasm from *ex situ* collections of the National Bureau of Plant Genetic Resources (NBPGR) for field trials.
8. Experimental field design for germplasm evaluation trials and information on observation to be recorded was provided by Bioversity International. Project Manager of gene Campaign provided training to all filed staff for proper management of trials and observations to be recorded.
9. Sufficient financial resources were made available by Treaty Secretariat for our taking project activities for the period under report.

2.2. Specify if the starting phase of the project implementation has been inclusive of all stakeholders and partners referred to in the Technical Proposal, specify who those partners are and assess their roles and responsibilities.

Most of the stakeholders as indicated in the proposal are being involved in the project implementation, except Punjab Agricultural University and Haryana Agricultural University. This is mainly because during final site selection of project implementation and it was agreed by all stakeholders that only one site should be selected from the North-western part of the Indo Gangetic plains (IGP) as there is not much variation in climatic conditions between Karnal and Ludhiana. Accordingly only one project site was selected in North-western IGP i.e. Karnal and it was also decided by the project management team that another site in Western Himalayan mountain ecosystem should be selected in place of Ludhiana so that results from IGP region can be compared to mountain ecosystems. Based on the available information and for logistic regions a new project site near Orakhan in Nainital district of Uttarakhand was selected. It was also decided by the project management team that one additional crop, finger millet should be included in addition to rice as this a major staple crop of the region. It is also far more climate resilient than most other staples.

As indicated in the project document, Gene Campaign is overall responsible for the implementation of the project activities with support and technical back stopping from Bioversity International. Good support is being provided by the National Bureau of Plant Genetic Resources of the Indian Council of Agricultural Research (ICAR) in terms of providing the genetic materials for testing by farmers and also in providing scientific backstopping. In addition to NBPGR, the Regional Station of the Indian Agricultural Research Institute (IARI) based at Pusa, Samastipur, Bihar has provided support for the

implementation of project activities and scientific backstopping in Vaishali. Since both Rajendra Agricultural University and IARI regional Station are located in the same campus and near to project site in Bihar, it was to work more closely with IARI regional station as they involved with Bioversity international with complementary project activities with other crops and therefore have advantage for their direct involvement in this project. In addition to these major stakeholders other partners such as Indian Farmers Fertilizer Cooperative Limited (IFFCO) was also involved to support our project activities in Vaishali and Society for Conservation of Natural Resources and Empowering Rural Youth, Karnal, Haryana for undertaking our field trials in Karnal.

All stakeholders participated in the inception meeting and provided their inputs for the successful implementation of the project activities.

3. Project implementation: progress towards the achievement of outputs (Maximum length 5 pages).

The project was designed with the following specific objectives:

1. Explore means for strengthening link between national and community gene banks and local farmers in the context of adaptation to climate risks;
2. Understand social and cultural barriers to adoption of adapted varieties and explore effective means of introducing new adapted plant genetic resources.
3. Understand the role of national and local seed systems in enabling adaptation under changing production constraints
4. Strengthen capacity of local institutions and farmers for climate variation adaptation and conservation of crop diversity
5. Set up community based gene banks and information dissemination systems

To achieve these specific objectives, the following outcome/outputs were agreed upon through undertaking the various activities as mentioned below under each output:

Outcome 1: Farmers in the selected sites will have increased access to rice genetic diversity, climate information and stake their claim for equitable sharing of benefits.
Outputs: The following outputs are expected to achieve this outcome:

- Challenges presented by climate change for rice cultivation in Indo-Gangetic Plains assessed.
- Rice diversity for climate change adaptation through use of GIS technologies, climate change prediction models and farmers' participation identified for project sites.
- Gene bank accession-level climate suitability and evaluation database established at community level.
- Farmer's varieties identified for climate resilience registered with Plant Variety Authority (PVA) of India.

Activities: The following activities are proposed to achieve the above outputs:

- Evaluate current and future rice production potential using GIS based prediction models.
- Select pilot sites based on major discrepancies between current and projected future production potential.

