Putting Lessons into Practice:
Scaling up peoples' biodiversity management for food security

External programme evaluation

Front picture: Farmer in Yen Bai, North Vietnam explaining how she can rehabilitate a degraded variety of rice. Photo: TB.

The evaluation task:

This external evaluation of the programme was agreed upon by IFAD and Oxfam Novib in order to "take stock of lessons learnt and transferability criteria and provide further guidance for an envisaged follow up phase".

Means of evaluation included (1) review of programme documents, reports, and miscellaneous papers provided by the implementing organisations, (2) field observations, and (3) interviews with local communities and organizations. These documents included presentations and reports from an internal evaluation held in Vietnam 2 – 10 September 2015. Field visits to all the countries could not be undertaken. Vietnam was chosen and made a case in this evaluation. The ToR says: "In selecting the country, the IFAD grant task manager and Oxfam Novib considered that the evaluation is supposed to be also forward looking, i.e. providing recommendations on the prospective subsequent phase, should the evaluation conclude that a subsequent phase is indeed warranted."

The field travel was organised by SEARICE and local partner organizations in Vietnam in coordination with Oxfam Novib. It was carried out from 8 to 17 December 2015 and included visits to selected programme sites in North Vietnam and in the Mekong Delta. Participating farmers (women and men) were interviewed in focus group discussions. We also interviewed involved persons from participating organisations and public sector institutions.

This report focuses on the analytical assessment of the programme achievements. Supporting data are provided in the annexed Internal Evaluation Report.

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Contents

1 Summary

The goal of the programme was to uphold, strengthen and mainstream the rights and technical capacities of indigenous peoples and smallholder farmers, and to influence local to global policies and institutions on the sustainable use of plant genetic resources for food security under conditions of climate change. Details of programme achievements are provided in the Annexed Internal Evaluation Report (covering the three countries) and an Endline report provided by SEARICE and Oxfam Novib.

The programme is jointly funded by IFAD and y Oxfam Novib. The Implementing partners are Oxfam Novib, ANDES in Peru, CTDT in Zimbabwe, and SEARICE in Vietnam. The programme period was July 2012 through end of September 2015.

The programme has managed to reach out to communities according to plans. It has opened and run Farmers' Field Schools in all of the country areas (91 schools) and run classes with a total of 2614 participants. Vietnam reports 630 participants including 498 women.

Building on previous work, the programme has improved and further developed Farmers' Field Schools for its particular purposes. This means elaboration of curriculum and field guides adapted to the targeted crops, agro-ecology, farming systems, and policy circumstances in each of the three countries.

Farmers have applied knowledge learned in the Farmers' Field Schools through involvement in Participatory Plant Breeding, Participatory Varietal Selection, rehabilitation of varieties, and production of quality seeds, and used the better seeds in combination with improved agronomic practices. Farmers have gained in terms of profit, self-esteem and empowerment, and implementing organisations have learned how this could work.

Results in terms of farmers' management, improvement, and multiplication of seeds has improved seed security and food security, and filled gaps in the formal seed supply systems. This has been achieved with significant involvement of women farmers. Through education in FFS women roles as decision-makers have been strengthened.

The mobilisation of expertise from public sector institutions (national and international (CGIAR) research institutes and universities) for work with farmer groups is a particular achievement and success factor in all of the three country-programmes. In this way the programme's approach to Participatory Plant Breeding can take advantage of science and technology while decision-making and final selection are devolved to farmer groups. Results and outcomes include locally adapted and commercially competitive varieties, use of more diversity, and empowerment of farmers. The merits and potentials of participatory methods that link farmer-groups to public sector institutions are solidly demonstrated.

The programme has worked actively on policies targeting seed regulations, seed laws, intellectual property rights, and Farmers' Rights to plant genetic resources. On this the programme has experienced and demonstrated the advantage of the close association of policy work with community-based "hands-on" development work. It has achieved results in terms of contributions to the opening for pragmatic flexibility of seed law enforcement to create legal space for local sale of farmers' seeds.

The on-farm breeding and selection identify and generate new locally adapted varieties. This adaptation includes adaptation to current climates thus providing materials that are “up-dated” with respect to the combined impacts of Climate Change. Also the “best agronomic practices” taught in the FFS have helped meeting some of the climate-related problems that farmers face.

2. Programme description

2.1 Background

As the title indicates, this programme has a prehistory. The implementing organisations have developed and gained experiences with various participatory methods and approaches including farmer-led participatory plant breeding. They have adapted the FAO's Farmers' Field School method for use on crop improvement and seed-related issues. They have seen the technical and empowering potentials of those methods. Much of this was achieved through programmes under the Biodiversity Fund that was established in 2000 and managed by Oxfam Novib together with Hivos and from the global programme of Oxfam Novib. Knowing from such experiences the potential of the tested methods, Oxfam Novib designed this programme for scaling up with focus on small-scale farmers, including indigenous people and ethnic minorities and with particular attention to women farmers. "Scaling up" is here meant to be not only geographically widened outreach but also deeper entrenchment and institutionalisation in the participating communities and with government line agencies.

2.2 The programme

This is a global programme involving three countries with a local to global policy agenda. The programme-document sets a target of 75 000 farming households in **Vietnam**. Those include seven ethnic minority-areas to the north and west of Hanoi and some poor communities in Central and Mekong Regions. In **Peru** the target is 2500 Quechua families and 38 700 indirect beneficiaries through networking in the Lares Valley of the high Andes. In **Zimbabwe** the plan was to reach 5800 households in three low-rainfall poverty-stricken districts and one district in the higher-potential area for comparison.

This was implemented in Vietnam by SEARICE (South East Asian Regional Institute of Community Empowerment) with SRD (Centre for Sustainable Rural Development) in the North and MDI (Mekong Delta Institute) in the South. The programme in the Mekong Delta was called FARES (Farmer-Agricultural Research and Extension System partnership). In Peru it was implemented by ANDES (*Associacion para la Naturaleza y el Desarollo Sostenible*), and in Zimbabwe by CTDT (Community Technology Development Trust).

Goal and objectives according to the programme document:

The **goal** is to uphold, strengthen and mainstream the rights and technical capacities of indigenous peoples and smallholder farmers, and to influence local to global policies and institutions on the sustainable use of plant genetic resources for food security under conditions of climate change.

The three **objectives** of the proposal are to:

i. Develop locally appropriate adaptation strategies for food security by bridging traditional knowledge and science on plant genetic resources and incorporating local perceptions on climate change;

ii. Empower indigenous peoples and smallholder farmers to influence local, national, regional and international food, agriculture and climate change policies toward realising the right to food (RtF); and

iii. Strengthen the adaptive capacities of smallholder farmer communities and indigenous peoples in plant genetic resources conservation, and access and sustainable use, by scaling up successful and/or innovative models.

3 Baseline

3.1 Baseline survey

A baseline survey were jointly developed and tested by the four implementing organizations. The survey covering all of the three countries was carried out from December 2011 through 30 November 2012. The aim was to understand and build on local peoples' perceptions, knowledge and needs, to identify and strengthen their coping strategies for climate change and scale this up. In Vietnam the baseline survey was carried out in the North only. The programme in the Mekong Delta had a different source of funding (Oxfam) and was linked to the original planning and design of the programme. The survey was done and discussed during a programme inception meeting in Vietnam November 2012. The final baseline report was submitted and circulated to the partners in March 2013.

The survey was used throughout the programme lifetime for designing interventions, adjusting the implementation, and for supporting arguments in policy work.

3.2 Abstract of survey findings

Farming systems in the surveyed areas (that did not include the Mekong Delta with its commercial farming system) of all of the three countries are predominantly subsistence or semi-subsistence. In the surveyed communities in North Vietnam rice is produced primarily for home consumption, but income is relatively better because of marketing of non-rice products and off-farm income. The Peru areas depend mostly on rain-fed crop production, Zimbabwe on mixed farming, also rain-fed, and Vietnam primarily on irrigated rice.

Food security cannot be taken for granted in the programme areas. Many households covered by the survey experience a hunger period of one to several months every year.

Loss of traditional varieties has occurred in all of the studied areas. The farmers in Peru and Zimbabwe use primarily farm-saved seeds. Those in Vietnam have been exposed to a massive promotion of hybrids and other high-yielding modern varieties and source most of their seeds in the market.

The baseline survey technical report says this about seed management in Vietnam:

> *In order to design and implement intervention strategies that maintain and strengthen farmers' seed system and farmers' genetic diversity, the IFAD-ONL Scaling-up programme will need to unpack further farmers' reasons for displacement of some crops and diverse local cultivars; farmers' sources of the varieties of crops that are important to farmers; farmers' preferred traits catered to their needs and adapted to their agro-ecological conditions; and finally the existing farmers' indigenous knowledge systems and practices in managing seeds.*

Farmers observe and experience unusual weather (Climate Change) in all of the studied areas. They try to adapt by choice of species or varieties with traits that make them more resilient such as short duration and drought/flood tolerant varieties. This response, however, implies the loss of traditional varieties that are less well adapted under the new weather conditions. Farmers also adjust planting time and make other changes of their farming systems. In Peru the upper limits for crop cultivation move to higher elevation as a response to the warming of the weather.

Women's roles in managing plant genetic resources include selection, storage, sowing, as well as informal seed exchange in the communities. This is the culture in all of the areas that were covered by the baseline survey.

4. Interpretation of the objectives

Objective 1:

Develop locally appropriate adaptation strategies for food security by bridging traditional knowledge and science on plant genetic resources and incorporating local perceptions on climate change.

Interpretation

This formulation refers to *science* that is universal and *traditional knowledge* that is local, thus recognizing the importance of science for development and traditional knowledge to ensure that technology is adapted and functional at the local level. Likewise climate change is a global phenomenon, but felt locally in different ways requiring local responses everywhere. This programme has dealt with this through participatory approaches. The question is if the programme has been successful in mobilizing those approaches to enable small scale farming communities to take advantage of science while using local knowledge to ensure adaptation. This is broadly understood to imply that the systems function in such ways that these can be made to serve farmers' productive, social, cultural and policy-needs and interests.

Relevant programme activities

- Farmers' Field Schools with science-based curricula, using expertise and source materials from the professional public sector (breeding institutes) as well as farmers' knowledge,
- Participatory Plant Breeding, Plant Variety Enhancement and Plant Variety Selection with technology-contributions from scientific institutions,
- Work through organised farmer-groups,
- Farmer-led activities,
- Experimentation in farmers' fields in response to local impacts of climate-change,
- Selection and rapid spreading of locally adapted varieties.

Objective 2:

Empower indigenous peoples and smallholder farmers to influence local, national, regional and international food, agriculture and climate change policies toward realising the right to food (RtF).

Interpretation

Activities under Objective 1 and 3 are likely to expose policy-gaps and conflicts. If objective 2 is successfully achieved

Relevant programme activities

- Programme participants multiply and market varieties that are not officially released and certified,

community members are capable of identifying and formulating relevant policy issues, and raise them in democratic ways. Their representatives could take the issues further to national and global levels and speak with the advantage of knowledge of realities on the ground and with authority drawn from the local communities.

- Review of seed laws,
- "Farmers' Field Day" and "Farmers' Technical Conference and Policy" where farmer breeders and policy-makers as well as local authorities meet,
- Involvement of relevant government offices,
- Working internationally on Farmers' Rights using evidence-based arguments from field activities in the programme, in particular in the context of the International Treaty, The FAO Commission of Genetic Resources, UPOV and WIPO.

Objective 3:

Strengthen the adaptive capacities of smallholder farmer communities and indigenous peoples in plant genetic resources conservation, and access and sustainable use, by scaling up successful and/or innovative models.

Interpretation

Successful and innovative models here include the Farmers' Field School method of education. Objective 3 is achieved if farmers maintain and use more agrobiodiversity, facilitate local level crop improvement serving their diverse needs and interests, and also helps adapting to climate change. The relevance of the models for small scale farmers, and otherwise marginalised communities should be assessed. All tools should be documented and be made accessible (including through internet) in such a way that its autonomous adoption by third parties is facilitated.

Relevant programme activities

- Elaboration of curricula and teaching methods for Farmers' Field Schools,
- Running Farmers' Field Schools in ways that are gender sensitive and suitable for women participants, and for smallholders and ethnic minorities,
- Generation of more options through Participatory Plant Breeding and Seed Rehabilitation,
- Participatory Variety Selection to expose farmers to more choices.

These objectives respond well to IFAD's mandate of "improving rural food security and nutrition and enabling rural women and men to overcome poverty". IFAD Strategic Framework 2011 – 2015 says: "For many small farmers and livestock producers, agriculture can provide a robust pathway out of poverty today and in the future". This programme can be analysed as a contribution to such "pathfinding".

5. Main programme activities

5.1 The main tool: Farmers' Field School

Farmers' Field School (FFS) has its origin in an FAO programme on Integrated Pest Management (IPM) and evolved over several years since the late 1980s. The objective was to get farmers off the "pesticide treadmill". Conventional teaching and extension did not work. To change farmers' behaviour the teaching of field ecology, in particular pest-predator relations, was needed. Such teaching took place in the field. Farmers' learned through observations and experiments. They drew the conclusions based on what they had seen and experienced, and through discussions among themselves. This way of experiential learning proved to be effective. Farmers acquired the needed understanding and the confidence to make their own decisions.

SEARICE gained experience in the use of the FFS for participatory plant breeding at the Philippines first and introduced it in Vietnam through the CBDC-BUCAP[1]-programmes (1996 – 2005) that were implemented with the Mekong Delta Institute (MDI) at Can Tho University. This was pioneering work on using the FFS for Participatory Plant Breeding. At the time it meant a quantum leap, since the FFS concept, developed for single-season IPM had to be adapted for multi-season PVS/PPB. With this experience and background the current programme invited experts from international and national research institutes to contribute with science-based knowledge, and elaborated curriculum and field guides for the FFS. In the running of the FFS-classes experts from local extension services were also involved.

In line with the very idea of the FFS, the schools do not give instructions but rather helped the participants to identify, analyse and understand production challenges, design their studies and gather their own data, draw their own conclusions, and make their own decisions.

Having discussed this with groups of farmers who have attended FFS in three districts in the North and three in the Mekong Delta, and also discussed it with involved scientists and local level extension services some observations seem to be consistently confirmed.

1. Farmers learn in a way that makes them confident, capable and willing to make decision and apply the acquired knowledge and skills.
2. The application of the acquired knowledge generates hunger for more learning.
3. Involved scientists talk with enthusiasm about this way of bringing science to the attention of farmers.
4. Staff under Ministry of Agriculture and Rural Development see the effectiveness of the FFS approach and provide technical and in some cases financial support.

How was this achieved? We shall particularly point to two conditions for success. (1) The relevance and practical usefulness of the FFS curriculum, and (2) The communication and facilitation skills of the implementing organisations. While much of the same could be said about the programme in each of the three countries this shall here be discussed with reference to the case of Vietnam.

The baseline survey revealed that farmers were constrained by weaknesses and gaps in the seed supply systems. The programme idea was that farmers could overcome the problems by learning Participatory Variety Selection (PVS), Seed Rehabilitation (Restoring and enhancing a degraded variety), breeding

[1] Community Biodiversity Development and Conservation-Biodiversity Use and Conservation Asia Programme

their own varieties by Participatory Plant Breeding (PPB), and by learning how to produce quality seeds. All of this was covered in the FFS. However, good seeds are of little help if agronomic practices are not also good. That was included. In all of the three countries the FFS added the locally best agronomic practices. In the case of North Vietnam the SRI-methods (System of Rice Intensification) was introduced. In the Mekong Delta (MD) the SRI-methods are not relevant since farmers practice direct seeding (no transplanting). Instead the FFS taught what was framed as "One Must, Five Reductions" (1M5R). The one "must" is good seeds, the five reductions are reduction of seed rate, reduction in pesticide use, reduction in fertiliser use, reduction in water use, and reduction in post-harvest losses. Thus the FFS curriculum was a comprehensive coverage of what was needed to overcome constraints and to increase productivity and profit. This combination of good seeds and good agronomy enabled farmers to take real advantage of what they learned.

In all of the three countries the implementing organisations identified scientists who willingly contributed with manuscripts and personal participation. However, all of these technical contributions had to be adapted to the pedagogy of the FFS. A lead implementing organisation with communication skills to mobilise scientists and to turn theories and techniques into workable FFS-lessons was required. This is important. The approach can probably be used everywhere, but depends on a lead organisation that is capable of forging alliances with the scientific sector, turn science-based knowledge into an FFS-programme, and also knows the special FFS-pedagogy. It should be added here that SEARICE insists on value-based running of the FFS. This includes the sharing of seeds and knowledge. That has been well received by farmers whose traditional exchange of seeds reflects a similarly value-based culture. Under previous programmes (CBDC) seed clubs were organised all over the Mekong Delta. Through the seed clubs farmers learned seed and variety selection and started production and sale of high quality seeds in their communities. Those seed clubs are the focus of this programme. Currently there are over 400 active seed clubs. They emphasise social values and sell their quality seeds for less than the market price, not only to be competitive, but to also help poor segments of their communities.

Like the original FFS for IPM also these FFS for PPB are evolving with experiences gained during consecutive years of application. While the curricula are valuable products of the programme, these still need further improvement, particularly on the way of teaching science without use of technical jargon.

5.2 Participatory Plant Breeding (PPB)

Professional plant breeders in public institutes or private companies aim at making new varieties that are selected for certain target areas and particular market demands. The varieties must be approved by regulatory authorities (formal release) to be allowed sold in the market and they are normally protected by intellectual property rights that prevent others from selling seeds of the protected variety. PPB means involving farmers in collaboration with experts from the scientific sector. The scientific sector gives access to genetic resources and modern methods. Farmers contribute to the making of decisions on which traits to breed for. They can leave the breeding procedure to the professionals, or they can learn to do it themselves. The final selection, however, is based on farmers' evaluation in their own fields. Assumed benefits from farmer involvement include the selection of many varieties that are locally adapted compared to the formal system that aims at making few standard varieties for a broad target area. PPB shortcuts the procedure. Farmers can immediately start growing a selected variety while formal breeding requires approval based on multi-locational testing over many years. PPB is cheaper. The new seeds come without strings and restrictions and to a lower price.

This programme has design PPB to be farmer-led. While aiming at access to good seeds and more diversity of varieties, the objective is also to empower farmers. Practically farmers decide on breeding targets in discussion with professional breeders who then identify relevant breeding parents. The continuation from there has in this programme followed two paths. The scientists can do the crossings and manage the first generations before they release segregating populations (for instance F_4 or F_5) to farmers for evaluation and selection on-farm. Alternatively the farmers do also the crossings and manage the offspring from F_1 onwards. The distinction between these two approaches is relative and can be regarded as a gliding scale.

The immediate result is that involved farmers gain understanding of how varieties are made. They are visibly proud of their acquired skills, fascinated by what they see unfolding, and express a desire to learn more about plant breeding. However, they also experience that breeding is demanding, and results uncertain.

Some of the farmer breeders in the Mekong Delta started under previous programmes and have worked for a sufficiently long time to see end results. The combined and accumulated achievements of farmer-breeders all over the MD over many years since the start in 1996 are 328 farmer-bred varieties. In the North, farmers learned the skills and started breeding during this three-year programme. With two generations every year, they have brought their breeding materials to a stage were promising traits are already visible making both farmers and involved scientists excited. Some more generations are needed before final varieties can be selected. The Field Crops Research Institute also provides breeding lines that are under evaluation by farmers.

The farmer breeders both in the North and in the Mekong Delta express interest in both of these methods of participatory breeding. They know, however, that managing crossing offspring demands much labour and land, which can be difficult under the small-farm conditions in the North. They also know that results are uncertain.

In the Mekong Delta farmers who have done this for many years have, like professional breeders experienced how demanding this activity can be. Asking one group if they have made any crossings that led to nothing, they answered “many”. Breeders in one of the visited seed clubs said that they have worked for ten years, so far with no results. Still they were certain to continue. The breeding work appeals to their curiosity. They gain knowledge and insight. We heard of success-stories (many) with selection of farmer-bred varieties that have become popular in surrounding areas and two cases of farmer-bred varieties that are formally released at the national level.