- Compile and synthesis information for characterization and evaluation of existing diversity to adapt to climatic variations.
- Characterization of farmer variety with climate resilient trait(s) for registration with PVA.
- Developing rice cultivation suitability models to allow identification of genebank materials best suited to changing environmental conditions.
- Document information on the identified accessions.

Outcome 2: Agricultural systems in the Indo-Gangetic Plains region of India will be more resilient to climate change.
Outputs: The following out puts are expected to achieve this outcome:
- Adaptive crop diversity validated and used by farmers for climate risks adaptation.
- Participatory plant variety selection programmes in place that use climate adaptive diversity superior in marginal environments.
- Easy communication tools developed and deployed which allow researchers and farmers to access information about crop genetic diversity and associated climatic information.

Activities: The following activities are proposed to achieve the above outputs:
- Undertake on farm trials to identify varieties/landraces suitable for climatic variations.
- Initiate participatory variety selection programmes based on farmers' preferences to adapt to climatic variation.
- Development of user friendly communication tools for researchers and farmers.

Outcome 3: Small and marginal farmers will be better able to use adapted genetic materials through an improved local seed system network.
Outputs: The following out puts are expected to achieve this outcome:
- Developing and mainstreaming database to improve access to information on local genetic diversity along with associated climate information.
- Community seed banks established at each project site to facilitate local access to PGR.
- Community-based seed production organized for adapted materials.

Activities: The following activities are proposed to achieve the above outputs:
- Undertaking house hold surveys to document indigenous knowledge and local seed system.
- Collection of local rice germplasm and establishing community seed banks.
- Information gathering and establishing database at each project site.
- Organization of seed diversity fairs.
- Developing/strengthening local seed-distribution systems.
- Plan for multiplication of adapted crop diversity for distribution in future.

Outcome 4: Stakeholders' capacities and skills strengthened for identifying and utilizing suitable genetic material for changing climate conditions.
Outputs: The following out puts are expected to achieve this outcome:

- Researchers and other users trained in the use of tools for rapid screening of germplasm, Geographic Information System (GIS), climate-based models and other areas important for ensuring project outputs.
- Enhanced capacities of farming communities networked across project sites, in selecting & deploying adapted rice germplasm.
- Leadership and capacity built to enable a higher level of involvement of indigenous and local communities in local and national decision-making fora related to climate change adaptation.
- Recommendations to put policies and laws in place that ensure access to local crop biodiversity is compatible with national laws promulgated to comply with international treaties suggested.

Activities: The following activities are proposed to achieve the above outputs:

- Organise training programmes for researchers in the use of germplasm characterization, trait specific evaluation; GIS tools, climate simulation modelling.
- Training for farmers, extension workers and communities for participatory plant variety selections.
- Exchange visits of progressive farmers across project sites.
- Establishment for farmers Field Schools for training of local communities on conservation and use of crop diversity.
- Workshops/training programmes for policy makers at national and local levels.
- Organization of policy dialogues for climate adaptation.

Under this report, summary of activities undertaken under each outcomes and outputs are described during the period under report.

3.1. Project effectiveness (Maximum length 2 pages)

3.1. Assess progress made towards the achievement of each planned output and provide details on the quality and quantity of output delivery as well as the timeliness with respect to original work plan.

3.2. For each output, describe relevant activities undertaken during the reporting period and specify the methodology used.

3.3. For each activity, specify which stakeholder/beneficiary group(s) was/were involved, the reason of their involvement and what was the share of women involved in these groups (%).