The comparative advantages of breeding by farmers is that they select under local on-farm conditions and according to their own criteria and therefore often identify materials that serve their needs better than market-varieties that are bred for broad adaptation to a larger target area. Since farmer breeders do not aim at formal release and plant variety protection, they can shortcut procedures and save both time and money. Considering particularly the long experience in the Mekong Delta, factors of success seem to be the way it is organised. It is linked to public sector research institutions, supported by local government and community leaders, and run by farmer groups who also specialise in the production of quality seeds (see below). In this way farmers’ breeding activities seem to be institutionalised and established as a permanent on-going, but farmer-led activity.

The merits of on-farm selection are well known from scientific literature. However, such literature tends to explain this by the stressful conditions in marginal environments. Under such conditions commercial varieties supplied by the formal system are often poorly adapted. The conclusion is often that commercial varieties should be used in high potential areas while PPB could be an alternative in marginal areas. In Vietnam this programme works on intensively cultivated irrigated rice that does not

fit well to the notion of marginal conditions. In the Mekong Delta the programme works on prime irrigated rice-land with yields some places reaching the level of the best anywhere in the tropics. Still Participatory Plant Breeding is competitive and attractive, and appreciated by local governments. We explain the success in the MD primarily by

(1) Gaps in the formal seed system: The commercial seed supply covers only a small fraction of the total seed requirement. Currently farmers organised in Seed Clubs supply 30 percent of total seed requirement in the MD.
(2) The fact that stress-conditions favouring local selection occur also in such high-potential areas: Farmers' selections perform well, and some of them are in high demand locally.
(3) Farmer-breeders' ability to select for quality traits resulting in varieties that are attractive in the local market.

5.3 Seed Rehabilitation

Varieties that are maintained on-farm over long time tend to be mixed up and lose their distinctive characteristics. The common recommendation is to replace such "degraded varieties" with new certified seeds. However, when certified seeds are not available, or when the degraded variety is a local variety that is not supplied by seed companies, the problem cannot be solved in that way. This programme teaches farmers to solve the problem by "Seed Rehabilitation".

Selecting the characteristic single panicles over a few generations results in the recovery of a uniform and stable variety with the preferred and characteristic attributes. However, farmers also subject the variety to intensive selection for yield resulting in a variety that is also more productive. This was first done with modern varieties in the Mekong Delta. In the North farmers have done this with traditional sticky-rice (rice with glutinous starch). Almost-lost sticky rice varieties are restored and are appreciated for their particular quality and productivity that was increased by 30 percent in one case. Because of the quality they have a high value in the market. Women who had attended the FFS did this.

Seed rehabilitation is now an established skill among farmer groups in programme areas in both the North and the MD.

5.4 Participatory Variety Selection

Prior to this programme in the North, and before the earlier establishment of Seed Clubs in the MD, farmers grew only few varieties due to lack of awareness and limitations in the formal seed supply system. Participatory Variety Selection means exposure to a wider range of options, both from the formal and from the farmers own seed systems. With testing on-farm under improved agronomic practices farmers could make their own informed decisions. As a result number of varieties used in the communities increased manifold. In the MD the Seed Clubs produced a total of 101 varieties in 2015. That included varieties from the formal and from farmers' seed sectors.

5.5 Seed production and distribution

Seed Clubs, now established all over the Mekong Delta combine breeding activities (PPB, Seed rehabilitation, and PVS) with multiplication and sale of seeds. The MDI organised the Seed Clubs as part of the CBDC-BUCAP programme starting the first four clubs during 1996 – 2000. Since 2000 the

number grew rapidly and has reached 407 clubs in 19 provinces. Activities under the last programme phase have been mainly the reinforcement of existing clubs.

The Seed Clubs supply many more varieties than the formal system. They multiply formally approved varieties, but also varieties that are not formally released, since the procedures of formal release and certification are complicated, slow (it may take 10 years) and expensive. The Seed Clubs are seen as important seed-suppliers in the MD covering almost 30 percent of total seed requirement in the delta in 2014. In the same year seed companies supplied 17.7 percent. Therefore local authorities have found pragmatic ways of allowing this to go on (see discussion under "Policy" below). They (the Provincial Department of Agriculture and Rural Development, PDARD) also provide free-of-charge testing of seed quality in the Seed Centres.

30 percent of the total seed requirement in the 4 million hectare rice area in the MD is a huge quantity. Using average seed rate and average seed price this amounts to 50 million USD sale from the Seed Clubs per season. Since the Seed Clubs sell at a price of 10 percent less than seed companies, this means a saving of 5 million USD for small-scale farmers.

The Seed Clubs are supported by local governments not only on legal issues, but also with technical and in some provinces financial support, such as for purchase of seed-drying and seed-cleaning machinery (50 % of investment costs). The recognition of the Seed Clubs was also demonstrated to us when we at one of the places met a class of students from the provincial college of agriculture. The students were sent to the Seed Club for practical learning of plant breeding and seed production.

Also in the North farmers who attend the FFS learn how to multiply varieties and produce quality seeds. So far they go around the legal issues by bartering; bartering grain for seeds at a certain exchange rate (such as 2 – 3 kg of grain for 1 kg of seeds). These are ethnic minority areas with a strong culture of exchange and sharing of seeds. FFS-graduates share within their community when they have quality seeds of varieties that are locally attractive. This will be further discussed below under "Policy" and "Seed Security".

5.6 Policy work

Having learned how to select suitable varieties and produce quality seeds, FFS graduates prefer to sell their harvest for seed rather than for food. Sale of seeds, however, is an activity that is subject to regulation by laws in the programme countries as well as in the rest of the world. The purposes of such laws are to ensure that only suitable varieties are offered for sale and that all seeds meet technical quality standards (certified seeds). The approval of new varieties (formal release) requires extensive testing. The whole procedure is expensive and takes up to ten years in the case of rice in Vietnam. Farmer breeders cannot afford to have their varieties approved in that way and are therefore practically prevented from entering the commercial seed market.

In the MD local MARD-authorities recognise that there is a need and a clear demand for the seeds that are produced by the Seed Clubs. They therefore allow sale of uncertified seeds of non-registered varieties within the province assuming that knowledge of the seed-producer is good enough as certification. In practice the Seed Clubs demonstrate their varieties at Farmers' Field Days. At such occasions farmers from around the province come, see, and make orders for seeds. The government Seed Centres inspect the seeds to make sure that no poor quality seeds are delivered. They also help the Seed Clubs with investments for seed drying and seed cleaning machinery. In this way the Seed Clubs are able to supply seeds that are not formally registered and certified but still meet the quality requirements of the law.

Policy-work aiming at a pragmatic flexibility in enforcement of seed laws, or modification of the law, is important for farmers who save and produce their own varieties. This policy work must also be taken to the global level since the national systems are under pressure from the interests of seed industries.

The programme has worked on these policy-issues in all of the three countries as well as in international fora. Speaking for farmers' interests requires knowledge of international and national laws, but becomes more powerful when based on close knowledge of realities on the ground. The programme has developed skills and capacities in such policy-work. But this is an on-going struggle that requires continued attention.

6 Women involvement

In the North the great majority of those who attended FFS classes are women. Since farms are small, men tend to seek other employment while women work on the farm. The acquired knowledge has changed women from mere labour-providers to active decision-makers and managers of the rice farm. They are visibly proud of their achievements and recognized by their husbands and by others in the community. Women's culture and social relations result in sharing of seeds and skills that are spreading by diffusion in the local communities. However, the acquired recognition and status seems to depend on the education from the FFS and are not transferred in the same way according to one comment about it.

In the MD farms are bigger and much of the production is for the market. The whole family is involved in the rice production. While most of the Seed Club members and FFS-attendees are men, the women are attracted to and become involved in the learning and the application of the new skills. At all of the three places where we had meetings with farmer-groups, a good number of women turned up and participated vividly in the discussions. At least we could see that women are interested in the knowledge and skills taught in the FFS, that they learn how to apply this knowledge, and that this has an impact on their status. Some of them also emphasized involving the children.

7 Organisational issues

7.1 Involvement of public sector research institutes

Professional plant breeders are educated for and expected to make finished varieties. The involvement in Participatory Plant Breeding that allows farmers to make the final selection of new varieties is not obviously in their interest. The mobilisation of resource persons from national institutes and also international agricultural research centres (the CGIAR) must be considered a special achievement by the lead organisations in all of the three countries.

The contributions by the scientists include knowledge and skills, and genetic resources in terms of breeding materials for crossing, segregating populations for line selection, as well as novel finished varieties. These contributions must be considered a key success-factor in the programmes. Once involved, the scientists appear to become increasingly enthusiastic about this way of reaching out to farmers. Asked about recognition, scientists at FCRI (Field Crops Research Institute) in Hanoi answered that they report about and are recognised by MARD (Ministry of Agriculture and Rural Development) for their work with farmers.

7.2 Relations to local and national government institutions

Official programme approval is a must and was in the beginning obtained through contact between the lead organisations and relevant government authorities. Acceptance was achieved by reference to common overall objectives such as poverty reduction, food security, and climate change adaptation. At the end of the programme, interviews with staff in relevant government services show that the acceptance is now more than a formality. They know the programme in depth. The programme is implemented in close collaboration with MARD at District and Provincial levels. The involved unit within MARD was PPSD; Plant Protection Sub-Department. This was effective due to PPSD's long-standing experience with the running of FFS-classes for IPM. To some extent the FFS and Seed Club activities are integrated in the government extension service and even supported financially.

7.3 The global network

With national programmes in Vietnam, Zimbabwe and Peru, Oxfam Novib led in developing and consolidating the baseline survey, facilitated the networking and exchange of experiences, and mobilised and provided expert support for technical backstopping. Oxfam Novib has, together with the national programmes translated farmers' situation into policies for active promotion at the global level.

8 Assessments

8.1 Relevance for small-scale farmers and ethnic minorities

In the North of Vietnam the programme works in ethnic minority areas were farms are small and people relatively poor. Like many ethnic minority-people, those in the north of Vietnam tend to be disconnected from the larger society missing economic and developmental opportunities. The programme makes the missing connections by involving government services and educating farmers to make use of science-based technologies and opportunities in the market. Culture of sharing is often strong among ethnic minorities, particularly among women. Female FFS-graduates share seeds and skills that thus reach out to a wider number of farms in the communities. They are recognised for their knowledge and capability as suppliers of quality seeds. This has a visible impact on self-consciousness and pride.

8.2 Relevance for market-oriented farming

In the MD farmers make use of the good seeds and good agronomic practices for the highest possible yields. In one of the seed clubs yields increased from 6 tons/ha in 2011 to 7 – 8 tons in 2015. The farmers claimed, however, that they knew of a record yield of 9 – 10 tons/ha (dry season-yield). After much discussion, they came up with 8 – 9 tons/ha as a realistic target for average yield in the future. Few rice-growing areas in the tropics can match that. But also under such high yield intensive production the Seed Clubs and activities like participatory plant breeding remain competitive and attractive.

8.3 Agrobiodiversity and seed security

The programme's Aide-Mémoire of November 2013 says that seed security is "a precursor for food security". Taking a closer look at such a claim, we have broken down seed security to all of its components, to see if we can identify gaps or constraints, and explore if those gaps spill into food insecurity.

For this purpose we suggest this definition:

> Seed security exists if all farmers have or can access sufficient amounts of seeds/planting materials of preferred species and varieties, of adequate quality, in right time, to fully realise the productive and economic potential of the farm. The availability of seeds must meet farmers' preferences and choices that may differ by gender and ethnicity. Seed security also includes having seed reserves for replanting.

Being seed secure according to this definition depends on;

- Farmers' Rights
    - No law or regulation prevent farmers from saving seeds for own use and for customary distribution within their community,
    - No law or regulation prevent wanted and useful varieties from being produced and supplied in the market,
- Farmers' knowledge, skills and capacities
    - Selection skills for saving seeds while also maintaining the varietal characteristics,
    - Seed storage that prevent any form of seed deterioration,
    - Knowledge of varietal options,
    - Economic capacity to buy seeds,
- Seed market
    - When needed, preferred seeds are available in the market locally at affordable prices.

Drawing from the baseline study and from what farmers told about the pre-programme situation, physical lack of seeds was rare. But poor quality seeds (degraded varieties), availability of only one or few varieties in the market, lack of awareness of relevant varieties, and lack of seed reserves were mentioned as limitations. This state of seed insecurity contributed to keeping productivity low thus negatively affecting food security among the poorest segments of the communities.

Depending on national law, Intellectual Property Rights can affect farmers' freedom to save and exchange seeds. National laws and policies, however, are under pressure from international legal instruments such as TRIPs (Trade Related Intellectual Property Rights) and UPOV (International Union for Protection of Plant Varieties). While these mechanisms tend to serve the interest of the commercial seed industry, somebody must speak for the interests of small-scale farmers. This programme has been active on global fora using evidence-based arguments from its field activities. This programme has developed competence and skills in such policy work. It should continue into the future for the protection of Farmers' Rights which is also about seed security.

Seed laws do not allow the sale of farmers' varieties since they are normally not officially released. The programme's policy work has contributed to flexibility in the enforcement of such laws (See chapter about Policy Work above).

Farmers' knowledge, skills, and capacity, mentioned in the definition of Seed Security are on the curriculum of the FFS and all of the mentioned issues are effectively managed by FFS-graduates.

Also the third factor; the seed market is improved by the programme. Seeds are available, and to a reduced price.

The SRI-method that was introduced in the North reduces seed rate down to one third or one fourth by transplanting single plants rather than clumps of several plants as practiced before. In the MD where

direct seeding is practiced a seed rate of 200 kg/ha or more is reduced to around 120 kg/ha. This is of course also helpful when seeds or money to buy seeds are in short supply.

The issue of seed reserves have become more important with climate change. Fields must be replanted more often than before. The FFS-graduates in the North said that they in such situations had enough seeds not only for themselves but also for their neighbours. Also farmers in the MD had experienced such situations. But in the MD such climate-related problems tend to affect enormous areas and it was not always possible for the seed clubs to cover the total needs.

8.4 Food security

The combination of good seeds and good agronomy has raised yields significantly. Implementing agencies both from the North and the South report of productivity increase by an average of roughly 500 kg per hectare. With selection or rehabilitation of varieties with desired food quality they also obtain better price in the market. When the harvest is sold (or bartered) as seeds rather than as grains additional income is obtained. In one area in the North (Son La) farmers told that the programme helped identifying a variety that could be grown in the dry season thereby facilitating switch from single to double cropping.

The good agronomy, SRI in the North and 1M5R in the MD helps reducing input costs while maintaining or increasing yields.

All responses and reports show that food shortage among programme participants is clearly reduced compared to the baseline. This is most relevant among the ethnic minorities in the North where people could experience hunger periods (lack of rice) of up to 17 weeks according to the baseline survey. The endline survey found the hunger period reduced to a maximum of 7 weeks and completely eliminated in some areas.

8.5 Climate change

The programme has found that farmers in all of the programme areas do have the knowledge and capacity to respond somehow to climate change by adapting their farming systems. However, also varieties must be adapted. *Cultivar adjustment* is considered a particularly effective on-farm adaptation strategy according to the latest IPCC report. For example, old rice varieties show significant yield decline with increasing night temperatures. Newer varieties show less yields decline when exposed to the same high temperatures[2]. Thus climate adaptation requires the replacement of old varieties with varieties that have been selected under current conditions. Current conditions include all of the direct and indirect climate-related stress factors as well as the opportunities provided by increasing CO_2. This needed replacement of varieties requires breeding with the ability of continuous selection for local adaptation, including adaptation to unpredictable rain and changes in time and type of disease outbreaks, and more emphasis on short-duration varieties. This also requires a seed supply system that can facilitate rapid turnover of varieties.

While a three-year programme is too short for documentation of breeding progress, methods of breeding and seed distribution can be assessed for potential according to needs under climate change. The on-farm "evolutionary" breeding combined with farmers' own multiplication of seeds ensuring frequent replacement of varieties will have advantages compared to the rigid and slow formal system.

[2] See recent review by Zeigler (2014)

Improved agronomy includes SRI in the North and intermittent flooding in the MD. In both cases this requires good management of the irrigation systems and leads to significant reduction in the use of water. Farmers in both North and MD tell of incidents when this has helped them overcome climate change-related water shortage.

8.6 Wider use of the FFS?

While the FFSs in Vietnam are all about rice, the farming systems include many other crops and some livestock and fish-farming. Farmers do not apply the learned skills on other crops, but became excited when the issue was raised. In Son La (North) they mentioned maize, coffee and fruit production that are constrained by technical problems. Apparently there is a potential and felt need for expansion, but that seems to require transfer of new knowledge and skills preferably through additional lessons in the FFS.

8.7 Sustainability and further spread

Knowledge and genetic resources are the inputs provided by the programmes. When found useful and being actively applied those inputs are self-reproducing. When support comes through permanent institutions (public research and government services) conditions for sustainability and continuation are in place. Still involved farmers and government representatives want the programme to continue. Farmers want to learn more and become "fluent" in plant breeding and better seed producers. They need policy support for their seed businesses. They want to expand from rice to other productive activities on their farms. "But if more support does not come, then we continue by ourselves", was a common conclusion.

8.8 Mainstreaming

An approach has become part of the mainstream if it is accepted and supported by government services, protected by relevant laws and regulations, and acknowledged as a genuine topic for research and education at universities and schools. It may still coexist with conventional approaches through fair competition or by filling particular niches.

According to this definition the programme has advanced and we may see mainstreaming as a realistic possibility. However, current acceptance in line ministries is limited to directly involved units, and laws and regulations are designed to serve the needs of commercial seed suppliers and tend to be biased against farmer-saved seeds. Acceptance in research and education is still based on personal interest, not on institutional policy. On all of this continued policy work (nationally and globally) supported by progressive work with farmers is needed.

9 Conclusions

1. The programme consists of a chain of interventions including work on crop improvement and agronomy, seed multiplication and distribution, and seed regulations and policy work. Isolated work on each of those components would arguably have had limited impact. The programme has shown that successful work on all of this as a "package" has the potential of making significant and lasting change.

2. Farmers' Field Schools on Participatory Plant Breeding and related seed, agronomy and policy issues has been shown to be an effective way of educating and empowering farmers for locally based development.

3. Curricula and field guides for the FFS are evolving documents that are continuously revised according to experiences. This programme has come a long way on this. While those programme outputs can serve as models in new areas, they need to be adapted to local environments and local production systems everywhere. This requires involvement of technical experts, understanding of the policy context, and a solid command of the pedagogy and ethics of the FFS-education. Knowledge management and public outreach form major challenges for a successful autonomous diffusion of the FFS approach.

4. The improved agronomic practices are introduced in the FFS-way; through experiments and observations in the field. Farmers switched to the new ways because they understood and were convinced. The combination of good seeds and good agronomy proved to be powerful.

5. Furthermore the programme is characterised by linking community-based development work to public sector institutions including international and national research institutions and universities. Those institutions have contributed with genetic resources, (pre-)breeding, and knowledge. The programme has received and absorbed these contributions into locally based and locally led activities. The experience seems to be that this link is effective in terms of development work, and promising in terms of sustainability because of the association of organised farmers with permanent public institutions.

6. The programme is implemented in three different countries under very different agro-ecological and socio-political conditions. This requires flexibility and capacity to adapt content and approaches. This adaptation given, the programme ideas function in all of these contexts. While most of the involved communities are smallholder-based and semi-subsistence, also commercial high-yield farming is represented (Mekong Delta). The programme approach seems to be relevant and effective all over.

7. Participatory Plant Breeding exposes diverse segregating crop populations to actual current growing conditions in farmers' fields. Growing conditions include all of the direct and indirect Climate Change effects. Thus such breeding, when established as a continuing activity ensures selection of materials that respond relatively better to the new conditions. This tends to result in steady replacement of varieties with new "climate-updated" selections. Such local selection has a comparative advantage since impacts of Climate Change is highly localised and interact with other aspects of the cropping systems.

8. The programme has all over worked with a significant number of women farmers. The education that is offered, and the activities that are organised appeals to women who seem to respond with enthusiasm and effective application. In the Mekong Delta rice production is market-oriented and dominated by men. However, the farms are run by the whole family and also the women are involved. In the other programme areas farming systems are semi-subsistence, farms are smaller and often left to the women while men seek off-farm employment. The education through the FFS empowers women and changes them from being mere labour providers to become active decision-makers and managers of their rice production.

9. Seed distribution is subject to laws and regulations in all countries. This programme has reviewed the entire seed-related policy environment in the three countries, identified problems,

and initiated dialogues with relevant national authorities aiming at securing a legal space for farmer-based seed multiplication and distribution. With Oxfam Novib's leadership, the programme has also taken these issues to the international level (The ITPGRFA and FAO) in the form of contributions to the debates on how to implement Farmers' Rights. Any programme that works on farmer-based seed production needs to have expertise and capacity to work professionally with relevant authorities on laws, regulations and policies on seeds.

10. Before the programme *Seed Security* was inadequate because of shortcomings and gaps in both the formal and local seed supply systems. FFS-graduates now produce seeds with adequate quality, have access to a wider choice of varieties, distribute quality-seeds in the communities, and have seeds reserves for replanting which is more frequently needed now because of climate change related weather events.

11. Before the programme *Food Security* was inadequate in some of the poorer ethnic minority areas in the North (a period of up to 17 weeks of food shortage every year). By access to good seeds and use of improved agronomic practices participating farmers have increased crop yields significantly, reduced the use of inputs, to some extent made more income from their harvest by selling for seeds rather than for food grains and by growing high quality varieties that are better paid in the market. Those farmers that were interviewed for an endline report told of complete elimination or reduction of the hungry period to less than a month.

12. The programme inputs are knowledge, skills and genetic resources. When used, such inputs tend to take roots and also "move" by diffusion. Sustainability and continuation are likely when farmers are also organised, and linked to and supported by permanent public institutions. The comprehensive nature of the programme adds up to a model of agricultural development. This model works effectively in small-scale and marginal farming areas, but according to convincing programme results in the Mekong Delta, it also has merits and potentials in high-yield commercial farming.

10 Recommendations

In a next phase IFAD and the implementing organisation could

10.1 Consolidate and further develop their projects as models,

Where the project approach is introduced, there is a scope for continuation and further progress. Involved farmers want to learn more, and be more advanced as plant breeders and seed producers. Since plant breeding is long term, and since continuous attention to the needs for climate-adapted varieties is important, continuation is likely to help strengthening much needed services in the communities.

10.2 Expand to new areas,

Taking advantage of many years of experiences the implementing organisations were able to introduce the programme approach in new areas during a programme phase of only three years. Having also demonstrated that the programme approach can be adapted to different agro-ecological and socio-economic conditions, it can now be recommended for new areas globally.

10.3 Scaling up,

10.3.1
The programme tools and methods can safely be recommended also for the next phase. The key pathways include establishing the baseline, providing access to plant genetic resources, education in Farmers' Field School, making use of technical support from scientific institutions and local knowledge from the communities, and providing policy support. It should all be designed for farmer-led plant breeding and seed production towards continued scaling up and deeper entrenchment and institutionalisation. The programme's way of ensuring gender inclusion and relevance for ethnic minorities and otherwise marginalised people should be given due attention also in the continuation.

10.3.2
The FFS-curriculum is a not-yet-finished programme output. Editing and further innovative work on how to present issues without the use of scientific jargon is needed. Those FFS-curricula (tailored to particular crops and agroecologies) should be published.

10.3.3
Curriculum and work on Participatory Plant Breeding should be further developed in response to particular needs under climate change. Current drought in Zimbabwe also reminds us of the need for disaster assessment and contingency plans.

10.3.4
While the current FFS is limited to particular crops (in Vietnam rice) farmers ask for and need expansion to other crops and other productive activities.

10.4 Mainstreaming

With the advances under the current programme, mainstreaming is a realistic possibility. This, however, requires further policy-work towards full acceptance in line ministries, continued attention to on-going debates about seed laws and plant variety protection laws within countries and internationally, and continued work to gain institutional acceptance in public research and education. For this it would be helpful with formalised institutional partnerships at all levels and proactive policy work such as drafting of policies and laws, all backed by convincing work with farmers.

Mainstreaming also requires more attention to publishing. Results and experiences should be written up for scientific and popular journals as well as for pedagogical needs. This must be part of project planning; designing project activities to generate publishable data and findings.

Appendix 1

Sources:

Oxfam Novib, ANDES, CTDT, SEARICE, CGN-WUR 2013: Agro-biodiversity and food security: Scaling Up Innovations for Building People's Capacities to Respond to Climate Change: Conceptual and Methodological Development for a Baseline Survey. Technical Report.

Oxfam Novib, ANDES, CTDT, SEARICE 2015. Internal Evaluation Report. 3-9 September 2015. Vietnam.
.

Oxfam Novib, ANDES, CTDT, SEARICE, CGN-WUR. 2015. From lessons to practice and impact: Scaling up pathways in people's biodiversity management. Briefing note. Oxfam Novib. The Hague.

Salazar, R.: FSE (Farmers' Seed Enterprise), Scoping report, Vietnam. Draft August 2015.

SEARICE; PUTTING LESSONS INTO PRACTICE, SCALING UP PEOPLES' BIODIVERSITY MANAGEMENT FOR FOOD SECURITY
A Study in Hoa Binh, Son La, Yen Bai, and Thanh Hoa Provinces, VIETNAM. BASELINE STUDY.

SEARICE 2013: Farmer-bred varieties: Finding their place in the seed supply system of Vietnam. The case of the HDI variety.

SEARICE 2015: PUTTING LESSONS INTO PRACTICE, SCALING UP PEOPLES' BIODIVERSITY MANAGEMENT FOR FOOD SECURITY. Endline result report.

Zeigler, R. S. 2014: Food Security, Climate Change and Genetic Resources. Chapter 1, pp. 1-15 in M. Jackson, B. Ford-Lloyd and M. Parry (eds.) Plant Genetic Resources and Climate Change, Cabi Climate Change Series, CAB International.

Appendix 2

Terms of Reference

Trygve Berg
Independent Evaluation of IFAD funded Programme on
"PROGRAMME FOR SCALING UP PEOPLES' BIODIVERSITY MANAGEMENT FOR FOOD SECURITY"
(Grant OXFAM NOVIB 1371)

1. Background

These ToRs refer to the evaluation of an IFAD-supported Programme entitled *"Programme for Scaling Up Peoples' Biodiversity Management for Food Security*" – referred to as OXFAM NOVIB 1371.

The goal of the Oxfam Novib 13711 "Programme for Scaling Up Peoples' Biodiversity Management for Food Security" is to uphold, strengthen and mainstream the rights and technical capacities of indigenous peoples and smallholder farmers, and to influence local to global policies and institutions on the sustainable use of plant genetic resources for food security under conditions of climate change. The programme's objectives are to: (i) develop locally appropriate adaptation strategies for food security by bridging traditional knowledge and science on plant genetic resources and incorporating local perceptions on climate change; (ii) empower indigenous peoples and smallholder farmers to influence local, national, regional and international food, agriculture and climate change policies toward realising the right to food (RtF); and (iii) strengthen the adaptive capacities of smallholder farmer communities and indigenous peoples in plant genetic resources conservation, and access and sustainable use, by scaling up successful and/or innovative models. The target group is indigenous peoples and farming communities in Zimbabwe, Peru, and Vietnam.

2. The grant was approved on 5 May 2012 and became effective on 20 July 2012. The current completion date is 30 September 2015 and the closing date is 31 March 2016. The IFAD contribution is of USD 1 million. An evaluation of its achievements was agreed upon by IFAD and Oxfam Novib in order to take stock of lessons learnt and transferability criteria and provide further guidance for an envisaged follow up phase.

2. Advisory Team

The advisory team will be composed of the following people:

- Gigi Manicad, Senior Programme Manager, Oxfam Novib
- Malu Ndavi, Senior Programme Officer, IFAD
- Rima Alcadi, Grants Portfolio Adviser, IFAD (supporting the Evaluation and participating in the mission)

3. Major Work Phases, Tasks and Locations

Overall, the evaluation will take place over a period of **20 days**. There will be 3 phases.

Phase 1 –Focusing the Evaluation (3 days)

At the start of the evaluation, the Evaluator will gather all relevant background information (to be provided by Oxfam Novib and IFAD).

For all countries, the Evaluator will collect, analyse and summarize relevant information related to programme activities undertaken, relevant to the Evaluation Report. Oxfam Novib will provide contact

details of specific informants for all countries involved, so that the Evaluator can interview them as required. Assistance will be provided by Oxfam Novib and IFAD in terms of arranging introductions to key informants.
The Evaluator will analyse the documentation and will identify/select the type of evaluation and set of analytical tools to use which are deemed most appropriate, in terms of cost as well as adequacy for programme. The Evaluator will interact with the Advisory Team members to clarify the evaluation task as required, in order to focus the evaluation.

Phase 2 – Field Visit to Viet Nam (10 days)
Field visits cannot be undertaken for all countries where programme activities are being implemented. Thus, it was necessary to select a country for the field visits and Viet Nam was identified as the preferred location. In selecting the country, the IFAD grant task manager and Oxfam Novib considered that the evaluation is supposed to be also forward looking, i.e. providing recommendations on the prospective subsequent phase, should the evaluation conclude that a subsequent phase is indeed warranted. Thus, the country selected should be a target country for the prospective subsequent phase. Viet Nam is currently envisaged as part of a Phase II proposal and there is a diversity of activities undertaken.

Phase 3 - Finalise the evaluation report (7 days)
Based on the findings of the field visits in Viet Name and analyses of detailed background documents, an evaluation report will be prepared **by xxx.** The Evaluation will include concrete and summarised recommendations.

4. Expected Outputs of the Consultancy

- Final Evaluation Report, including recommendations ensuing from the evaluation intervention (see suggested annotated Table of Contents attached)

Appendix 3

Field work: Programme and persons met.
The field visits for this evaluation was organised by SEARICE with SRD in North Vietnam and with the MDI in the South (Mekong Delta). The programme included meetings with farmers, local leaders and officials in two provinces in the North (Yen Bai and Son La), and three provinces in the Mekong Delta (Vinh Long, Dong Thap, An Giang).
The team consisted of:
Trygve Berg (external evaluator)
Gigi Manicad, Oxfam-Novib (in the North only)
Normita Ignacio, Searice
Anita Dohar, Oxfam-Novib (in the North only)
Dawn Ng, Oxfam-Novib
Marieke Feitsma, Oxfam-Novib (in the South only)

SRI-staff on the programme in the North:
Mr. Liem, Sustainable Agri. Dep. Manager
Ms. Ha, Project coordinator
MDI-staff on the programme in the South:
Dr Huyn Q. Tinh

Dates in December 2015	**Location**	**Programme**	**Persons met**
Monday 7	Hanoi	Arrival	
Tuesday 8	Hanoi	Meeting at SRD office	Mrs. Nguyen Kim Ngan- Dep. Director/Chief accountant Mr. Dao Duc Liem, Program Manager, Sustainable agriculture dept. Ms Doi Thi Khanh Ha, Project Officer
		Meeting at FCRI Headquarters	Dr. Ngo Doan Dam, 1. Dep Dir. Mr. Nguyen Trong Khan Mr. Doan Tai
Wednesday 9	Yen Bai Province	Travel to Yen Bai City: Meeting with DARD	Mr. Sun, Vice director of DARD-agriculture Ms. Yun, Vice director of PPD Mr. Twun, PPD
		Travel to Bao Ai Commune: Meeting with farmer group and Leader of Community People's Comittee	Farmer group; 17 women, 7 men, local leaders.
Thursday 10		Travel to Bach Ha Comune: Meeting with farmer group and Leader of Community People's Committee. Travel back to Hanoi	Farmer group; 12 women, 10 men. Local leaders.
Friday 11	Son La Province	Travel to Son La City Meeting with DARD at Son La	Mr. Lan, Head of

			DARD/PPSD
Saturday 12		Travel to Chieng Sinh Commune Meeting with farmer group and Leader of Community People's Committee Back to Hanoi	Farmer group; Most of them women, Local leaders
Sunday 13	Can Tho	Travel by air from Hanoi to Can Tho City in the Mekong Delta	
Monday 14	Can Tho	Meeting at MDI	Dr Huynh Quang Tin
	Vinh Long	Travel to Vinh Long: Meeting members of Seed Club and local partners, visit fields.	Mr Dang vice director of seed service in the province Ms Diep- vice chairman of commune Ms Trang Ms. Tui- vice director of PPSD Technicians at community level Mr Long head of seed club Ms Chuon wife of Mr Long Seed club members Visitors from other provinces 13 men, 8 women
Tuesday 15	Dong Thap Province	Travel to Dong Thap Dinh An Seed Club: Meeting members of Seed Club and local partners, visit fields.	Vice director agricultural office of the commune Mr Zong, Seed club leader
	An Giang	VinhTrach Seed Club: Meeting members of Seed Club and local partners, visit fields.	Mr Tam, extension worker Ms jun, vice director of extension service in district Mr Tri, farmer union
Wednesday 16		Visit Extension Centre: Meeting Extension and Seed Testing Staff Back to Can Tho	Mr. Thang, Dir. Ext. Centre
Thursday 17	Can Tho - Hanoi	Departure	

Appendix 4

ANDES	Associacion para la Naturaleza y el Desarollo Sostenible
BUCAP	Biodiversity Use and Conservation in Asia Programme
CBDC	Community Biodiversity Development and Conservation
CGIAR	Consultative Group for International Agricultural Research
CTDT	Community Technology Development Trust
DARD	Department of Agriculture and Rural Development
FAO	Food and Agriculture Organisation
FCRI	Field Crop Research Institute
FFD	Farmer Field Days
FFS	Farmer Field School
PPB	Participatory Plant Breeding
IFAD	International Fund for Agricultural Development
IPCC	Intergovernmental Panel on Climate Change
IPM	Integrated Pest Management
IPR	Intellectual Property Rights
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
MD	Mekong Delta
MDI	Mekong Delta Research and Development Institute
PPB	Participatory Plant Breeding
PPD	Plant Protection Department
PPSD	Plant Protection Sub-Department
PVS	Participatory Varietal Selection
SEARICE	South East Asian Regional Institute for Community Empowerment
SRD	Center for Sustainable Rural Development
SRI	System of Rice Intensification

Appendix 5 Internal Evaluation Report

INTERNAL EVALUATION REPORT

3-9 SEPTEMBER 2015 VIETNAM

DECEMBER 2017

OXFAM

INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT-OXFAM NOVIB PROGRAMME:

"PUTTING LESSONS INTO PRATICE: SCALING UP PEOPLES' BIODIVERSITY MANAGEMENT FOR FOOD SECURITY"

(I-R-1371-OXFAM)

PARTNERS:

Asociación ANDES
ASOCIACIÓN PARA LA NATURALEZA Y EL DESARROLLO SOSTENIBLE

SEARICE

Community Technology Development Trust (CTDT)

IFAD
Investing in rural people

Photo credit cover page: Hoang Huy/Oxfam Novib
Participatory Plant Breeding exercise in North Vietnam

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ACRONYMS AND ABBREVIATIONS

ABS	Access and Benefit Sharing
AMUL	Association of Women Entrepreneurs of the district of Lares
ANDES	Asociación para la Naturaleza y el Desarrollo Sostenible
ARIPO	African Regional Intellectual Property Organization
ASEAN	Association of Southeast Asian Nations
BUCAP	Biodiversity Use and Conservation in Asia Programme
CAWR	Centre for Agro-ecology, Water and Resilience
CBD	Convention on Biological Diversity
CBDC	Community Biodiversity Development and Conservation
CBDC- BUCAP	CBDC-Biodiversity Use and Conservation in Asia Programme
CBR	Crop Breeding Institute of MoA
CC	Climate Change
CCA	Climate Change Adaption
CCR	Climate Change Response
CDI	Centre for Development Innovation
CDU	Conservation, Development and Use
CIP	International Potato Center
CGN	Centre for Genetic Resources, the Netherlands
CGIAR	Consultative Group for International Agricultural Research
CGRFA	FAO's Commission on Genetic Resources for Food and Agriculture
CIMMYT	International Maize and Wheat Improvement Center
COMESA	Common Market for Eastern and Southern Africa
COP	Conference of Parties (used in context of United Nations negotiations processes)
CSM	Civil Society Mechanism
CSM-CFS	Civil Society Mechanism of the Committee on World Food Security
CSO	Civil Society Organisation
CTDT	Community Technology Development Trust
CTU	Can Tho University
DARD	Department of Agriculture and Rural Development
DARE	Democratizing Agricultural Research and Extension
DRR	Disaster Risk Reduction
DUS	Distinctness, Uniformity and Stability
ETC group	Action Group on Erosion, Technology and Concentration
FAO	Food and Agriculture Organisation
FCRI	Field Crop Research Institute
FFD	Farmer Field Days
FFS	Farmer Field School
FGD	Focus Group Discussion
FPIC	Free Prior and Informed Consent
FPB	Farmer Plant Breeders Group
FSE	Farmer Seed Enterprise
GB	Governing Body
GESI	Gender equality and social inclusion
GPC	Global Programme Committee
GSI	Geographic Information System

HDDS	Household Diet Diversity Score
HH	Households
ICNP	Intergovernmental Committee for the Nagoya Protocol
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IEC	Information, Education and Communication
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IIED	International Institute for Environment and Development
IKS	Indigenous Knowledge Systems
ILC	International Land Coalition
ILUC	Indirect land use change
INIA	National Institute of Agricultural Innovation
IP	Indigenous Peoples
IPCC	Intergovernmental Panel on Climate Change
IPM	Integrated Pest Management
IPR	Intellectual Property Rights
IPSHF	Indigenous Peoples and Smallholder Farmers
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
IUCN	International Union for the Conservation of Nature
KM	Knowledge management
MDI	Mekong Delta Research and Development Institute
MEL	Monitoring, Evaluation and Learning
MOU	Memorandum of Agreement
NAFRI-ARC	National Agriculture and Forestry Research Institute
NAU	Norwegian Agriculture University
NIN	National Institute for Nutrition
NGO	Non-governmental organisation
NPL	National Postcode Lottery
NUS	Neglected and Underutilised Species
OAPI	Organisation Africaine de la Propriété
OPV	Open Pollinated Variety
PB	Plant Breeding
PB/PVS	Plant Breeding/ Plant Variety Protection
PGR	Plant Genetic Resources
PGRFA	Plant Genetic Resources for Food and Agriculture
PKM	Participatory Knowledge Management
PME	Planning, Monitoring & Evaluation
PPB	Participatory Plant Breeding
PPD	Plant Protection Department
PPP	Public Private Partnerships
PPSD	Plant Protection Sub-Department
PRA	Participatory Rural Appraisal
PRC	Plant Genetic Resource Center
PVE	Participatory Varietal Enhancement
PVP	Plant Variety Protection
PVS	Participatory Varietal Selection
RRI	Rights and Resources Institute
RtF	Right to Food
SAARC	South Asian Association for Regional Cooperation
SADC	Southern African Development Community
SADCC	Southern African Development Community Conference

SD=HS	Sowing Diversity = Harvesting Security
SDGs	Sustainable Development Goals
SEARICE	South East Asia Regional Initiatives for Community Empowerment
Sida	Swedish International Development Cooperation Agency
SA	SD=HS Scientific Adviser
SoWBFA	State of the World's Biodiversity for Food and Agriculture
SRD	Center for Sustainable Rural Development of the Can Tho University
SRI	System Rice Intensification
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TK	Traditional Knowledge
TOA	SD=HS'S Technical and Operations Adviser
ToC	Theory of Change
ToT	Training of Trainers
TWN	Third World Network
UN	United Nations
UNFCCC	UN Framework on Climate Change Convention
UPOV	International Union for the Protection of new varieties of Plants
WUR	Wageningen University and Research Centre
VG	Voluntary Guidelines
VCU	Value for Cultivation and Use
WDDS	Women's Diet Diversity Score
WIPO	World Intellectual Property Organisation
ZFU	Zimbabwe Farmers Union

EXECUTIVE SUMMARY

Farmers' seed systems provide eighty percent of seeds, globally, and almost all food consumed locally. Yet, they remain at the margins of agricultural research and policies. With the aim of helping to bridge this gap, a three-year IFAD-Oxfam Novib programme, '*Putting Lessons into Practice: Scaling up People's Biodiversity Management for Food Security',* was carried out between 2012 and 2015. The **goal of the programme** was to uphold, strengthen, and mainstream the rights and technical capacities of indigenous peoples and smallholder farmers, and to influence local to global policies and institutions on the sustainable use of plant genetic resources for food security, under conditions of climate change. The programme was implemented jointly by Oxfam Novib and three country partners: the Asociación para la Naturaleza y el Desarrollo Sostenible (ANDES) in Peru, the Southeast Asia Regional Initiatives for Community Empowerment (SEARICE) in Vietnam; and the Community Technology Development Trust (CTDT) in Zimbabwe. Implementation is now complete, and an external evaluation is in process.