3.4. Identify the major factors which have facilitated or impeded the progress in achieving the planned outputs.

Project site selection: Four sites were prosed across the Indo-Gangetic Plains of India and include: Ludhiana, Punjab; Karnal, Haryana; Shahjahanpur, Uttar Pradesh; and Pusa, Bihar. However, based on the available information and initial discussion with all stakeholders, it was decided that only one project site should be selected in North-western IGP region as there is not significant differences in the agro-climatic conditions and cropping patters between Ludhiana and Karnal and hence it was decided to have one site in the mountain ecosystem so that the results across three sites in IGP region can be compared with mountain ecosystem. ? Accordingly a new site near Orakhan in Nainital district of Uttarakhand was selected. It was also proposed that finger millet

should be included as one of the target crops in addition to rice as this is one of the major food security crops of this region. For project site in Bihar it was decided to work in three villages in Vaishali district, which is about 40 Km from Pusa as originally planned. Regarding project site in Uttar Pradesh, it was suggested by Bioversity International, who is coordinating the two Treaty grants awarded for India under this benefit-sharing funds, that one site should be common across the two projects so that capacity building programmes for the project staff as well as other stakeholders can be organised together. This will also facilitate farmers exchange visits from the two project sites for cross learning. Accordingly the site originally planned for Shahjahanpur was shifted to Unnao in Uttar Pradesh.

Selection of rice diversity: It was proposed that suitable rice genetic diversity will be identified for climate change adaptation using GIS modeling and will be grown at farmers filed for testing and evaluation by farmers using Participatory Variety Selection (PVS). As the project grant was approved only during the month of May 2012, which is the time for rice planting in India, there was not enough time for identification of suitable rice genetic diversity using climate modeling and GIS. However, to take advantage of the current rice growing season, it was decided to use the available information for the identification of suitable diversity which can be grown across all project sites. For this the following two approaches were used: (i) 150 selected germplasm accessions were identified based on the earlier performance information for their cultivations under up-land, low-land and mid-land cultivation. These accessions are being maintained by gene campaign as community genebank collections; (ii) Another 201 rice germplasm accession were identified from national genebank of the NBPGR based on their earlier characterization and evaluation database as well as on their collecting sites; (iii) 14 selected rice varieties, which were released which were released for different ecosystems during 1980 to 2009, and includes: IR 64, IR 36, MTU 1010, MTU 1001, BPT 5204, MTU 7029, Pusa Basmati, HKR 47, PR 113, Swarna sub1, Pusa Sugandh5, Sugandh Sambha, NDR 8002 and Sugandha 3.

The 301 rice germplasm accessions were planted at farmers' field at Vaishali, Bihar; Karnal, Haryana and Unnao, Uttar Pradesh and were maintained by the farmers under the overall supervision of project staff. Project staff visited these fields from time to time and advised the field staff for data documentation. The 14 selected rice varieties were planted by 29 farmers across 14 villages in Karnal and 60 farmers in 3 villages across Vaishali for testing and their suitability under their respective climatic conditions.

In Uttarakhand , Participatory Varietal Trials were organized with farmers in 3 villages in Nainital and Almora districts. Sixteen high yielding varieties of rice and 20 varieties of traditional upland rice from Jharkhand were tested in farmers' fields.

In addition, 18 accessions of finger millet germplasm collected from Uttarakhand were also grown in farmers' fields in the 3 villages and evaluated for performance.

Mapping and documenting of rice diversity: Bioversity International has taken up responsibility for documenting and mapping of Indian rice collections being maintained at national genebank at NBPGR and also the rice germplasm diversity being maintained by Gene Campaign at its community genebank. Gene Campaign is maintaining 2916 rice germplasm collections which were collected from Bihar, Chhattisgarh, Gujarat, Jharkhand, Orissa and Uttar Pradesh comprising about 82 districts. The passport

databases are being updated to assign georeference coordinate to their respective collecting sites and will be mapped for further analysis for their climate suitability. Similarly the information for rice collecting sites for national genebank collections is also being updated for their respective georeference coordinate. It is expected that the entire Indian rice collections will be mapped and alalysed for their climate suitability before the next rice planting season.