Prior to the external evaluation, an internal evaluation was also conducted (from 3–9 September 2015, in Hanoi, Vietnam). This provided an opportunity for all four programme partners to evaluate the programme's achievements internally, **with the aim of** taking stock of sustainability criteria and lessons learned, and providing further guidance for a follow-up phase. **Five specific objectives** of the evaluation were to: 1) Capitalise on the valuable experiences of all partners in an open and safe environment, and to gather collective lessons and insights. 2) Review baseline and endline results, using the four key indicators (seed security, food security, gender inclusion, and policy engagement), and identify achievements and gaps. 3) Review the Farmer Field School (FFS) curriculum and the technical and empowering approach and deliver the improved draft to IFAD to improve draft as a deliverable to IFAD. 4) Hone agreements on the definition of *beneficiaries*, *target groups,* and *reach*. 5) Define areas for the next proposal and plan.

While the programme covered three countries with a global component, the internal evaluation focused on **Vietnam as a case study**. Inputs were provided from the global perspective as well as from Peru and Zimbabwe. The four programme partners, local partners of SEARICE in Vietnam, and target communities (including involved government authorities) attended the evaluation. Sessions in Hanoi were followed by field visits to the FFS sites in Bao Ai commune, Yen Bihn district, and Yen Bai province. Given the programme's broad seed exchange and policy outreach, and the interlinkages between target sites in the north and SEARICE's other programmes in the south, the participants visited Can Tho and the FFS sites in Kien Giang province, in South Vietnam. The visits to government authorities and communities provided an opportunity to learn and exchange experiences with the programme's target beneficiaries and stakeholders, and to explore potential improvements and follow-up plans, based on identified needs and/or gaps. The rich reflections and findings of the internal evaluation serve **as inputs to a more in-depth and independent external evaluation** that IFAD will organise in the coming months.

The internal evaluation results confirmed that the programme had been successful **in scaling up and mainstreaming its innovations and use of tools, and most importantly in empowering indigenous peoples and smallholder farmers**. Results demonstrated success **in all four major outcome areas**, evidenced by the following indicators: 1) 83,700 households reached in Peru, Vietnam, and Zimbabwe (including 15,532 primary target households[3] or 82,400 inhabitants, of whom 60% were women), and 91 Farmer Field Schools established. 2) Improvement in seed security, as illustrated by an increase in the accessibility of genetically diverse seeds. 3) Improvement in food security, with a thirty percent increase in crop productivity, and better pest and disease resistance. 4) Local to global policy engagement, resulting in new local ordinances and global policy recommendations on Farmers' Rights. The programme developed knowledge products, such as gender sensitive tools for scaling up (baseline and endline surveys; plant genetic resources for food and agriculture (PGRFA) participatory toolkits; farmer field school curricula; women's video diaries), and a set of six scaling up pathways, to further improve impact within and outside programme

[3] Primary target households are households located in the geographic areas where most programme activities took place (2,062 households in Peru; 6,750 In Vietnam; and 6,720 in Zimbabwe) and to which most programme funding of IFAD was allocated.

areas. The programme provided key insights into farmers' perceptions of climate change and how they have adapted to it, using plant genetic resources for food and agriculture. The results of the programme have been submitted to the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGFRA) and will be submitted for inclusion in FAO's Report on the State of the World's Genetic Resources for Food and Agriculture. http://www.planttreaty.org/sites/default/files/gb6inf05e_Add1.pdf

The internal evaluation also showed that, despite significant achievements, the programme capitalised on only a proportion of its knowledge products, due to the lack of more tailored **participatory knowledge management (PKM)** that can build epistemic bridges between scientific and indigenous knowledge areas. It is anticipated that the second phase of the programme will consider developing more effective knowledge management systems that will respond to the needs of its target groups and integrate local and indigenous, and formal and scientific fields of knowledge. The second phase of the programme will aim to capitalise on the products and lessons of phase one, and leverage its achievements. PKM, which is also at the heart of IFAD's priority area of agricultural research for development, will contribute to the further scaling up and mainstreaming of the programme's impact.

FFS proved to be an effective tool for local plant genetic resources management and farmers' empowerment, as well as a mechanism to facilitate collaboration with the formal sector. Therefore, in the proposed second phase, FFS will continue to play a key role in the programme and will be further improved, through more gender sensitive and socially inclusive curricula and field guides. Furthermore, the programme demonstrated **effective coalitions** between farmers, authorities, and the public sector. A more structured engagement is recommended. This include more inclusive priority setting and formal plant breeding approaches that better address farmers' needs; a needs assessment to inform the development of an annotated *Memorandum of Understanding* (MoU) guideline and protocols to better facilitate farmers' requests to public breeding institutes for germplasms. **In relation to the role of women in biodiversity management** for food security, both the programme and the communities benefitted from working with women and their social networks. Addressing gender roles was an important component of the programme, however gender and social inclusion should be further strengthened in the second phase. This may require the selection of new and additional crops that are under women's management, such as vegetables or, in particular, those that are relevant to the poor, such as neglected and underutilised species (NUS). The second phase should also seek ways to involve youth and/or other groups in the food diversity agenda. Finally, it should put more emphasis on working on **regional policy agendas**, given the growing role of regional economic blocks in setting national and global policy agendas.

Participants expressed their deep appreciation to IFAD for their vision and risk-taking to enable the programme to scale up its work. Innovative approaches facilitated the further scaling up of the programme's work, with support from other donors such as Sida and the Dutch Postcode Lottery. To date the IFAD-Oxfam Novib programme has been expanded to eight countries, targeting 300,000 households; this expanded programme is called Sowing Diversity= Harvesting Security (SD=HS). This shows that the investment of IFAD has far reaching spread and impact.

This internal evaluation report is organised as follows: 1) Introduction. 2) Summary. 3) Achievements. 4) Field and site visits. 5) Farmer Field School. 6) Assessment/lessons, gaps and ways forward. 7) Annexes.

A more detailed overview of the three countries' achievements, along with the main findings and recommendations can be found in section II, *summary*.

1. INTRODUCTION

1.1 PROGRAMME BACKGROUND

The joint International Fund for Agricultural Development-Oxfam Novib **Programme *Putting Lessons Into Practice: Scaling up People's Biodiversity Management for Food Security was implemented in the period 2012-2015, and*** aims to uphold, strengthen and mainstream the rights and technical capacities of indigenous peoples and smallholder farmers, and to influence local to global policies and institutions on the sustainable use of plant genetic resources for food security, under conditions of climate change.

Specifically, the programme's objectives are to:

- Develop locally appropriate adaptation strategies for food security by bridging traditional knowledge and science on plant genetic resources and incorporating local perceptions on climate change.
- Empower indigenous peoples and smallholder farmers to influence local, national, regional and international food, agriculture and climate change policies toward realising the Right to Food (RtF).
- Strengthen the adaptive capacities of smallholder farmer communities and indigenous peoples in plant genetic resources conservation, and access and sustainable use, by scaling up successful and/or innovative models.

The Programme works with indigenous peoples and farming communities in Peru, Vietnam, and Zimbabwe. In the three countries, the programme initially targeted a total of 82,300 household beneficiaries of which at least 60% would be women, 50% would use improved seeds, and 50% would have improved food security.
Programme implementation is consistently monitored against four key indicators: 1) Households reached and percentage of women participating. 2) Seed security. 3) Food security. 4) Policy engagement.

1.2 INTERNAL EVALUATION AGENDA

General Objective

- Internal evaluation of the achievements of the IFAD funded programme, to take stock of lessons learned and sustainability criteria, and to provide further guidance for a follow up phase.

Specific Objectives:

- Capitalise on the valuable experiences of all partners in an open and safe environment, and to extract collective lessons and insights
- Review baseline and endline results, using the four key indicators (seed security, food security, gender inclusion, and policy engagement), and identify achievements and gaps.
- Review the Farmer Field School (FFS) curriculum and the technical and empowering approach to improve draft as a deliverable to IFAD.
- Sharpen agreements on the definition of beneficiaries, target groups, and reach.
- Define areas for the next proposal and plan.

Location

Although the programme was implemented in three countries and has a global component, the internal evaluation focused on Vietnam, using it as a case study. The workshop provided inputs from the global perspective and from the partners from Peru and Zimbabwe. Workshop sessions in Hanoi were followed by field visits to the FFS sites in Bao Ai

commune, Yen Binh district, Yen Bai province**.** IFAD funding is spent in these sites. To understand the linkages between the target sites, participants travelled to Can Tho and visited the FFS sites in Kien Giang province.

Main methodology of the internal evaluation

1. Internal self-assessment, followed by collective assessment of achievements, gaps, and recommendations. The four implementing parties each gave an assessment of their own work, according to the four outcomes indicators (number of primary target households; number of FFS established; number of varieties per household for the most important crop; number of potentially climate resilient seed varieties identified by farmers) and the six scaling up pathways (PGRFA participatory toolkit; FFS; PGRFA access; policy influencing; climate change response; gender and social inclusion). Afterwards, participants could ask questions about and provide feedback on each organisation's presentation.
2. Given the multi-stakeholder nature of the entire IFAD-Oxfam Novib programme, Vietnam's internal evaluation came from the perspectives of multi-stakeholder partners, such as Civil Society Organisations (CSO), governments, universities, and indigenous and farming communities.
3. Vietnam's self-assessment were compared to empirical findings from a sample of FFS activities and seed clubs in the programme sites.
4. Three highly experienced advisers—Bert Visser, SD=HS Scientific Adviser; Rene Salazar SD=HS Technical Operations Adviser; and Trygve Berg from the Norwegian Agricultural University—gave a consolidated analysis of their findings and recommendations.
5. Based on the findings and lessons from phase one of the programme, participants jointly identified strategic areas for a phase two proposal.

Main Output

This report is the main output of the internal evaluation of the IFAD-Oxfam Novib funded programme and will serve as input to the external evaluation, commissioned by IFAD.

2. SUMMARY

The internal evaluation of the IFAD funded programme ***Putting Lessons into Practice: Scaling up People's Biodiversity Management for Food Security*** covered the implementation period 2012-2015. The programme was undertaken jointly by Oxfam Novib and three implementing-country partners: the *Asociación para la Naturaleza y el Desarrollo Sostenible* (ANDES) in Peru, the Southeast Asia Regional Initiatives for Community Empowerment (SEARICE) in Vietnam; and the Community Technology Development Trust (CTDT) in Zimbabwe. Implementation is now complete, and an external evaluation is in process.

The internal evaluation was held from 3–9 September 2015, in Vietnam. Participants included programme partners, local partners of SEARICE in Vietnam, target communities, and local stakeholders, including government authorities. Field visits to government authorities and community partners took place between the evaluation meetings, to provide an overview of the programme's activities, partnerships, accomplishments, and engagements in Vietnam. The purpose of the internal evaluation, including the field visits, was to draw lessons from and identify gaps in the programme approach; also to identify ways forward. The information in this report will be integral in developing a second phase of the programme.

Table 1 highlights overall achievements (including global achievements) and country achievements in Peru, Vietnam, and Zimbabwe.

Table 1. Highlights of achievements

Summary of achievements (including global achievements)

- In phase one, around 83,700 households (including 15,532 primary target households) reached in Peru, Vietnam and Zimbabwe; or 82,400 individuals of whom 60% were women.
- A total of 91 farmer field schools in three countries established; the schools had a total of 2,614 farmer-participants and contributed to seed and food security.
- A submission on Farmers' Rights made to the Sixth Session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) (http://www.planttreaty.org/sites/default/files/gb6inf05e_Add1.pdf)
- Two briefing notes circulated during the fifth and sixth sessions of the Governing Body of the ITPGRFA: *Building on Farmers' Perception and Traditional Knowledge: Biodiversity Management for Climate Change Adaptation Strategies;* and *From Lessons to Practice and Impact: Scaling up Pathways in People's Biodiversity Management*.
- A set of six scaling up pathways (PGRFA participatory toolkit; FFS; PGRFA access; climate change response; policy influencing; gender inclusion) systematically conceptualised; includes innovation and learning, achievements, and action plans to ensure the sustainability and further mainstreaming of innovation and learning.
- Improved baseline tools and Farmer Field School curricula/manuals published.
- Reviews carried out on national seed laws in Peru, Vietnam, and Zimbabwe.
- Climate resilient varieties developed/selected through FFS activities: 5 native potato varieties resistant to frost, 20 varieties resistant to late blight, and 97 maize varieties adapted to local conditions in Peru; 18 stable climate resilient rice varieties developed and 13 rice varieties—including 9 traditional varieties—improved in Vietnam; 8 advanced lines of sorghum, 6 advanced lines of pearl millet, 2 varieties of groundnuts, and 2 varieties of bambara nuts selected in Zimbabwe.

Peru:

- Seven FFS established—each holding approximately 29 sessions over three years. (FFS sessions in Peru focused on increased diversity at both crop and variety levels.)

- Access (by FFS farmer-participants) to 20 native potato varieties from the International Potato Center (CIP).
- A total of 225 potato varieties from the 'Potato park'—a biocultural heritage territory—transferred to the farmers in the Lares valley, for local consumption.
- The role of barter markets strengthened, thanks to the FFS; diffusion of seeds (both maize and potato).
- Climate resilient seed varieties identified by farmers; 5 native potato varieties, potentially resistant to frost, 20 varieties potentially resistant to late blight, 37 varieties of yellow maize and 60 varieties of white maize adapted to local conditions.
- Seven seed clubs developed.
- Draft toolkit developed, with training materials on establishing a biocultural heritage territory, where emphasis is on maintaining genetic diversity and the biocultural processes that support ongoing on-farm conservation.
  Seed bank constructed to store seed potatoes and maize.
- Partnerships established with CIP, INIA, INDECOPI, NIMAM, SENAMHI and the local municipality
- Two municipal ordinances issued at community level, on food and seed security and the protection and promotion of the barter market.
- Two policy proposals presented and approved at provincial level; one at national level.
- Actions against INIA's claim on plant breeders' rights successfully addressed by ANDES.

Vietnam:

- Direct access to good quality seeds by 6,720 households, through activities implemented in 19 FFS
- Around 504 women ethnic minorities (out of 630 farmer participants) participated in FFS. Participants were from 21 communes in the provinces of Hoa Binh, Yen Bai, Thanh Hoa, Lao Cai, Son La, in North Vietnam.
- Eighteen stable climate resilient rice varieties developed through FFS activities (i.e., varieties with good lodging tolerance; cold, drought, salinity and flood tolerance; broad adaptability to many different soil types). These selected new varieties take into account women farmers' preferences; for example, those that can be grown twice per year and have short growing duration, etc.
- Thirteen rice varieties, of which nine traditional varieties (including *Nep Lech*, the sticky rice variety, preferred by women), with high adaptability were improved through FFS activities and widely cultivated in farmers' fields. (62 varieties were evaluated in FFS.)
- Local seed system strengthened, through the on-farm research on climate resilient varieties.
- Communities' adaptation strategies strengthened, through cultivation of diversified crops.
- Policy circular reviewed (*No. 35/2008/QD-BNN on 'Production management of Farm Households' Plant Varieties').
- 83 Farmer Field Days conducted, with participation of local policy makers.
- Improved baseline tools and Farmer Field School manuals tailored to include climate change related tools.

Zimbabwe:

- 6,720 households trained in and practicing PGR management on-farm.
- 65 FFS established, with a total of 1,820 farmer participants. (A well-designed Farmer Field School is an effective instrument for capacity strengthening, since it uses experiential learning and participatory approaches, where hands-on management skills and conceptual understanding are nurtured. The FFS sessions in Zimbabwe focused on increased diversity at both crop and variety levels.)
- Two draft FFS manuals produced: one on plant breeding and plant varietal selection on maize, sorghum, pearl millet, and groundnuts; the other on climate field school (together with the University of Zimbabwe's Department of Physics, Agricultural Meteorology Group).
- Eight advanced lines of sorghum, 6 advanced lines of pearl millet; 2 varieties of ground nuts; 2 varieties of bambara nuts.
- Two sorghum varieties repatriated from the national gene bank to farmers in the Chiredzi district, and four local sorghum varieties to programme communities in UMP district.
- Twelve sorghum and six pearl millet advanced breeding lines (and additional varieties of other crops,

such as maize and cowpeas) introduced in farmers' fields, in collaboration with the Matapos research station.
- Seed multiplication activities initiated.
- Sixteen seed fairs held in the programme sites; 1,820 famers displayed their seeds at those fairs.
- Ninety percent of beneficiaries in three out of four programme sites are seed secure. Sixty percent of the households in three of the four programme sites are food secure.
- The programme successfully collaborated with the following stakeholders/partners: the government ministries and departments (e.g., DR&SS and Agritex), academic research institutions (UZ, CUT, Women's University in Africa), Zimbabwe Meteorological Department, CGIAR centres (ICRISAT, CIMMYT), Farmer's organisations (ZFU), local authorities and traditional leaders.
- Seed Security Network Dialogue Initiative formed in Zimbabwe, as a result of dialogue facilitated by CTDT, between farmers and governments on seed laws and Farmer's Rights. This network will review current seed laws and the establishment of a national seed policy, with an integrated seed system approach.
- CTDT has been invited to become part of the Zimbabwe delegation to the International Treaty for Plant Genetic Resources for Food and Agriculture, as a result of its key contributions to the discussions on the country's seed laws.

Conclusions and recommendations

The programme was considered successful in the way its innovations had been scaled up and mainstreamed; and in how the tools were used. In all three countries, the programme contributed not only to farmers' empowerment, in particular their technical capacities and rights, but also to increased awareness of the impact of seed policies and communities' capacity to engage in and influence local to global food, agriculture, and climate change policies. Moreover, the programme has been able to address issues of gender equality and women's empowerment. One achievements related to gender is the modified participatory tools used in FFS; they are now more gender-sensitive and better accommodate women's needs and preferences for specific variety traits. The improved FFS tool was also able to facilitate more gender-inclusive community breeding objectives. Results show that the programme has reached around 83,700 households, including 15,532 primary target households or 82,400 individuals, of whom 60% were women. In particular, 91 season-long FFS were organised in Peru (7), Vietnam (19) and Zimbabwe (65). A total of 2,614 farmers (of whom 1,890 women) participated in the FFS in the three countries, i.e., 164 (60% women) in Peru; 630 (79% women) in Vietnam; and 1,820 (70% women) in Zimbabwe. These FFS were conducted with a focus on improving crop production, by creating more crop and variety diversity at the community level.

The programme results provide clear evidence that major scaling up and mainstreaming of efforts, to increase and improve farmers' Plant Genetic Resources (PGR) management, is feasible. The next phase should build on this initial success and realise further scaling up and mainstreaming of initiatives, leading to a phase where which those initiatives can expand autonomously, and are institutionalised and/or integrated in the plans and activities of national and local governments, as was formerly the case with integrated pest management programmes. Effective coalitions with authorities and the public sector in each of the three countries have been established, ensuring sustainability and the increased scaling-up potential of the programme. Relevant government institutions, both local and national, were engaged in the programme implementation right from the beginning, to simultaneously raise awareness and establish ownership of the programme. Ensuring ownership of the programme by authorities is key, to ensure institutionalization and future implementation, beyond the funding phase. Furthermore, public sector institutions have actively been engaged in the programme, both international (Consultative Group for International Agricultural Research (CGIAR)) and national (agricultural research centres and local universities). Through engagement with research and plant breeding institutions, pre-breeding materials and diverse germplasms have been provided to support farmers' breeding. In some cases, such as in Vietnam and Zimbabwe, the programme worked closely with the government agricultural extension system, as it provides continuous capacity development to farmers. The programme expanded the capacities of extension agents as FFS facilitators. The programme's success in capitalising on the cooperation between local communities and the formal sector is an important innovation and is identified as one of the six scaling up pathways

FFS was used as a mechanism to facilitate collaboration with the formal sector, and as a result, farmers gained greater access to PGR diversity, and more knowledge on breeding techniques and seed production. In the light of this strong local to global outreach, and ability to create new coalitions, it is noted that in the next phase, the engagement and partnership with research institutions should be addressed in an even more structured way. Activities to be considered in the next phase may include *needs assessment* and documentation of farmers' experiences that may inform the development of annotated Memorandum of Understanding (MoU)'s guideline and selection/repatriation protocols (making requests for germplasm to formal breeding institutes, for example). The programme has generated positive recognition of FFS as an effective tool for local PGR management and farmers' empowerment. It managed to assist the strengthening of farmers' seed systems; maintaining and creating diversity.

Given the contribution of the informal sector to the seed demands in the Mekong Delta, in Vietnam, the programme has proven that farmers can indeed be breeders and professional seed producers; farmers providing seed for crops with very high yields, and in areas not well served by the public and private seed sectors. The programme also showed that farmers are continuously adapting their farming systems to cope with the consequences of climate change. In particular they have been selecting crops, setting breeding objectives, performing crop variety, multi-location evaluation and selection, and creating new crop diversity from newly introduced germplasm, while maintaining and rehabilitating their preferred traditional varieties. It further showed that traditional knowledge is being used in farmers' field experimentation, in particular to produce new varieties, with short duration and better drought tolerance, that combine traditional traits with better adaptation to the new circumstances. These rich field experiences provided new insights into which participatory plant breeding (PPB) methods fit better to farmers' needs and capacities, and under which circumstances. All of this knowledge is essential to further refine the programme's PGRFA Participatory Toolkit and the associated FFS curricula and field guide. As an outcome of the programme, it is recommended in the next phase, to document and use these experiences; to advocate for priority setting and formal plant breeding approaches that better address farmers' needs.

The knowledge-intensive nature of the programme means that phase two should focus on properly documenting and distributing the products and lessons from the three-year implementation, through participatory knowledge management (PKM). PKM should facilitate the bridging of scientific and indigenous knowledge, and the integration of both forms of knowledge systems, to better address the target groups' needs.

Through a better developed knowledge management strategy and approach, the next phase should be able to address some of the challenges encountered in documenting and mainstreaming, by consistently focusing on and expanding its *empowerment agenda*, including aspects of gender and social inclusion, e.g., of rural youth. In doing so, the next phase should ensure that traditional knowledge and local cultures and beliefs are captured by improved methods and tools, in particular in the FFS-PPB curricula and field guides. Future communication with, and outreach to, various stakeholder groups should be more inclusive, by exploring the use of local language, visual aids, and developing field guides with symbols, to include broader stakeholder groups.

The community experiences in the three countries provided the programme with evidence-based case studies and recommendations for policy change at national and global levels. For the next phase, it is recommended that emphasis be given to regional policy agendas, given the growing role of regional economic blocks in setting national and global policy agendas. One recommended policy intervention is to use the programme's experiences in seed management, to address the impact of seed laws on the functioning of smallholder seed systems, and their ability to deal with the principles of Distinctness, Uniformity and Stability (DUS) and of Value for Cultivation and Use (VCU) as operational in formal seed systems. Alternative policy models, such as the one illustrated by the *local government's seed registration* mechanism in Vietnam, allowing farmers to produce and sell unregistered seed varieties, should be further explored as successful approaches to scaling up.

2.1 ACHIEVEMENTS

The IFAD-Oxfam Novib programme has a global agenda and framework, and has been implemented in several countries. While ANDES, CDTD, and SEARICE have been long-term partners of Oxfam Novib on global programmes, the type of cooperation shifted on this occasion. In addition to the overall management of the programme, Oxfam Novib was also an implementing partner, providing global methodologies and tools, linking and learning, consolidation of country achievements, and support to country partners on technical issues. On the other hand, in addition to implementing activities at country level, the country partners needed to ensure that country level results could contribute meaningfully to a coherent local to global policy narrative; hence country level data needed to be appropriate for consolidation at the global level.
Past experiences and lessons learned by Oxfam Novib and the three partners (through their participation in the Biodiversity Fund and the Oxfam Novib Global Programme) were then brought together to have greater impact, building on each other's strengths. IFAD had been instrumental in pioneering the IFAD-Oxfam Novib programme. Through IFAD investment in this scaling up programme, the partners were able to scale up further into the SD=HS programme.

Six major achievements have been identified: 1) Success in scaling up and mainstreaming. 2) Forging new coalitions. 3) Farmers have proven they can be breeders and **professional seed producers**. 4) Farmers have demonstrated leadership skills. 5) Local to global programme outreach. 6) Successful innovations (i.e., six scaling up pathways). Each of the four implementing parties gave an assessment of their own work, reporting progress and results against the four key indicators. Afterwards, participants could ask questions about and provide feedback on each organisation's presentation.

2.2 VIETNAM REPORT

Centre for Sustainable Rural Development (SRD), *Nguyen Thi Hoa, SRD Deputy Director*

Context

The IFAD-Oxfam-Novib programme implementation is a collaborative effort of SEARICE, SRD, the Field Crop Research Institute (FCRI) and the Plant Protection Department (PPD).

In Vietnam, the programme has been implemented in communities of ethnic minorities and smallholder farmers, where both food insecurity and climate change related events are experienced. The **primary target beneficiaries** initially included 6,720 households in four villages, in four communes, in four provinces in the upland area to the northwest and northeast of Hanoi, and in the north central region of Vietnam; namely Hoa Binh, Son La, Yen Bai and Thanh Hoa provinces, which are the poorest regions of Vietnam. Of these farming households, 20% are from the following ethnic groups: Nung, Tay, Cao Lan, Muong, and Thai in the North. The **direct beneficiaries** include the poorest farming communities in the Mekong Delta region, totalling an outreach of 75,000 households. In addition, in these communities, farmers primarily access seeds through purchase; the farming systems are dominated by hybrid varieties and traditional varieties are slowly being lost.
All four provinces are hilly or mountainous terrains, ranging from 200 meters above sea level (masl) up to as high as 1,050 masl in Son La province. The mountainous areas are interspersed with either plateaus or plains. Thanh Hoa has moderate elevation; mostly hilly, with plains and coastal areas making up 75% of its total area. Farms are generally sloped, because of the mountainous terrain in Hoa Binh, Son La, and Yen Bai; the exception is Thanh Hoa and some plains of Yen Bai, which have relatively flat farms.
Accomplishment Highlights

The following table presents a summary of progress for a number of selected outputs for each key indicator in Vietnam:

Table 2. Selected outputs for key indicators in Vietnam (endline)

	Endline
Number of primary target households	*__6,750 households__ reached; they have participated in barter access to good quality seeds * 10–30 percent increase in income from rice production
Seed security	
Number of farmers (men and women) trained and practicing PGR management on-farm	**Total:** 630. **Women:** 498 (80%)
Number of potentially climate resilient seeds, identified by farmers	*49 examined rice varieties, with **18 stable rice varieties** have been selected from segregating F4-F5 populations from FCRI. Populations were selected for disease resistance, duration, plant height, and taste. ***13 rice varieties including 9 traditional varieties,** with high adaptability were improved (i.e., rehabilitated) through FFS activities, and widely cultivated in farmers' fields. During the rehabilitation, both negative mass selection and positive pedigree selection were undertaken (panicle to row). Additionally, crossings had been performed, from which four lines were further selected and tested. ***12 promising lines** selected by farmers, including 4 stable lines in the F8 generation
Increased availability of Indigenous Peoples and Smallholder Farmers (IPSHF) produce at market and/or barter	*Farmers used community activities to exchange seed, where the prevailing ratio is 1:2 or 1:3 (i.e., 1 kg of seeds to 2 or 3 kg food grains or other seed). *Farmers in the Mekong Delta are able to release a total of 130 varieties from their segregating line selection and cross breeding activity. Of these, five varieties are preferred for their good eating quality and have been commercialised; seven varieties are being tested at national level. In addition, **407 seed clubs are now producing and distributing good quality seeds,** equivalent to 30% of the total seed demand in the Mekong Delta.
Food security	
Number of FFS (% women participated)	***19 FFS. 79%** women participants (498 of 630 total participants) *Average number of participants per FFS group is 33 ***84% of FFS farmers** successfully **crossed hybrid seeds**; six cross breed combinations developed.
Women's preferences considered in farm testing	Amongst the 18 stable rice varieties, with climate resilient traits, some selected new varieties have taken into account women farmers' preferences, e.g., those that can be grown twice per year, with short duration traits.
Policy engagement	
Policy areas are identified through FFS	***83 Farmer Field Days (FFDs)** conducted; participants included local policy makers. The People's Committee of Bao Ai commune (Yen Bai) included the preservation of the *Nep Lech* sticky rice variety in its plans, following the success of the rehabilitation activities conducted. ***Policy circular No. 35/2008/QD-BNN** reviewed (*Production management of Farm Households' Plant Varieties)*. The support to on-farm seed conservation and development implies acknowledgement of and support to farmers' initiatives in relation to PGR management. Through the programme, it became evident that supporting policies (on the marketing of farmer developed seeds, for example, and legal instruments for rice seed production groups of farmers) were urgently required. *Around 2,400 farmers are involved in mobilization activities

In Vietnam, the programme has directly benefited 6,750 households within the 21 communities, and has the potential to reach thousand more, indirectly through advocacy-related activities and interventions. These indirect beneficiaries include subscribers to and viewers of government cable channels, where some programme results and activities were given airtime; also netizens of web-based video-sharing platforms, where some activities like FFS-PPB have been posted.

Prior to the programme, the farming systems were dominated by high yield varieties (HYVs) and hybrids, since agricultural production was focused mainly on yield. Through the programme, however, climate change events became an important factor in defining farmers' breeding objectives; this is evident in the varieties they decided to select, either for seed production or utilization as parent materials in cross breeding activities. In this context, as indicated in the table above, one programme success is illustrated in Son La province of North Vietnam, where F4 rice breeding lines (bulk selected) were provided to the FFS communities. After four seasons of selection, a **rice plot, cultivated with one line of F8 was found to be the best performing in the commune during the El Niño drought of the 2015 winter-spring season**. This has contributed to a broader genetic base of rice on-farm and to a local seed system that is more climate resilient.

Another important achievement is tools improvement, illustrated through the **improved FFS-PPB Field Guide for rice** that was prepared jointly by SEARICE, SRD, FCRI, PPSD and rice farmers in North Vietnam. The improvements focused on: a) the efficient use of participatory tools in assessing the seed system situation and in setting up breeding objectives; b) a detailed guide on hybridization and management of F1 seeds; c) a detailed guide on different selection techniques. It is very important to address selection, to ensure successful implementation of PPB activity. The FFS-PPB activities that were conducted provided opportunities for communities to generate knowledge and develop skills on: line selection, varietal selection, rehabilitation techniques, cross breeding, and other related concepts and methodologies, normally confined to the scientific community. Additionally, inputs on the principles of the System of Rice Intensification (SRI) method, in the FFS-PPB, and its subsequent applications, together with the other technical skills led to positive outcomes, such as the reduction in fertilizer use, seed requirement and pesticide application. This, in turn, resulted in improved farm productivity and income, allowing food and seed requirements to be addressed.

Finally, through the series of FFS activities, the programme in Vietnam has been able to deliver on the **empowerment aspect of both the rights and technical capacities** of farmers in relation to PGR management and use, as illustrated in the flip-cam video clip. (One farmer said, *'we never thought we could do this*'.) The programme empowered farmers by enhancing their technical know-how; conducting plant breeding had helped to demystify breeding for the farmers. The learning approach in FFS enabled farmers to (continuously) engage in collective problem solving and experimenting to find solutions. The development and enhancement of farmers' varieties and the wide adaptation by communities built individual confidence and a collective sense of community. Farmers were able to engage with the local and provincial authorities, to better demand appropriate PGR and services. Farmers' policy engagement also contributed to their empowerment.

The programme is highly relevant in Vietnam, especially since that country has intensively farmed areas, dominated by commercial farming. Many stakeholders recognise the programme's role and contributions, illustrated by the financial support and staff time provided by government officials in the Mekong Delta (worth USD 229,000 in monetary terms). This clearly shows the local governments' sense of ownership of the programme, *Strengthening Farmer-Agricultural Research and Extension System Partnership (*FARES) (see table 3) in the Mekong Delta. Moreover, FFS areas and farmers' on-farm research areas are being used by extension services as models. Similar support is expected in the programme areas in North Vietnam, considering both local governments and communities acknowledge the need to continue implementing the programme activities.

Another concrete example of support for, and acknowledgement of, the programme—and a significant achievement in terms of policy engagement (table 1)—is local governments' **provincial and district level "certification" that allows farmers to produce and sell unregistered varieties** at village, district, and even provincial levels. Policy engagement work within the programme, to formalise "registration" under government institutions provides alternative yet very powerful mechanisms to support local PGR management.

In Vietnam the programme has been able to go beyond the common notion that PPB is an alternative only in marginal areas, where the seed industry is absent. The programme's effort to link FFS plant breeding activities with seed multiplication and distribution, through established seed clubs (e.g., in the Mekong Delta) proved to be a very **successful model for scaling up**. In terms of impact and sustainability, this model enabled autonomous activities to take place, from pre-breeding (by public institutions, i.e. through FCRI), to farmers' testing (FFS activities carried out by farmers), and to multiplication and marketing of seeds (by farmers).

Picture 1. Workshop in North Vietnam (Source: Hoang Huy/Oxfam Novib)

Table 3. Highlights of results in South Vietnam and the interlinkages with the results of North Vietnam

FARES programme updates: Mekong Delta Development Research Institute (MDI), *Dr Huynh Quang Tin, PhD Vice Director* FARES programme is part of the the *"Democratizing Agricultural Research and Extension (*DARE) programme, in Vietnam, that covers the period 2011-2015. It starts off from, and is a continuation of, past interventions; its activities are carried out to further strengthen *success areas* and to improve cropping patterns and agriculture practices to adapt to climate change adaptation. Rice breeding, as an adaptation strategy for climate change, is the primary focus. The programme spans 19 provinces, spread across the Mekong Delta Region in southern parts of Vietnam, as well as the central regions. The FARES programme demonstrates the appropriateness of this kind of intervention in prime, irrigated, and market-oriented agriculture. Together with the intervention in the northern provinces the FARES programme make **a good case of how this kind of programme (IFAD-Oxfam Novib and FARES) can be relevant to a wide range of agricultural systems, from marginal and subsistent agriculture in the northern provinces of Vietnam to the prime irrigated and market oriented agriculture in Mekong Delta**. The two programmes taken together also provide a significant mass base to support policy advocacy at the national, regional, and international levels. FARES is currently supported by Oxfam Novib and building on its successes. Sida, through the SD=HS programme is supporting the continuing efforts to scale up farmers' innovations, which is the foundation of the previous programmes.		
Highlights FARES results:		
Lessons & Reflections	***Gaps***	***Ways Forward***

Models to improve farming practices contributes to increased yields, income, and climate change adaptation.	Farmers cannot fully meet requirements for national seed certification by themselves.	The programme should support farmers' varietal development initiatives for which they are trying to gain national recognition.
Seed production and distribution through seed clubs is an effective way of ensuring diversification and seed security.		Farmer-varieties/seeds and rice products should be advertised and linked with food companies/markets.
Linking the formal and informal seed systems is the realization of PPB and generates positive results. It helps to enhance farmers' knowledge and skills, and to provide researchers and scientists with a better appreciation of farmers and the valuable and important role they play in crop development.		Linkage with local institutions, to provide support to farmers, will enhance the potential for programme sustainability.
The number of women participating in the programme is low. Their involvement in production is mainly limited to other food crops like vegetables. Rice has become a cash crop, and the economic activity is male-dominated.	A strategy is needed on how best to involve women.	Look into the general food system, where vegetable production plays an integral part in income generation, food security, and nutrition. Crop rotation experiments could be carried out
Age and lack of labour is an emerging issue. Farmers are growing old and the youth no longer tend to take part in farming activities.		This is both a challenge and an opportunity; a challenge in terms of encouraging the youth, but an opportunity in terms of involving more women in farming capacity-building activities.
The importance of the role of local institutions cannot be stressed enough. In addition to providing technical and material support, local institutions are also instrumental in creating a link between different communities.		

Lessons

The programme's implementation in Vietnam generated lessons that can be used as a springboard to the next phase, enabling programme continuity and sustainability, as well as providing models for similar interventions.

In summary, the lessons learned are:

- Multi-stakeholder, participatory programme approaches, creating innovative coalitions, greatly contributed to achieving targets and objectives. The involvement of local and provincial authorities provided for interventions, making use of local information and support and fine-tuned to local circumstances.
- Involvement of local and provincial authorities made it easier for farmers to access services provided by the different public institutions and organisations.
- Regular interaction between technical staff and farmers translated into effective mutual knowledge and skills transfers, as evidenced by the results of farmers' on-farm field studies and the application of selection, breeding, and crop management techniques. (Continuous capacity development of technical staff makes them more effective facilitators during training sessions.
- More importantly, farmers' involvement in the programme further proved that they are key actors in rural development and in addressing issues as complex as climate change, food security, and seed security.
- The programme's **FFS methodology** (the use of FFS curricula and FFS/PPB field guides in FFS classes) proved to be effective in accomplishing the dual objectives: building technical capacities and building self-confidence (empowerment). This methodology should be scaled up for wider adoption and use outside of the programme, and worldwide. More importantly, it should be continuously refined and adapted to local circumstances. (Therefore, the programme will continue to refine the FFS curriculum and field guides beyond its three-year implementation phase, through incorporation into the SD=HS programme.) Likewise, the programme's **PGRFA Participatory Toolkit**, consisting of baseline/endline survey tools and participatory rural appraisal tools has been able to provide farmers with insights into their own livelihoods, especially concerning past, present, and future changes in their seed and food security, in cropping patterns, and in farming practices. The toolkit is also a living document, and in the future will be adapted continuously as it aims to help farmers set their community plans and to better understand their decisions (and consequences), to exclude some crops and varieties from farming system to the benefit of others.
- Women farmers, especially in the indigenous communities, showed keen interest in, and very good aptitude for, learning and applying technical skills in FFS and PPB. Women's participation needs to be pro-actively encouraged and solicited.

Gaps

While much has been achieved, the implementation also had its shortfalls. However, the observed gaps and limitations have been treated as opportunities to further improve the strategies and methodologies of all the organisations involved in the current programme, and to help with the design of future interventions.

The following gaps were identified:

- While policy advocacy generated positive support for the programme and the farmers involved, its influence remained at the provincial level. Programme results, however, provided evidence of some policy changes at the national level. Mechanisms and strategies to translate local and regional lobbying into national level policy actions require further and deeper analysis, to assess how best to maximise the programme's space in policymaking and overall in governance systems. At the time of the evaluation, as a result of a recently concluded regional workshop on seed policies and laws, the Vietnamese national government agreed to review their seed laws, to see how farmers' seed systems can be supported, despite Vietnam's commitment to UPOV 1991 (International Union for the Protection of New Varieties of Plants).
- Integration of the programme's approach into the relevant programmes of local institutions needs to be better guaranteed. In turn, local institutions' programmes remain anchored to targets defined by national level decisions. Such integration will provide continuity of technical and material support to farmers and their communities.
- Selling of farmers' seeds is restricted to community level and, to some degree, provincial level, unless the seeds are certified and registered for cultivation and distribution. State law allows only certified seeds to be sold; local authorities are also bound by the national law when making and implementing decisions at the local level.

- In the Bao Ai commune in Northern Vietnam, farmers requested a second phase of the programme that would allow them to cross a traditional sticky rice variety with a non-photosensitive variety, providing them with more cropping options. This is a typical FFS outcome, and indicates the high demand for continued support to technical capacities through FFS activities. Continued support should therefore be carefully considered in the design of the next phase of the programme.
- While there is very strong participation of women in the programme in the north of the country, strengthening women's participation in the south is a prerequisite for the phase two. This may require selection of new and additional crops that are under women's management, such as vegetables, or in particular those that are relevant to the poor, such as neglected and underutilised species.