Inception workshop: A joint inception meeting was organized at the National Academy of Agricultural Sciences, New Delhi on October 1, 2012 to launch two projects sanctioned by the Treaty on: (i) Using rice genetic diversity to support farmers' adaptation to climate change for sustainable production and improved livelihoods in India and (ii) Seeds for life – Action with farmers in Uttar Pradesh – IGP Region to enhance Food Security in the Context of Climate Change. The inaugural session of meeting was chaired by of Dr. RS Paroda, Chairman, TAAS; Executive Secretary, APAARI and Chairman of Haryana Farmers Commission and Dr. Gurbachan Singh, Chairman, Agricultural Scientists Recruitment Board Co-chaired the session. There were 26 participants from all project stakeholders, including DDG (Education), ADG (Seeds), and ADG (IP & TM) from ICAR.

During the meeting Dr. P.N. Mathur, South Asia Coordinator, Bioversity International welcomed the guests and provided background information regarding the Treaty and its benefit sharing fund. Dr. Sahai and Ms. Anne Marie Moeller briefed regarding conceptual framework of their respective projects, progress made and future plans. Dr. Paroda under his chairman's remarks at the outset congratulated the Gene Campaign, HPPI and Bioversity international and said the projects are good to enhance the use of genetic diversity for farmers benefit for climate change adaptation. He highlighted that unique materials should be protected for farmers, national and international communities. He appreciated the initiative taken under the project to support farmers through innovative approach. He stressed that farmers need long term support to conserve genetic resources and emphasized on helping small and marginal farmers for their food security and livelihood security by providing them with suitable diverse germplasm and improved varieties for climate resilient agriculture.

Rice diversity planting and field evaluation: Selected rice germplasm accessions for farmers' field trial comprising 301

germplasm accessions both from community genebank and national genebank, were conducted at three sites viz. Vaishali, Bihar; Karnal, Haryana and Unnao, Uttar Pradesh which were planted and maintained by farmers on their own field. This was designed in such a way that the trials can be visited by farmers from nearby villages. Similarly a farmers' field trials network was established and the selected 14 rice varieties were planted by 29 selected farmers across 14 villages in Karnal and 60 farmers in 3 villages across Vaishali for testing and their suitability under their respective climatic conditions. Germplasm accession trials were good both at Karnal and Unnao, however, the crop grown was not so good at Vaishali location. This was mainly due to heavy rails during planting season, which delayed the sowing of trial followed by long duration of drought. Most of the accession did not flowered on time and hence no data were recorded from this trial. Performance of the germplasm accession trial across Karnal and Unnao were good but the overall seed yield were low compared to high yielding varieties, as was expected. Therefore, in order to promote some of these germplasm accessions more detailed analysis is required for value addition in addition to seed yield alone and this aspect will be taken care during next planting season.

Of the 14 improved rice varieties which were tested under farmers field experimentation network approach, some of the varieties performance was good compared to the recommended varieties farmers are growing in these locations. Especially most of the farmers liked the variety MTU 1010, which most of the farmers would like to continue. This variety was not released for these regions by the national programme and hence was not recommended for these regions.

Farmers used the following traits for screening of varieties and the germplasm accessions: Days to 505 flowering, number of effective tillers, plant height, panicle length, days to maturity, seed coat colour, grain length-width ration, 1000 grain weight, aroma, and grain yield.

Organization of farmers' field days, farmers exchange visits:

Farmers Field Day was organized for the farmers of Unnao and Badaun, Uttar pradesh, Nainital, Uttrakhand and Karnal, Haryana on October 13-14, 2012 with the objective to educate farmers regarding role of rice germplasm in climate change adaptation and farmers preferences for specific traits to cope up the effect of climate variations. Other objectives of the field day were to give exposure to farmers from Unnao, Badaun and Nainital to germplasm trial and varietal trials grown at in Karnal district of Haryana state. Forty three farmers from 4 locations participated

in this field day. Farmers were educated on importance of field days which give them opportunity to learn more about performance of germplasm and varieties in changing climate. They were told about the rice germplasm and varieties planted in form of trials and traits on which data to be recorded for analysis purpose.