Picture 2. Workshop participants in North Vietnam (Source: Hoang Huy/Oxfam Novib)

2.3 PERU REPORT

ANDES, by *Alejandro Argumedo, Director*

Context

The programme was implemented in high mountainous ecosystems in the southern part of Peru. The primary target beneficiaries were 2,062 Quechua households in three zones (Low, Middle, and Upper), located in the district of Lares, Calca province, in the region of Cusco. These communities represent some of the poorest populations in Peru, where 97% are in poverty, and 90% of those in extreme poverty. Lares Valley, located in the eastern reaches of the Andes has high ecoclimatic variability. Lares valley is divided into three natural regions: *Puna* (from 3,500 masl to snow covered peaks), *Quechua* (from 2,300 to 3,500 masl) and *Yunga* (from 500 to 2,300 masl). Variations in altitudes and slopes result in diversity of soils, drainage, solar exposure, daily temperature regimes, and evapotranspiration conditions. Climate variability is very evident. The implementation was focused on strengthening agrobiodiversity management, underlining the importance of empowerment in genetic, species, and landscape levels of management. The main community partners are 23 Quechua indigenous communities. Indigenous Peoples in Peru remain marginalised.

The agrobiodiversity management intervention focussed on potatoes but also benefitted other crops in the programme sites. There is a high level of diversity of domestic crops in Peru; at least 182 species that include important crops like potatoes, tomatoes, sweet potato, cassava, cotton, rubber, papaya, etc.

Accomplishment Highlights

The following table presents a summary of progress for a number of selected outputs for each key indicator in Peru:

Table 4. Selected outputs for the key indicators in Peru (endline)

	Endline
Number of primary target households	* The multiplier effect of the FFS benefitted 2,062 households; every household now has at least 30 varieties of potato (20 native varieties accessed through CIP) and other crops for cultivation. These households have been reached and have participated in barter market to access good quality seeds.
Seed security	
Number of farmers (men and women) trained and practicing PGR management on farm	164 farmers trained of which 60% are women.
Number of potentially climate resilient seeds identified by farmers	*225 climate resilient potato varieties have been repatriated from the Potato Park. *Number of potentially climate resilient seed varieties identified by farmers; five native potato varieties potentially resistant to frost, 20 varieties potentially resistant to late blight. *37 varieties of yellow maize and 60 varieties of white maize adapted to local conditions.
Increased availability of Indigenous Peoples and Smallholder Farmers (IPSHF) produce at market and/or barter	*The role of the barter markets has been strengthened through the FFS; diffusion of seeds (both maize and potatoes). *Seven seed clubs have been established.
Food security	
Number of FFS (% women participated)	* **7 FFS** were established and functional through the 3-year period. 209 sessions or 10 per year, per FFS group, have been organised. *Average number of participants per FFS group session is 23.
Women preferences considered in farm testing	*16 women participated in the selection of 174 potato cultivars from the Potato Park, hence their preferences have been taken into account. * A training module on gender analysis was developed to highlight women's indigenous knowledge and needs.
Policy engagement	
Policy areas are identified through FFS	* Two municipal ordinances issued at community level, on food and seed security, and the protection and promotion of the barter market. * Two policy proposals presented and approved at provincial level; one at national level. *Actions against the INIA's claim on plant breeders rights successfully addressed by ANDES.

In Peru, the programme has contributed significantly to the availability of diversity. Establishing the FFS has facilitated the release of 225 cultivars or varieties of potatoes to the communities from the Potato Park communal gene bank. In addition, 37 yellow, and 60 white maize varieties have also become available to the communities.

Barter Markets (*chalayplasa*), where participants are mainly women, are sources of seeds for native crop varieties in Peru. They function within the framework of a vertical mountain ecology; households do not have access to produce or

seeds they cannot cultivate on their own lands (due to unsuitable altitudes). In Lares alone, barter markets cater for the seed and food needs of 4,000 people from 31 communities since they offer a wide range of diversity in terms of produce from different crops.

The bridging of scientific and traditional knowledge is evident in the programme implementation in Peru. Linkage with the meteorological agency enabled the establishment of three artisanal weather stations that utilise scientific information and the *yupana* calculation system[4] to generate and document climatological data and information that is useful for agricultural planning, and developing risk-specific climate change adaptation strategies.

ANDES has improved its FFS PPB curriculum and its Field Guide for potato, maize OPV (open pollinated variety) and beans; from hybridization, to creation of diverse synthetic populations, to plant varietal enhancement.

The *Association of Women Entrepreneurs of the district of Lares* (AMUL) was formed to take the lead in the seed selection, conservation, and storage initiatives in the communities. Crops grown for direct household consumption are reflective of women's choices or preferences, in terms of varieties grown with emphasis on traditional varieties.

There have been significant FFS contributions to policy change at the local level, especially in the development of two municipal ordinances on food and seed security and the protection and promotion of barter markets. In addition to the municipal ordinances, five other policy advocacy initiatives were undertaken in different platforms. Most notable among these is the passing into law of the proposal for local governments to develop local climate change adaptation plans.

Through the programme, a conservation model, the biocultural heritage territory, was established to place emphasis on maintaining genetic diversity and the biocultural processes that support ongoing on-farm conservation, thus maintaining evolutionary processes *in situ* and those that are particularly relevant under climate change.

Picture 3. FFS local technician from Lares, Peru, proudly explaining the rich nutritional value of various traditional potato varieties (Source: Jiska van der Heide/Oxfam Novib)

[4] A device used by the Incas, a counting board, also called "Peruvian Abacus". The yupana (quechua = counting tool), was used by the "Quipucamayos" (inca's accountants).

Lessons

- The FFS created a mechanism that enabled indigenous farmers and scientists to work together and generate and share information that is useful and understandable to both parties. Traditional knowledge is important for the conservation and sustainable use of PGR, and scientific knowledge reinforces local conservation. The FFS played an important role in strengthening both knowledge systems.
- An effective and systematic set of approaches, methods, and tools, to incorporate traditional knowledge and local cultures and beliefs into the FFS PPB curriculum and field guide, will continue to be a major challenge. For such a set to be effective, it will be necessary to take into account the world view of Andean farmers that cultivars are not only expressions of their genes but also of their 'spirit'. In this context farmers hold the belief that male maize parent plants cannot be cut after pollination (to ensure that no seeds from its cobs will mix with the next generation), as mutilation of a plant at its highest stage of maturity is taboo. Isolation by time (for cross pollinating species) is not applicable as farmers plant according to their agricultural calendars and from other signs from nature.
- At the same time, as nature changes, so too does traditional knowledge. ANDES is currently preparing a field guide that will capture these world views as they change, using popular local symbols (as in the use of the Southern Cross rather than the diversity wheel).
- By taking a more integrated approach, the programme was able to establish links to rural development that integrates and takes into account cultural conservation, improving livelihoods and agricultural productivity, biocultural assets, and policy influencing while maintaining evolutionary processes in local crops and varieties allowing them to prosper and continue.
- Tools and approaches employed by the programme generated dialogues with various stakeholder groups.
- The lessons from *in-situ* conservation in Peru can serve as good models for the ITPGRFA in terms of scaling-up, as also observed in the other countries.
- Women play an important, if not exclusive, role in specific agricultural activities, such as seed selection, storage, and participation in the barter market. Their role is mainly attributed to their knowledge in handling exchange equivalencies, the quality of products, and quantities required for weekly needs, taking into account the possible diversity of food combinations. Given this important role, the *Association of Women Entrepreneurs of the district of Lares* (AMUL) was formed to take the lead in the seed selection, conservation, and storage initiatives within the communities.

Gaps

- The programme's results provide for documentation in an abundance of areas. However, documenting and communicating programme results in various forms has emerged as a weakness that needs to be improved.
- Intervention efforts on Farmers' Rights appeared weak. There is a need to work on the full implementation of the International Treaty for Plant Genetic Resources for Food and Agriculture in Peru and to establish the link of Farmers' Rights to Article 17 of the Treaty on the global information system.
- Knowledge management is an area that needs to be improved. Benefit-sharing on seed-related knowledge has to be ensured, since the materials are a product of the programme's interventions and its partners. This is also to highlight the equal importance and interchangeability of the data (e.g., seed characterization) with the material itself (seed).
- The other major challenge is the need for a stronger component on gender concerns to be included in the FFS PPB curriculum and field guide, and to capture the preferences of women, of weaker members of the community, and of the young and the old through segregation in the organisation of activities and data gathering and analysis. To this end, ANDES has developed a gender framework for community PGR work and is finalizing a major theme on the issue for the FFS PPB field guide.
- Repatriated seed will only last (i.e., remain sufficiently clean from viruses) for a limited number of years. Therefore, an on-site cleaning facility (e.g. connected to the seed bank) is needed in the Potato Park, and farmers need to be trained in *in vitro* cleaning of potato plantlets, since this is the only way to ensure continued survival of farmers' varieties *in situ*.

- An opportunity exists under Peruvian law in harmony with UPOV 1991 regarding the sale of heritage variety seeds. Increasing the freedom to operate for local farmers should be addressed.

2.4 ZIMBABWE REPORT

CTDT, *Patrick Kasasa*

Picture 4. Woman farmer in Zimbabwe showing how to use the rain gauge (Source: Shepherd Tozvireva/Oxfam Novib)

Context

The programme in Zimbabwe was implemented in four districts: Chiredzi, Goromonzi, Uzumba Maramba Pfungwe (UMP) and Tsholotsho; and in five ecological regions, with region five experiencing the lowest rainfall. Crop diversity varies within agro-ecological zones. Climate change indicators are very obvious in the regions; most prominent are long dry spells, and shorter rainy seasons with concentrated periods of intense rain. The rainy seasons are also starting later. These climate changes adversely affect agricultural production and crop diversity. The primary target group consisted of 3,800 households and most have access to an average of two hectares of land. Despite this, a large proportion of the households are very poor and have limited land and labour. During the programme implementation period, CTDT worked closely with the Crop Breeding Institute (CBI) and Seed Services Department, in particular in the Department of Agricultural Research and Specialist Services and Agricultural Extension Services (Agritex) in the Ministry of Agriculture, Mechanization and Irrigation Development.

Accomplishment Highlights

The following table presents a summary of progress for a number of selected outputs for each key indicators in Zimbabwe:

Table 5. Selected outputs from the key indicators in Zimbabwe (endline)

	Endline
Number of primary target households	* The programme reached a total of 6,720 households. In addition, others are benefiting indirectly from attending field days, visiting FFS sites and getting seeds from FFS participants and seed and food fairs.
Seed security	
Number of farmers (men and women) trained and practicing PGR management on farm	*1,820 participants, of whom 1,292 (70%) women *From 6,720 households targeted, 90% of the beneficiaries in three out of four programme sites are seed secure; 60% of the households in three out of four sites are food secure.
Number of potentially climate resilient seeds identified by farmers	*8 advanced lines of sorghum, 6 advanced lines of pearl millet; 2 varieties of ground nuts; 2 varieties of bambara nuts. *2 sorghum varieties were repatriated from the national gene bank to farmers in the Chiredzi district, and 4 local sorghum varieties to programme communities in UMP district. *12 sorghum and six pearl millet advanced breeding lines, and additional varieties of other crops, such as maize and cowpeas, were introduced in farmers' fields in collaboration with the Matapos research station.
Increased availability of IPSHF produce at market and/or barter	*Data from seed fairs show that at least 127 varieties of various crops are present in farmers' farming systems. *Seed multiplication activities have initiated *16 seed fairs were held at the programme sites; 1,920 famers displayed their seeds at those fairs.
Food security	
Number of FFS (% women participated)	* 65 FFS, (1,820 participants (1292 women (70%) and 528 men) *Average number of participants per FFS group is 28
Women preferences considered in farm testing	Women farmers have participated in at least 22 farmer trials, in particular in the introduction of advanced lines, and in the variety assessment for performance under climate change conditions in the 21 crop diversity plots. This ensured women's trait preferences in the selection.
Policy engagement	
Policy areas are identified through FFS	*CDTD facilitated a dialogue between farmers and governments on seed laws and Farmer's Rights, resulting in the formation of a Seed Security Network Dialogue Initiative in Zimbabwe. This network will review current seed laws and the establishment of a national seed policy, with an integrated seed system approach. *Farmers' Rights bill drafted jointly with the Ministry of Agriculture. *5 Field Days held with 846 participants, of whom 668 were women.

Due to the type of crops and farmers' needs, Interventions on FFS focused primarily on Participatory Varietal Selection (PVS). Crop diversity plots and where to host them were identified and agreed upon by farmers and researchers during consultative meetings. Twenty-one crop diversity plots were established.

The availability of diverse seeds was improved using different strategies.

Evaluation. Local and improved varieties of different crops were evaluated for their performance under drought conditions.
Introduction. Eight advanced lines of sorghum and six advanced lines of pearl millet were evaluated during the three years of programme implementation. In addition, two varieties each of groundnuts and bambara nuts, two of rice (Nerica rice) were introduced within the FFS fields for evaluation.
Multiplication. Seed multiplication activities were initiated. One hundred kilos of Nerica rice from seed multiplication initiatives will be available for further distribution.
Repatriation. Lost varieties were repatriated from the national gene bank. Two varieties of sorghum and two of bambara nuts were distributed to the communities.
Regeneration. Materials stored in community seed banks underwent germination tests; ten sorghum, six groundnut, and four maize varieties were regenerated, due to low germination rates (below 50%).
Exchange. Food and seed fairs were organised in four sites; 1,920 farmers (76% women and 34% men) displayed seeds in 16 such activities organised by CTDT. Government officials, such as local members of parliament, senators, and technocrats attended the fairs. Data from the seed fairs revealed that 127 varieties of various crops are present in farmers' farming systems.

The programme's success depended to a large extent on the ability to involve public sector institutes (breeding institutes, universities, extension services), and to acquire complementary support from local government for programme operations. Training extension agents is essential to scaling up. Partnerships with CIMMYT, ICRISAT, and CBI have been foreseen in order to provide starting material for the FFS.

CTDT systematised its experiences with the FFS and reviewed its guides. It has improved its FFS PPB/PVS curriculum and drafted an improved FFS PPB field guide that focusses on plant variety selection and plant varietal enhancement covering maize OPV, pearl millet, sorghum, and groundnut (to serve as model for other dry land legumes). The document requires further input on gender issues.

Policy advocacy actions were undertaken at several levels. Farmers were involved through awareness raising and capacity building activities on Farmers' Rights and Right to Food, at district levels; 1,896 farmers were trained (52% men and 48% women).

CTDT has led the process to establish a National Seed Network Dialogue Initiative with representatives from: Government, civil society, the seed industry; the Agricultural Research Council, the National Seed Traders Association; Farmers Organizations, academics, and the Zimbabwe Food and Nutrition Council under the Office of the President and Cabinet.

Two national workshops were held to review seed and plant variety protection laws in the country. Zimbabwe has acceded to the 1978 UPOV convention. CTDT is actively involved in the Protocol discussions of the African Regional Intellectual Property Organization (ARIPO), and contributing to debates on whether Zimbabwe should 'move' to UPOV 1991. The National Seed Services Department is responsible for variety registration and is currently in discussions with CTDT to obtain exemptions for farmers' varieties bred for local adaptation (similar to the provision in Peru). CTDT was tasked by Government to be the technical partner to develop legislation for 'domestication' of the International Treaty, and has drafted a Farmers' Rights Law, to provide policy support to farmers' PGR management. CTDT was also invited to join Zimbabwe's delegation to the Fifth and Sixth Sessions of the Governing Body (GB5 and GB6) of the ITPGRFA, as a result of its key contributions to discussions on that country's seed laws.

Policy advocacy work should also address the sub-regional level (ARIPO, COMESA, SADC, ASEAN[5]), since important decisions (on plant breeders' rights, for example) are taken at that level and there is currently little access. Two awareness-raising workshops were held at national level (for senior government officials and policy makers) on Farmers' Rights and the SADC Seed Harmonization Protocol. The COMESA secretariat also conducted awareness raising activities on several Seed Harmonization Processes. Through CTDT's efforts, Zimbabwe's ministry of Agriculture has agreed to carry out consultations among key stakeholders in the seed industry, including farmers, before they domesticate the COMESA Protocol.

Lessons

- Traditional knowledge is difficult to document but it appears feasible. However, there is a need to cross-reference traditional knowledge with scientific knowledge in order to establish accuracy and close gaps in both knowledge systems.
- Traditional knowledge on weather prediction is likely to change, as animal behaviour and plant responses will change in reaction to climate change. A comparison of meteorological weather data with farmers' experiences indicates that farmers have witnessed more extreme rainfall patterns in the last two decades, which could be explained by differences in the data recording methods.
- Scaling up of activities in order to strengthen farmers' seed systems will continue to be a major challenge. Better developed knowledge management systems, and improved sharing of traditional knowledge and advocacy, for better and more appropriate policies may address this challenge.
- Seed and food fairs are functional venues for the exchange of seed and food among farmers. It is also a way to expand programme reach. The multiplication factor of seed fairs (number of farmers reached over the number involved in FFS) amounts to a factor of 4 – 5, but such assumption needs to be documented.
- Uncertified farmers' seeds may be sold within a radius of 20 km only. The gap between the DUS/VCU registration system and sales of varieties incorporated in seed laws on the one hand, and small farmers' capacities and interests on the other, is still very large. Policy advocacy should be based on this local realities; it is also applicable to the other programme countries.
- Given the feminization of agriculture in Zimbabwe as a result of male migration to the urban centres, and deaths due to the HIV AIDS pandemic, FFS need to cater proactively to the needs and strengths of women. The consistent presence of female CTDT staff and government extension agents are important.

Gaps

- Documentation and translation of programme results into knowledge materials is a weakness at both the programme implementation level and that of the institution (CTDT).
- The draft FFS guide requires more input on gender.

2.5 GLOBAL PROGRAMME REPORT

Gigi Manicad, Senior Programme Manager, Oxfam Novib

Context

The programme works in several countries and has a global agenda. The programme partners are diverse, so a global framework is needed to ensure results from one country are comparable to others. The aggregation of country experiences is one of the key strengths of the programme, and is an evidence-based tool for policy engagement at global level. The local-to-global synthesis was done at global level by Oxfam Novib, then used as a policy engagement

[5] African Regional Intellectual Property Organization (ARIPO); Common Market for Eastern and Southern Africa (COMESA); Southern African Development Community (SADC); Association of Southeast Asian Nations (ASEAN).

tool. The outputs of the global synthesis include: a briefing note, submission to the ITPGRFA, and case studies to the State of the World's Biodiversity for Food and Agriculture (SoWBFA).
The programme's global agenda is closely related to the global governance of PGRFA and seed policies. Seed policies at local, national, regional, and global levels are the focus of the programme's policy engagement, since these policies, which are embodied in national laws and regulations—including those coordinated at the international level—have influenced smallholder seed systems, and will continue to do so. These international agreements include the World Trade Organisation Agreement on trade related aspects of intellectual property rights (WTO TRIPS), the UPOV system,[6] the Convention on Biological Diversity (CBD), and the ITPGRFA.

The first two agreements are reflected in national policies on intellectual property rights that apply to crops; the latter two, however, that developed the concepts of access and benefit sharing (ABS) and Farmers' Rights, through support to farmers' seed systems, are recognised in only a few countries.

These international agreements need to be translated into a national context, in a coherent and non-conflicting manner. Seed policies, in particular, tend to interfere with the functioning of smallholder seed systems; they are often introduced to protect and enhance the formal seed system. The programme enabled policy engagement in many forums at local, national, and global levels, and most importantly, ensured that empowerment (i.e., local communities' awareness of seed policies) has been increased. Local community capacity to engage in and influence local and global food, agriculture, and climate change policies has also been strengthened. Finally, Oxfam Novib, as global partner, is responsible for the overall management of programme implementation (planning, monitoring, evaluation/ PME), provision of technical back-stopping services, and implementation of global activities.

Key accomplishments
At the end of the three-year implementation period, the following achievements, based on country experiences, were consolidated at global level:

1. **Development of a global framework based on a consolidation of country results**. Since the programme was implemented in three countries with highly different agroecosystems and socioeconomic and political contexts, a global framework was deemed essential to enable the comparison of results from the three countries. The following framework elements have been developed, based on inputs from the programme countries: a baseline and endline global framework; a consolidated baseline report to Bioversity International; a set of six scaling up pathways; an improved FFS curriculum, a study on the impact of seed laws studies, and a policy engagement baseline.
2. **Development and refinement of gender sensitive concept and tools.** The tools used in the programme were developed in a participatory way; programme communities were involved, with the objective of helping farmers set their community planning. To achieve this, the tools were constantly refined in collaboration with the communities, to cater to the changing needs in their farming and seed systems, due to climate change, evolving market pressures, migration, etc. The following tools have been developed and refined in the programme: a PGRFA Participatory Toolkit, consisting of a household diet questionnaire and PRA tools**,** a facilitators field guide for FFS on PPB in maize, pearl millet, sorghum, and groundnut, and an FFS curriculum on rice, maize, and potato. These efforts were undertaken in accordance with the overall programme approach that is based on continuous learning and innovation. The PGRFA Participatory Toolkit, in particular the PRA tools, will continue to be used in FFS, to allow a more in-depth and actual analysis of the farming and seed systems.
3. **Evidence-based, global policy influencing.** The consolidated country experiences have become the evidence-based and community-based tool for policy engagement at global level. The evidence-based policy engagement tools developed by the programme include: a technical submission to the Sixth Session of the Governing Body (GB6) of the ITPGRFA; briefing notes circulated at GB5 and GB6; side events organised during GB5, GB6, and the 15th session of the Commission on Genetic Resources for Food and Agriculture (CGRFA); contributions to, and a review of, the functioning of the Benefit Sharing Fund of the Treaty, in all presenting a convincing and consolidated local-to-global narrative. Through these tools, Oxfam Novib has provided an analysis of the influence of the

[6] International Union for the Protection of new Varieties of Plants

programme implementation on global developments and its capacity to reach a wider community, especially in policy discussions.

4. **Technical and scientific validation.** The programme aims to strengthen farmers' technical capacities and rights, therefore it requires a strong technical base. In addition to providing a global framework, one of Oxfam Novib's roles is to provide further technical back-stopping to the partners, to ensure the programme delivers high-quality activities and outputs that benefit its main constituency (IPSHF), and is able to relate, and contribute, to the international scientific communities. Engaging the technical operations adviser and the scientific adviser ensured that technical support and scientific validation were provided for the PGRFA Participatory Toolkit, the FFS activities, curriculum, and field guide, the briefing notes, baseline report, and the technical submission to the Sixth Session of the Governing Body of the ITPGRFA.
5. **Linking, exchanging, and learning.** The country experiences are one of the programme's strengths, therefore linking, exchanging, and learning are important, to enable continuous improvements in programme activities and tools. Oxfam Novib facilitates the south-south cooperation between and within partner organisations and an expansion of the programme's learning outreach. Linking, exchanging, and learning have all been facilitated by the PRA tools, FFS curricula, Cloud, learning notes, the mid-term evaluation, and the internal and external evaluations; also through the governance work of the Global Programme Committee (GPC). A website (or an exchange network) hosted in the Cloud was developed to facilitate the linking, exchanging and learning between all partners. It served as a pool for all relevant programme documents, tools, and literature to which all partners had easy access. The next section further elaborates the plan to improve the use of this tool.

Picture 5. Side event at the Sixth Session of the Governing Body of the ITPGRFA "Pathways for Scaling up People's Exercise of Farmers' Rights and the Sustainable Use of Plant Genetic Resources" (Source: Anita Dohar/Oxfam Novib)

Lessons and Gaps

- **Knowledge Management.** The partners acknowledge that there is still great potential to further develop the knowledge management component of the programme. Relevant programme information and documentation has already been placed in the Cloud, with easy access for all, but this method of knowledge sharing has not yet been used to its full potential. Moreover, the programme needs a more visible webpage, with an overview of outputs and relevant activities, and links to the respective partners' websites/information. In addition, documentation of tools, case studies, lessons, and other outputs should be improved. Finally, the culture of peer review and research including proper framework and documentation of programme's activities and its outputs, including those of the individual partners, should be further strengthened. The partners will submit a concrete plan on how to address this in a new phase of the programme.
- **A common understanding on the need for and meaning of indicators and other programme concepts** needs to be reached. The partners have accepted the challenge to agree on a set of coherent indicators, and to resolve this within the framework of the SD=HS activities, with a greater number of countries and partner organisations. An illustration of the challenge ahead can be seen in the different ways different partners interpreted the indicator, *number of FFS establishe*d. For example, while one partner counted the number of individual FFS training sessions organised, another counted the total number of FFS groups formed. The second number was lower, even though some groups may have participated in more training sessions. The programme should aim to resolve this and agree on a single interpretation.
- **The methodologies** are continuously in development and are part of the overall learning process of the programme. Using this approach, the partners need to test and refine our assumptions and criteria continuously and use them consistently, as part of the programme's discovery-based learning.
- **Gender inclusion** needs more attention and effort. Gender-disaggregated data need to be delivered in more detail, and given specific attention in mainstreaming, particularly in the FFS curriculum. The programme made progress on gender issues in the case studies; this progress was part of the technical submission to GB6.
- **Policy engagement** at different levels, including the role of farmers and their capacity to influence local and national policies, should be strengthened The partners should measure the programme's policy influence and define how farmers may best contribute (directly or indirectly) to Treaty discussions in the next phase of the programme. Exchange and learning between partners, from best practices established in individual programme countries, will be further promoted.
- **Further research** is needed to address the gaps in, and increase the roles of, community-to-community PGR transfer; including through community seed banks, seed fairs and barter markets, in particular in direct communication with the communities involved. Moreover, the landscape or ecosystem approach in the next phase will be intensified and applied in a more systematic way.
- **Lobby and advocacy work** is needed, to strengthen collaboration between local communities and breeding institutions, as well as national and CGIAR gene banks, especially to better facilitate farmers' access to potentially useful PGRFA. Strengthening farmers' capacities to demand genetic resources and technical support when engaging with the formal sector will be further developed.
- **IPSHF access to long-term weather forecasts** (e.g., to predict El Niño) is an important tool to define local adaptation plans. However it is also important for scientists to understand farmers' traditional knowledge on weather forecasting, so that climate data may better support farmers' adaptation strategies. Agreements with meteorological offices and stations to collaborate with FFS, to interpret climate data at the local level, will be further strengthened. Additionally, the programme will develop more user-friendly tools that can support IPSHF adaptation plans.
- **Building new partnerships** is a challenge worth taking on, in efforts to scale up initiatives. The IFAD partners need to be prepared to take up new roles; to advise and oversee how our work can be used by other partners (under changing group dynamics in the larger SD=HS consortium), while maintaining trust and equal relationships between the partners. Long standing working relationships have created mutual trust and confidence that facilitate agreement on a shared vision. The role of the IFAD grant manager in this complex situation is acknowledged by all partners.

- An attempt to agree on **a further elaborated global framework** is in place, and now its use to guide programme implementation and consolidation will be strengthened. A change of perspective is needed; the value of a global framework is to have a collective and shared programme tool, thereby facilitating exchange and common analysis.
- **Authorship of knowledge products** needs to be agreed, including a guide to identify when this should be an organisation and when it should be an individual. Partner organisations should be at the heart of authorship.

2.6 DISCUSSIONS AND REFLECTIONS

Common among the three partner countries are the threats and challenges posed by climate change. These threats and challenges impact adversely on agriculture and agrobiodiversity as well as on the farmers, indigenous peoples, ethnic minorities, women, and their respective communities. Climate change is a global issue, and many coping strategies relate to the global or regional level; however, the consequences are heavily felt, and responses needed, at local levels as well.

The programme has proven that agrobiodiversity management, as an adaptive response taken at community level, can be an effective approach. Crop and variety diversification and the enhancement of farmers' technical knowledge and skills (to create and manage such diversity, thereby improving food and seed security) are concrete outcomes directed at lowering the risks and vulnerabilities of communities to climate change impacts.

All components of the three-year programme show clear links to poverty reduction too. The results of prove that participatory plant breeding, crop diversification, seed management, and technical capacity building for farmers can contribute to poverty reduction. The programme's achievements under the four key indicators (in particular seed security and food security, the engagement of smallholder farmers in policy discussions, the many collaborations with public sector institutions and authorities—representing the empowerment component of the programme), have clearly contributed to poverty reduction. This evidence could be further elaborated and strengthened in the next phase of the programme, by clearly defining common indicators for measuring poverty reduction.

Influencing policies is another area that needs further work. Concrete policy-related gains have been generated, primarily at the local levels, but policy advocacy needs to reach higher levels of policy making, to create higher levels of impact and to ensure any changes made are more sustainable. In this context, the programme experienced that limitations in policy advocacy achievements were influenced both by existing national policies and programmes, and by policy instruments developed at the global and regional levels that are subsequently adapted by national governments. Careful discussion is needed on the best and most effective way to tackle policy issues to allow the programme's approaches and accomplishments to be scaled up. Initiatives to address policy issues at the sub-regional level will be considered, and methodological approaches and tools adapted accordingly. Proactive action will also be taken to make maximum use of any room to manoeuvre offered by current policies.

Interventions on Farmers' Rights need further strengthening in the next phase. Mechanisms and tools need to be developed on how Farmers' Rights could be adapted locally. There is also a need to identify issues of the international agreements such as ITPGRFA that need to be domesticated.

An assessment of knowledge management within the programme revealed this to be an area in need of major improvement. The internal evaluation showed that, despite clear advances in knowledge management and significant outputs, the programme only managed to capitalise on a proportion of its knowledge products. This is partly due to the wide diversity of activities and the various circumstances of the target groups, across three continents, and partly to the lack of research into a tailored participatory knowledge management approach that can build epistemic bridges, and facilitate exchange between the scientific and indigenous knowledge domains. Harmonization of language, identification of a proper medium, and the way in which results are presented are all important factors for consideration. The positive impact of such forms of collaboration can be further substantiated by making the results visible to a wider

audience. In this manner knowledge management will have a function in accountability and transparency. The next phase will build on the products and lessons of the current three-year programme and leverage its achievements. The programme will develop more tailored and more effective participatory forms of knowledge management that will respond to the needs of its target groups and integrate local and indigenous knowledge with formal scientific knowledge domains. In other words, it will be a conscious attempt to capture, secure, and mainstream the knowledge of indigenous and local communities, in their role as co-generators and co-users of knowledge in innovation processes, and to link it to formal knowledge systems to enhance its use, and to allow it to make use of tools developed in such formal knowledge systems, such as informatics. Participatory knowledge management embodies an approach that allows multiple actors, at multiple levels, to resolve complex problems and make strategic decisions, while respecting, and capitalising on, both types of knowledge management system.

3. FIELD AND SITE VISITS

3.1 4-5 SEPTEMBER 2015: YEN BAI PROVINCE, VIETNAM

- **Provincial Department of Agriculture and Rural Development (DARD)-Yen Bai Province**
- **Bao Ai Commune, Yen Binh District**
- **Bach Ha Commune, Yen Binh District**

The field and site visits, in Vietnam, served as an opportunity to establish a clearer picture of the environment the programme worked in over a three-year period. The visit to the DARD office was more than just a courtesy call; it highlighted the positive impacts and results to be gained by any programme can if it earns the acceptance and support of authorities. It also confirmed policy limitations when it comes to expanding impact (e.g., selling uncertified seeds outside of the communes) as reported for Vietnam.

The authorities have accepted the programme and expressed the need (for IFAD) to continue with it; also to expand it to other communities. This offers an opportunity for future interventions and highlights the need for further work on policy influencing.

The site visits to the two communes validated the programme and its work. Participants in FFS-PPB had applied the techniques and skills they had learned, and shared their results. Results from these two sites provide further evidence and strengthen the argument that farmers can do plant breeding; it is not confined to, nor is it the monopoly of, the scientific community.

In addition, results shared in these sites prove that providing capacity building for technicians makes them effective facilitators of knowledge and skills transfer. Regular interaction between farmers and technicians resulted in the rehabilitation of traditional varieties, and the development and selection of varieties based on farmers preferred characteristics (i.e., characteristics that factor in climate change experiences).

The field visits provided an opportunity to provide technical advice to farmers on technical problems and concerns encountered in their plant breeding-related activities.

Besides the on-farm visits, one of the highlights of the two-day trip was the presentation of an instructional video on plant breeding, made by farmers, with technical assistance from SRD. It has good material to share other with other farmers and audiences. The video production helps create the idea that farmers can be effective communication agents in the presentation of programme results.

3.2 7 SEPTEMBER 2015: KIEN GIANG PROVINCE, VIETNAM

- **My Lam Seed Club, My Lam Village, Hon Dat District, Kien Giang Province**

The team travelled to Can Tho City and Kien Giang Province, to hold meetings and conduct field visits with partners of the DARE, a programme supported by Oxfam Novib, leveraged as a part of the IFAD-supported programme. DARE, or FARES – *Vietnam,* as it is called in Vietnam, is being implemented in the southern provinces by EARICE, with the MDI of Can Tho University (CTU) as implementing partner.

The visit to My Lam Seed Club, its facilities, seed production areas, and field study sites showcased a product of a long-term intervention in the conservation, development, and use of plant genetic resources. The seed club exemplifies

the potential of farmers as plant breeders, entrepreneurs, and facilitators for knowledge and skills transfer to other farmers.

The formation of the seed club started with the farmers' participation in the FFS conducted during the implementation of the *Community Biodiversity Development and Conservation (CBDC)* programme. This programme was spearheaded by SEARICE and MDI in the early 2000s wherein capacity-building on plant breeding-related knowledge and skills were part of the interventions for farmers. Seed production initiatives began with farmers producing seeds for their own farm and household needs. The interventions were followed through with the implementation of the *CBDC-Biodiversity Use and Conservation in Asia Programme (CBDC-BUCAP)* in the succeeding years. During this period the seed club expanded rapidly, growing from the original 16 members to 600. In addition, a successful application was made for seed certification of farmer-bred rice varieties. The number of members is not fixed, but membership requirements include participation in FFS and training courses on, for example, varietal selection and rehabilitation. These activities are facilitated, primarily, by members of the seed club.

The seed club now operates with other seed clubs in the Mekong Delta Region and is part of a network of 42 clubs that were formed thanks to facilitation by the DARE/FARES programme. The network serves as a vehicle for seed distribution to programme areas and other communities.

The My Lam Seed Club experience is also an example of what can be achieved when there is a supportive policy environment. While selling uncertified seeds is still not allowed under national laws, local authorities found ways to issue local decisions to enable them to meet the local seed demands. Local authorities allow uncertified seeds (especially farmer-bred varieties) to be sold in other communities and provinces, provided that these meet set inspection standards and criteria. As members of the seed club are also trained in seed inspection, seeds produced by farmers often meet the standards.

More importantly, My Lam and the other seed club partners of the DARE/ FARES programme are an example of an initiative with potential for replication in other countries. Similarly, the Mekong Delta Region, where farmers make a major contribution to meeting seed demands, is a model for long-term or continued interventions in the northern regions of Vietnam.

4. FARMER FIELD SCHOOL

4.1 SHARING OF EXPERIENCES: FFS PPB: BUILDING ON LOCAL EXPERIENCES FORM ANDEAN WORLDVIEW

Picture 6. Women farmers participating in an FFS exercise in Vietnam (Source: Bertram Zagema/Oxfam Novib)

Two presentations, one by the director of Andes and one by SD=HS' Technical and Operations Adviser, concentrated on ANDES' experiences of conducting and implementing of FFS. These experiences are a concrete example of the important role played by Oxfam Novib in the provision of technical support to its partners. The FFS conducted in Peru, was consistent with the FFS conducted in Vietnam and Zimbabwe in terms of the values and principles of FFS:

- Has an educational and empowerment approach: experiential, conscientizing (builds on local knowledge /experiences – strengthen people & institutions), contributes to social reform.
- It is a focused intervention on: a) very few crops to serve as models for other crops; b) plant breeding to relate to agronomy, diverse agri-systems, ecosystems, and landscapes. The learning process is guided, facilitated, and sharply designed.
- Aims to be thorough on both points above; the combination is the FFS-PPB.

The FFS focused on three main topics: Plant Varietal Selection (PVS) and hybridization for potato; Participatory Varietal Enhancement (PVE) for maize and beans; Open Pollinated Variety (OPV) breeding for maize.
In Peru, the FFS curriculum and implementation had to adapt to the needs of the community partners (IPs) and to the geophysical characteristics of the site. As a result, baselines studies and FFS were conducted and adapted per zone, i.e., per altitudinal ecosystem, to allow systematisation of data.

Specifically:

- Each of the three major altitudinal ecosystems has its own set of diversity (each household/community often has farms in all three zones), ecosystems, and landscapes.
- Approaches and tools had to integrate and respect local cultures, views, and spirituality, as well as people, communities, and women and men's roles. In Peru, it is not allowed to kill the male plant and isolate the pollen; the planting is done according to the lunar calendar (there is no time isolation), and the Southern Cross is a power symbol. As a result, FFS and the diversity wheel had to be adjusted accordingly.
- Maize, potato, and beans (fava) were identified as focus crops.

In Peru, a more efficient methodology and systematic adaptation was developed; the traditional FFS was adjusted and adapted by the participants themselves. The SD=HS Technical Operations Adviser helped review the baseline, and internalised it into their culture. Farmers appreciated the work done. There is a technical guideline that needs to be reviewed. It was reported that one challenge faced by farmers relates to extreme climate change events. Special topics need collaboration to develop a context for seed law. Farmers set up time and made their own rules, based on customary law and practice. There is a graduation video. Among the challenges reported are: to have audio and IT wireless/mobile tools for non-literate FFS participants, to capture and to train advance farmers as leaders to make this a farmer-led process, be able to write press releases and to strengthen local people's capacities, to continue partnership with research institutions, and to protect indigenous farmer seeds through OSSI.

4.2 FFS CURRICULUM REVIEW

General Discussions

A review of the FFS curriculum, carried out by SEARICE in the three countries, identified areas in need of improvement. One of the limitations of the FFS is the mainstreaming of gender and traditional knowledge; revisions to the curricula and modules should integrate these topics. A suggestion is to have separate chapters; and specific topics should be made for gender, culture, and biocultural protocols.

Some of the main needs identified are:

- There should be a separate manual for FFS facilitators and farmers. The facilitators manual should include a technical guide on specific techniques (e.g., breeding), and a guide to the processes. The farmers manual should contain an illustrated technical guide (that should cover key areas to be assessed) and tools—including tools that show how to use and analyse results.
- The policy agenda and gender equality and social inclusion (GESI) should be integrated throughout the FFS process. This should take into consideration the limitations of women and other socially excluded members of the community, when selecting sites. It should emphasise the need to obtain the breeding and selection objectives of women and men separately, and should include a gender disaggregation data analysis and data management.
- Climate change concerns should be integrated (perceptions, observations, technical knowledge, climate vulnerability, and policy analysis, etc.).
- There should be a separate compilation of handouts for special topics.
- A list of supplementary reading materials should be included.
- The role of community protocols should be discussed, and guidelines on how to work with them made available.

Farmer Field Schools should be a platform aimed at providing social change; as such, science and traditional/local knowledge should be integrated. The schools should be adapted to the types of crop, community, and culture, therefore they will require different implementation approaches. However, while the approaches may differ, there should be a common language when it comes to carrying out baseline studies (with particular emphasis on data requirements) and technical interventions. Technical reviews for specific crops will be consolidated at programme's level.

5. ASSESSMENT/LESSONS, GAPS, WAYS FORWARD

5.1 ASSESSMENT/LESSONS

- An assessment of the results, to date, indicates that the IFAD-Oxfam Novib programme has successfully scaled up and mainstreamed its innovations and tools. This, in turn, has resulted in an invitation to partners to submit proposals to Sida and the Netherlands Postcode Lottery. The **partners are truly grateful to IFAD and the other donors** for having taken great risk in supporting the scaling up exercises, both in areas that had good results and those that need further refining. It is also fully acknowledged that the programme owes its success to the **equal partnership between all partners**. The partners recognise the importance of continuing to work with mutual respect and trust in the next phase.