Another two days Farmers' Field Day was organized for the benefit of farmers of Unnao and Badaun from Uttar Pradesh Nainital from Uttrakhand and Karnal from Haryana on

October 23-24, 2012 with the objective to educate farmers regarding role of rice germplasm in climate change adaptation and farmers preferences for specific traits to cope up the impact of climate variations. Other objectives of the field day was to give exposure to farmers regarding rice germplasm and varietal trials. Twelve farmers from Nainital including 4 women farmers; 6 farmers from Badaun and several local farmers from Unnao participated in this field day. During the field day detailed briefing of the project on "Using rice genetic diversity to support farmers' adaptation to climate change for sustainable production and improved livelihoods in India" was provided. Importance of germplasm and their relevance in adaptation to climate variations were discussed. The farmers were told about the rice germplasm and varieties planted in the form of trials and important traits on which data needs to be recorded. The farmers were also educated about laying of trials in order to build their capacity for taking on-farm trials and importance of field days.

3.2. Project Relevance (Maximum length 3 pages)

3.2.1. Indicate the geographical extension (km^2) of the regions of interventions to date, their relevance for PGR diversity and assess the vulnerability of the targeted areas to food insecurity, poverty and climate change.

The geographical extension areas of Vaishali district of Bihar is spread over 2036 Km2. However, presently the project is targeting three villages, which are about 8 to 10 Km apart. In Karnal the project is targeting villages which are spread about 12 to 28 Km. The genetic diversity in these sites is very limited , especially rice cultivation. Only 3 to 4 released varieties are known to cultivate in these areas hence these areas are vulnerable to climate change/variation. There is strong need for genetic-base broadening for climate resilient agricultural production and sustainable food production.

3.2.2. Describe to what extent the targeted population has been involved in the inception phase of project implementation by specifying which individuals, groups and

organizations have participated in the project activities so far, ensuring that this description is disaggregated according to gender criteria and socio-economic status of people involved (e.g. 10 farmers-male).

Almost all target groups are being involved in the implementation of the project activities. At national and policy level, senior management of the Indian Council of Agricultural Research (ICAR) and Protection of Plant Varieties and Farmers' Rights (PPV&FRA) are being involved and advice being sought on a regular basis. PPV&FRA is also involved in the preparation of public awareness materials and also for the organization of diversity seed fairs and were invited to participate in such events. The staff of NBPGR is being also involved for providing scientific input as well as providing suitable germplasm accessions for undertaken farmers field trials and to participate in filed events. Farmers organization and communities as well as champing farmers are also being involved for the implementation of the project activities as well as upscaling of the project outputs.

3.2.3. Briefly describe how project activities implemented so far meet the main needs of the targeted population, what are those needs and how those have been assessed (i.e. desk review, household surveys, questionnaire, key informants interviews etc.).

Detailed house hold survey format is being designed by Bioversity International and house hold survey is planned when the farmers have little time to respond. Accordingly the baseline survey will be undertaken during February/march 2013. However, based on information available by Bioversity International through a similar survey undertaken for use of genetic diversity for climate change adaptation, project activities were designed for the first year of the project. More systematic approach will be used during second year of the project, including the information from the baseline survey to understand farmers; perception for climate change adaptation and what measures they are applying for adaptation.

3.3. Training and capacity building (maximum length 1 page)

List the main training and capacity building activities undertaken so far, specifying the type and frequency of training activities, the capacities enhanced and their effectiveness in addressing issues of conservation and sustainable use of PGRFA. Please, indicate the number and socio-economic status of people reached.

In order to enhance the capacity of farmers and communities for the selection of suitable rice genetic resources for climate change adaptation and sustainable increase in their yield, the following activities were undertaken during the period under report:

1. **Farmers' participatory variety selection workshop:** Two such workshops were organised at Karnal on 13 October and on 23 October at Unnao. During these workshops the Farmers were told about participatory germplasm and varietal selection (PPV) and participatory plant breeding (PPB) and their usefulness to farmers especially in the present era of climate change. They were also informed about their rights as provided in the Protection of Plant Varieties and Farmers rights (PPVFR) Act, 2001 and the rights of communities as provided in the Biodiversity Act,

2002 over plant genetic resources and importance of characterization of farmer varieties and registering them with the National Plant Variety Authority which will establish the ownership of the community over the germplasm and their claim to a fair share in the benefits accruing from their use. It was followed by open discussion

on methods rice cultivation, germplasm and varietal trials, problem faced by farmers due to climate variations, difficulty in getting seeds of released varieties, seed system, seed storage, establishment of community seed bank, etc. Following discussion all participating farmers were given a survey form to record their observations on both germplasm and varieties on traits such as plant height, tillering habit, incidence of pest and diseases, panicle appearance, grain size, aroma and their liking to germplasm line and variety. For each germplasm line and variety farmers were asked to tick in the column of good, medium or poor based on their observation on important plant characteristics.

2. **Hands on training for rice descriptors:** The Project Manager provided training to project staff and key farmers from all locations on recording of rice descriptors for germplasm and rice varieties evaluation trials. Every plant trait was explained in detail with its contribution to yielding ability of the plant. Farmers were educated about single plant selection, stage of selecting plants and selection of germplasm line based on different traits like plant height, effective tillers, panicle size and maturity, grain size and aroma, disease if any, etc. They were shown how to tag selected plant so that its identity is maintained. Farmers were also told about harvesting and threshing of selected materials so that the purity of individual germplasm line or a variety is maintained and there is no damage to seed. In order to protect seed after threshing it should be dried in shade and store in insect free storage facility may be treated with some insecticide.

3. **Farmers exchange visits:** Farmers exchange visits were organised across project sites to alow farmers and project staff to exchange their views on selection of suitable rice varieties, cultivation practies, and other crop production and protection related information. These visits were organised on 14 October 2012 at Karnal visit sites,

where farmers and project staff from Uttrakhand and Uttar Pradesh visited. Farmers' evaluation of germplasm: None of the germplasm was liked by any farmer. Another farmers' exchange visit was organised on 23 October where 18 farmers from Nainital and Badaun including 4 women farmers participated.

IV. RISK ASSESSMENT AND MANAGEMENT

V. SIGNATURE

IV. Risk assessment and management –

Table: Risk assessment in the project implementation

Risk factor	Indicator of Risk	Indicate the level of risk	Brief explanation of risk level (provide here below information you deem necessary to justify the level of risk) *Max 100 words*	Strategy for risk management adopted (if the level of risk is medium or high) *Max 100 words*
Environmental conditions	**Low risk:** Project area is not affected by severe weather events or environmental stress factors.	low	Due to increasingly unpredictable monsoons as observed in Vaishali site in Bihar.	
	Medium Risk: Project area is subject to more or less predictable climate events (link from below): 1. Drought 4. Hailstones 7. Diseases 2. Runoff 5. Excessive rains 8. Noxious weeds 3. Cold weather 6. Pests			
	High Risk: Project area has very harsh environmental conditions (link from below): 1. Drought 4. Hailstones 7. Diseases 2. Runoff 5. Excessive rains 8. Noxious weeds 3. Cold weather 6. Pests			
Social, cultural and economic factors	**Low Risk:** There are no apparent economic, social, and/or cultural issues that may affect project performance and results.	low		
	Medium Risk: Social or economic issues pose challenges to project implementation but mitigation strategies have been developed.			
	High Risk: Project implementation is highly sensitive to socio-economic issues and cultural barriers.			
Capacity issues	**Low Risk:** Sound technical and managerial capacity of the implementing institution and the project partners.	low		
	Medium Risk: Weaknesses exist but have been identified and actions taken to build the necessary capacity.			
	High Risk: Capacity is very low at all levels and partners require constant support and technical assistance.			

Risk factor	Indicator of Risk	Indicate the level of risk	Brief explanation of risk level (provide here below information you deem necessary to justify the level of risk) *Max 100 words*	Strategy for risk management adopted (if the level of risk is medium or high) *Max 100 words*
Stakeholder involvement	**Low Risk:** All partners involved and positive feedback from stakeholders and partners received.			
	Medium Risk: Consultation and participation processes seem strong but ignore some groups or relevant partners.	medium	Farmers in the IGP (and other) regions tend to look for high yield rather than diversity	Awareness programs building on the community's experience of turbulent weather and reviving interest in crop choices as a problem solving tool
	High Risk: Signs of conflict with critical stakeholders or evidence of lack of interest from partners and /or stakeholders detected.			
Management structure	**Low Risk:** Roles are stable and responsibilities are clearly defined and understood.	low		
	Medium Risk: Individuals understand their role but are unsure of responsibilities of others.			
	High Risk: Unclear responsibilities or overlapping functions which lead to management problems.			
Governance structure	**Low Risk:** Steering Committee and/or other project bodies meet periodically and provide effective direction/inputs.	low		
	Medium Risk: Project bodies meet periodically but guidance/input provided to project is inadequate.			
	High Risk: Members lack commitment (rarely meet) and therefore the project body/ies do not fulfill their functions.			
Short term/long term balance	**Low Risk:** Project is meeting short term needs and results within a long term perspective, particularly sustainability and replicability.	low		
	Medium Risk: Project is focused on the short term outlook with little consideration or interest in the long term perspective.			

	High Risk: Longer term issues are deliberately ignored or neglected.			
Risk factor	**Indicator of Risk**	**Indicate the level of risk**	**Brief explanation of risk level (provide here below information you deem necessary to justify the level of risk)** *Max 100 words*	**Strategy for risk management adopted (if the level of risk is medium or high)** *Max 100 words*
Co-financing (indicate the amount) USD:	**Low Risk:** Co-financing is secured and payments are received on time.	low		
	Medium Risk: Co-financing is secured but payments are slow and bureaucratic.			
	High Risk: A substantial part of pledged co-financing may not materialize.			
Subcontracting and procurement	**Low Risk:** Sub-contracting is guaranteed and procurement arranged on time.	low		
	Medium Risk: Sub-contracting is guaranteed but procurement of goods is slow and bureaucratic.			
	High Risk: Sub-contracting is compromised and so is the procurement of goods.			
Budget	**Low Risk:** Activities are progressing within planned budget.	low		
	Medium Risk Minor budget reallocation is needed.			
	High Risk: Reallocation between budget lines exceeding XXXX of original budget is needed.			
Workflow	**Low Risk: :** Project is progressing according to work plan			
	Medium Risk : Changes in project work plan occurred without major effect on overall implementation.	medium	Some changes in location were considered necessary in the interest of achieving the goals of the project	Some locations were changed to introduce greater diversity in project sites. The inclusion of mountain ecosystems will give us valuable insights into the potential of genetic diversity for

				adaptation to climate change in areas that are more challenged than irrigated areas in the plains. One site has already been replaced as mentioned above. The project management team is also considering replacing the Karnal site with another site in the mountain ecosystem, most probably in Himachal Pradesh, where there are good chances to promote traditional rice diversity, especially of red rice. With these changes, the project will have two sites in the mountains and two in the IGP region for better comparison of the project outcomes.
	High Risk: Major delays or changes in work plan or method of implementation have occurred.			

IV. SIGNATURE Suman Sahai

Dr Suman Sahai Chairperson, Gene Campaign ..... Contact person (Name, position)	Dr. Suman Sahai Chairperson, Gene Campaign ..... Author of this report (name and position).

This report must be signed by: i) the contact person; and ii) the responsible designated for monitoring the project as per information provided in the Project Proposal Form.

Explicatory note: Please indicate the name and the position of the person who is signing. Any variation with the information provided in the Project Proposal Form should be reported to the Secretariat of the IT-PGRFA.