Methodology and approaches (FFS, PGRFA toolkit) adopted in the programme, to strengthen farmers' access to PGR:

- The FFS proved to be an effective educational, advocacy, empowerment, and social transformation tool. The number of people and communities practicing and applying the skills and knowledge learned provides evidence of its effectiveness as an educational tool. This is further substantiated by the number of different crop varieties developed, rehabilitated, crossed, multiplied, and produced. The programme showed that farmers can be plant breeders, also that they could become proficient seed producers. The programme put farmers in control of seeds. In terms of empowerment, programme results showed farmer-to-farmer knowledge and skills transfer, improvement in farmers' technical capacities in farm management and plant breeding, and direct engagement of farmers with institutions and officials of government. As an advocacy tool, the FFS helped obtain concrete policy actions by local and national government levels. As a social transformation tool, it contributed to improved food and seed security for communities, in particular to farmers' control over seed security. The programme proved that farmers can take the lead in setting breeding objectives and making plans (see the farmer presentation at CTU). It is a great achievement. It provided the evidence necessary to influence policies and programmes that integrated the needs and innovations of farmers. The FFS elevated farmers' level of awareness in agricultural production, from farming for consumption or selling purposes, to farming to adapt to climate change and contribute to improving communities' food and seed security.
- The programme's PPB interventions are seen as a successful innovation. The programme has proven to the scientific community that it can work at both farmer and IP community level and thus has opened up an area where the scientific community, farmers, and indigenous peoples can work closely together. Further, the programme could demonstrate that local/traditional knowledge and scientific knowledge can be used side by side, not only in plant breeding but also in meteorology (e.g., weather forecasting). The programme has provided **new insights into which participatory breeding approaches are more feasible for farmers, and which are more demanding;** also into how the seed production of farmers' varieties and other varieties can be organised effectively at local level. Farmers can better afford PVS (between stable lines), PVE (adaptation of segregating populations to local circumstances), rehabilitation of preferred farmers' varieties (selection for better yields and shorter duration), and can less afford performing crosses and selection. If the latter is chosen it is normally for reasons of control (selection of parents by farmers). In all cases, coalitions with the public sector are essential, since farmers could not sustain all the necessary activities themselves, especially with fast changing climate and market pressures.
- The programme has been able to forge new, effective coalitions (from local to global), at an unanticipated scale, in each of the programme countries. The programme's success is determined, to a large extent, by the partners' ability to involve public sector institutes (e.g., breeding institutes, universities, extension services) and to acquire complementary support from local government for programme operations, hence contributing to the sustainability and scaling up of the programme. It would have been impossible to scale up without the partnerships with the research organisations that have provided not only technical support, but also

infrastructure and local resources. For the next phase, the programme should better acknowledge **the contribution of the national partners to the programme**, e.g., the financial contribution provided by the government in the Mekong Delta, in Vietnam. **The programme proved to have a local to global outreach.** This includes partnerships with academic institutions, research institutions, civil society organisations, IPSHF communities, and national and local government institutions. It is evident from the programme that FFS in PGR management are no longer an isolated affair, belonging to small farmers and CSOs; they have gained by recognition and support from all relevant stakeholders.

- There is evidence in the programme that seed production and distribution, if linked to PPB, can produce more positive results. This can influence diversification across a greater area; also the types of variety being used in farming systems. In addition, the contributions to local economies become more significant.
- During programme implementation, much attention was paid to changing realities which, in addition to posing new threats, are also offering opportunities to local farmers. They are redefining their crop priorities and the preferred characteristics of their cultivars, so the programme continues to adapt, to assist them with the conservation and development of crop diversity for the present, and prepare them to continue their PGR work for the future. The programme assisted with the conservation of the farmers' PGR management system, the system that maintains and creates diversity.
- Based on these lessons, the next phase of the programme should include **'to influence the research priorities and approaches of formal plant breeding'**, as an objective.
- The programme has been able to improve approaches, methodologies and tools. However, **outreach is also very important and is still considered to be the programme's weakness**. It is agreed that all FFS curricula and field guides will be prepared for publication at the global level, and that they might be accompanied by an online document that addresses more general aspects, e.g., the social-cultural context of FFS and their role in poverty alleviation, empowerment, experiential learning, and food security objectives. The country-specific curricula and field guides should be self-explanatory and contain all necessary information. Further editing should be done at the programme level, and everything should be ready for the final report of the IFAD programme.

Knowledge management

- Although it is acknowledged that the programme has strengthened farmers' seed systems, this will continue to be the main issue in the next phase. It is anticipated that **a better developed knowledge management system** will address some of the challenges and **improve the sharing of traditional knowledge, gender and social inclusion aspect and advocacy** for better and more appropriate policies. Knowledge management should include internal and external elements; the external elements are also relevant for accountability and transparency.
- Based on current practices, the partners have agreed that, in all publications, authorship of the programme's work will be assigned to the organisations.

Policy engagement:

- The programme has been able to move policy advocacy from local, to national, to the global level. **The next phase should address the sub-regional level (**ARIPO, COMESA, SADC, ASEAN) since decisions (e.g., on plant breeders' rights) are issued at that level, and the programme currently has no access. In addition, the programme can demonstrate that the gap between the Distinctness Uniformity and Stability (DUS)/Value for Cultivation and Use (VCU) systems, incorporated in seed laws, and the technical capacity of smallholder farmers is still very prominent. **The programme should base its policy advocacy on the local experiences in addressing this issue.**

  On policy engagement, **the programme has offered an alternative policy model,** through the 'local certification' mechanism, allowing farmers to produce and sell unregistered seed varieties.
- The programme has directly and indirectly attributed to poverty reduction; this is evident in the way farmers actively articulate their needs to local governments, and in the role the farmers play in producing seeds in the Mekong Delta, thereby meeting a major share of seed demands in the region. However, **the programme**

needs to make a visible contribution to poverty reduction, especially since many global, international agreements, e.g., The 'Treaty', place great emphasis on food security's contribution to poverty alleviation.

5.2 GAPS

Methodology, tools, and knowledge management

- Continuous modification of the FFS curricula and field guides is needed and should be based on feedback received from activities carried out during field school sessions.
- One challenge (and it will continue to be a major challenge), is to have an **efficient and systematic approach; and the appropriate methods and tools to incorporate traditional knowledge and local cultures and beliefs into the FFS PPB curriculum and field guide**. This will involve the use of local languages and visual aids, and developing field guides with symbols, thereby enabling the programme to package results in a user friendly narrative.
- Another major challenge is to meet the need for a stronger component on gender concerns in the FFS PPB curriculum and Field Guide and to segregate the organisation, collection and analysis of data, in order to capture the preferences of women, weaker members of the community, the young and the old. The curriculum should also include topics that address farmers' ability to organise, to participate in policy discussions, to lead, and to have the required facilitation skills to request resources. Climate change, in particular adaptation strategies, has also been identified as an area for further improvement.
- The IFAD-Oxfam Novib programme will contribute significantly to discussions on conservation, believing that the aim should be to conserve the diversity of genes or broad genetic base of crops, not specific phenotypes.
- The next phase of the programme should make an effort to review scientific and technical papers, the lifeblood of research institutions and a powerful tool to influence policy makers and the scientific community.
- The partners acknowledge that the dual function of publications (internal for learning and external to present knowledge and results) tends to be underestimated.
- Biocultural protocols related to management and the FFS curriculum should be strengthened in the next phase. PPB should be linked directly to the market, the impact of climate change, and cultural, spiritual values.

Management gap

- Organisational limitations (influenced by limited available funds) mean that partners have limited capacity to maintain, expand, and sustain human resources. This also means they have difficulties meeting the human resource requirements of the programme. Monitoring and evaluation activities would need to take place more regularly.

Policy engagement

- Policy gains have primarily been at the local level; few at national level. Policy gains should reach regional and global levels and should ensure farmer participation in decision-making. Regional seed policies will be very important in the future development of political and economic blocks (COMESA, ARIPO, SADC, ASEAN). The programme's presence and advocacy has not yet focused on these. Programme engagement in regional debates in the next phase will be part of the further scaling up and mainstreaming of programme objectives.

Gender inclusion

- The gender and the social inclusion aspect of programme implementation needs further improvement in terms of ensuring women's participation in interventions and the inclusion of gender aspect in policy development. This should be done also in a cultural context, where women's participation is not fully addressed.

Partnership between farmers and the public sector

- Partnerships with research and breeding institutes should be sustained; so too should cooperation with universities and local governments, etc. It will be essential, for the scaling up and sustainability of the

programme, to train more extension officers. It is noted, however that **engagements and partnerships with research institutions should be more structurally addressed.**

5.3 WAYS FORWARD

The next phase of the programme will build on the products and lessons of the current three-year programme and leverage its achievements. Some new aspects will be introduced, which may incorporate new experienced partners, or an expansion of the work to new areas within the three countries.

Points to be considered in the phase two proposal:

Phase two will build on the knowledge management products and lessons of the current programme and will focus on participatory knowledge management (PKM) from the local to global levels. PKM will focus on: 1) Linking local and traditional knowledge with scientific knowledge. Building on and accommodating evolving, local knowledge should be considered. 2) Facilitating improved and consistent analysis of collected data and experiences. 3) Providing new tools for documenting and retrieving this information. 4) Allowing enhanced mainstreaming of results and experiences in various publications, extending from pictorial information, leaflets, monographs, and policy briefs to scientific publications. This requires new approaches, new tools, new alliances, and greater involvement of the educational sector. The evaluation has identified the need for further work on the crops-focused field guides for facilitators and farmers.

1. Gender and social inclusion within the target groups should be improved in the next phase. This may require the selection of new and additional crops that are under women's management, such as vegetables or, in particular, those that are relevant to the poor, such as neglected and underutilised species. Phase two of the programme should find ways to involve the youth, or other groups in the food diversity agenda, and offer them the prospect of a better livelihood. For example, the programme may want to explore the possibility of setting up an FFS for the youth.
2. Given that livelihood is an important aspect of the programme's target group, the value chain aspect needs further exploration; to find ways to: expand the development and production of new varieties; re-introduce certain crops and varieties; market the produce; and provide farmers with more control in the value chain, by developing new marketing channels or by re-arranging the relationships in current marketing channels—price setting, role of middlemen, reduction of post-harvest losses, etc.
3. The programme should expand its policy focus and engage in policy debates at regional levels, i.e., with COMESA, ARIPO, SADC, and ASEAN. It is important to include gender issues in policy formulation, and continuously engage farmers in relevant policy meetings and discussions.
4. The approach and methodology of phase two should better address how data is collected based on how it is used and published, i.e. taking into account the target audience.

The next phase may explore the forming of a multi-stakeholder technical platform, to accommodate discussions between farmers and the scientific community.

6. ANNEXES

6.1 ANNEX 1: TERMS OF REFERENCE (TOR) OF THE EXTERNAL EVALUATION

Annex V **Terms of Reference for Consultants and other persons hired by IFAD under a non-staff contract**

Consultant ☒ **Intern ☐** **Fellow ☐** **Conference Service ☐**

Minimum number of years of relevant experience required (consultants only):

1yr ☐ 2yr ☐ 8yrs ☐ 12+yrs ☒

Full Name:	**Dr. T. Berg**
Specialization:	**Agronomy**
Expected Start Date of Assignment:	**9 November 2015** } SUBJECT TO CHANGE
Expected End Date of Assignment:	**9 December 2015** }
Total number of working days *(max. 240 in a 12-month period)*:	**20**
Division/Department:	**FPD/PMD**
Location:	
Reports to (name and title):	**Malu Ndavi**

GENERAL DESCRIPTION OF TASK(S) AND OBJECTIVES TO BE ACHIEVED

Expected Activities:

Independent Evaluation of IFAD funded Project on
"PROGRAMME FOR SCALING UP PEOPLES' BIODIVERSITY MANAGEMENT FOR FOOD SECURITY"
(Grant OXFAM NOVIB 1371)

1. Background

These ToRs refer to the evaluation of an IFAD-supported Project entitled *"Programme for Scaling Up Peoples' Biodiversity Management for Food Security"* – referred to as OXFAM NOVIB 1371.

The goal of the Oxfam Novib 13711 "Programme for Scaling Up Peoples' Biodiversity Management for Food Security" is to uphold, strengthen and mainstream the rights and technical capacities of indigenous peoples and smallholder farmers, and to influence local to global policies and institutions on the sustainable use of plant genetic resources for food security under conditions of climate change. The programme's objectives are to: (i) develop locally appropriate adaptation strategies for food security by bridging traditional knowledge and science on plant genetic resources and incorporating local perceptions on climate change; (ii) empower indigenous peoples and smallholder farmers to influence local, national, regional and international food, agriculture and climate change policies toward realising the right to food (RtF); and (iii) strengthen the adaptive capacities of smallholder farmer communities and indigenous peoples in plant genetic resources conservation, and access and sustainable use, by scaling up successful and/or innovative models. The target group is indigenous peoples and farming communities in Zimbabwe, Peru, and Vietnam.

The grant was approved on 5 May 2012 and became effective on 20 July 2012. The current completion date is 30 September 2015 and the closing date is 31 March 2016. The IFAD contribution is of USD 1 million. An evaluation of its achievements was agreed upon by IFAD and Oxfam Novib in order to take stock of lessons learnt and transferability criteria and provide further guidance for an envisaged follow up phase.

2. Advisory Team

The advisory team will be composed of the following people:

- Gigi Manicad, Senior Programme Manager, Oxfam Novib
- Malu Ndavi, Senior Programme Officer, IFAD
- Rima Alcadi, Grants Portfolio Adviser, IFAD (supporting the Evaluation and participating in the mission)

3. Major Work Phases, Tasks and Locations

Overall, the evaluation will take place over a period of **20 days**. There will be 3 phases.

Phase 1 –Focusing the Evaluation (3 days)

At the start of the evaluation, the Evaluator will gather all relevant background information (to be provided by Oxfam Novib and IFAD). For all countries, the Evaluator will collect, analyze and summarize relevant information related to project activities undertaken, relevant to the Evaluation Report. Oxfam Novib will provide contact details of specific informants for all countries involved, so that the Evaluator can interview them as required. Assistance will be provided by Oxfam Novib and IFAD in terms of arranging introductions to key informants.

In consultation with partners , the Evaluator will analyses the documentation and will identify/select the type of evaluation and set of analytical tools to use which are deemed most appropriate, in terms of cost as well as adequacy for project. The Evaluator will interact with the Advisory Team members to clarify the evaluation task as required, in order to focus the evaluation.

Phase 2 – Field Visit to Viet Nam (10 days)
Field visits cannot be undertaken for all countries where programme activities are being implemented. Thus, it was necessary to select a country for the field visits and Viet Nam was identified as the preferred location. In selecting the country, the IFAD grant task manager and Oxfam Novib considered that the evaluation is supposed to be also forward looking, i.e. providing recommendations on the prospective subsequent phase, should the evaluation conclude that a subsequent phase is indeed warranted. Thus, the country selected should be a target country for the prospective subsequent phase. Viet Nam is currently envisaged as part of a Phase II proposal and there is a diversity of activities undertaken.

Phase 3 - Finalize the evaluation report (7 days)
Based on the findings of the field visits in Viet Name and analyses of detailed background documents, an evaluation report will be prepared **by 9 of December 2015.** The Evaluation will include concrete and summarized recommendations.

4. Expected Outputs of the Consultancy

- Final Evaluation Report, including recommendations ensuing from the evaluation intervention (see suggested annotated Table of Contents attached)

KEY PERFORMANCE INDICATORS

Expected Outputs (please include any travel if applicable):	Required Completion Date:
Expected Outputs of the Consultancy • Final Evaluation Report, including recommendations ensuing from the evaluation intervention (see suggested annotated Table of Contents attached)	

Clearance by COM if TORs include communication activities (see section 4.7(iii)):

Name: TRYGVE BERG Signature Trygve Berg Date: 16/11/15

Clearance by CFS if TORs include financial management responsibilities:

Name: ..... Signature..... Date:.....

6.2 ANNEX 2: LIST OF PARTICIPANTS

LIST OF PARTICIPANTS OF MEETING (9-9-2015)

1. Mr. Nguyen Van Sanh — Director, MDI
2. Mr. Huynh Quang Tin — FARES Coordinator, MDI
3. Ms. Nguyen Hong Cuc — FARES staff
4. Ms. Tran Thi Linka — FARES staff
5. Mr. Nguyen Hong Tin — FARES Technical Consultant, MDI
6. Ms. Ho Thi My Kieu — MDI staff
7. Mr. Nguyen Sy Lam — Vice Director, DARD, An Giang province
8. Mr. Huynh Hiep Thanh — Director of AEC, An Giang province
9. Mr. Lê Van Doi — Vice Director, DARD, Hau Giang province
10. Mr. Tran Ngoc The — Director, PPSD, Hau Giang province
11. Mr. Lu Xuan Hoi — Director, Seed Center, Hau Giang province
12. Mr. Nguyen Van Ro — Farmer breeder, Tien Giang province
13. Ms. Le Thi Kim Tha — Farmer breeder, Dong Thap province
14. Mr. Phan Van Long — Farmer breeder, Vinh Long province
15. Ms. Mai Bich Chuong — Farmer breeder, Vinh Long province
16. Mr. Huynh Nguyen Vu Lam — FARES partner (translator)

LIST OF PARTICIPANTS PARTICIPATED IN THE MEETING AT MY LAM SEED CLUB

7 Sep 2015

No	Full name	Organization
1	Mr. Lê Huyên	Agricultural Extension Center, Kien Giang province
2	Mr. Lê Văn Việt	Agricultural Extension Station, Hon Dat district
3	Mr. Trần Minh Khoa	Agricultural Extension Station, Hon Dat district
4	Mrs. Nguyen Hong Cuc	MDI
5	Ms. Tran Thi Linka	MDI
6	Mr. Huynh Nguyen Vu Lam	MDI

No	Full Name	Address
1	Mr. Phan văn Le	An Biên district, Kien Giang province
2	Mr. Nguyễn Văn Tính	Mỹ Lâm-Hòn Đất, Kien Giang province
3	Mr. Lâm Ánh Lang	Mỹ Lâm-Hòn Đất, Kien Giang province
4	Mr. Phan Văn Tưởng	Mỹ Lâm-Hòn Đất, Kien Giang province
5	Mr. Bùi Văn Thương	Mỹ Lâm-Hòn Đất, Kien Giang province
6	Mr. Bùi Thiện Đỉnh	Mỹ Lâm-Hòn Đất, Kien Giang province
7	Mr. Nguyễn Văn Hai	Mỹ Lâm-Hòn Đất, Kien Giang province
8	Mr. Nguyễn Văn Cưỡng	Mỹ Lâm-Hòn Đất, Kien Giang province
9	Mr. Nguyễn Van Giỏi	Mỹ Lâm-Hòn Đất, Kien Giang province
10	Mr. Phan Văn Chơn	An Biên, Kien Giang province
11	Mr. Trần Minh Dương	TT. Hòn Đất, Kien Giang province
12	Mr. Nguyễn Minh Thuấn	U Minh Thuong district, Kien Giang province
13	Mr. Nguyễn Chí Cương	Vĩnh Thuận district, Kien Giang province
14	Mr. Nguyễn Duy Linh	Vĩnh thuận, Kien Giang province
15	Mr. Nguyễn Văn Ba	Vĩnh Thuận, Kien Giang province
16	Mrs. Lê Kim Tha	Lấp Vò district, Dong Thap province
17	Mrs. Mai Bích Chương	Long Hồ district, Vinh Long province
18	Mr. Phạm Văn Long	Long Hồ district, Vinh Long province
19	Mr. Nguyễn văn Rô	HMT-Cái Bè district, Tien Giang province
20	Mr. Phan Văn Oanh	Long Mỹ district, Hau Giang province

INTERNAL EVALUATION IN VIETNAM

3 September 2015
Sunway Hotel 19 Pham Dinh Ho

No	Name	Organization	Mail Address	Signature
1	Normita G. Ignacio	SEARICE	nori_ignacio@searice.org.ph	
2	Aunario S. Lucero Jr	SEARICE	jsl_ekit@yahoo.com	
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5	Maria Josefina G. Manicad	OXFAM NOVIB	Gigi.Manicad@oxfamnovib.nl	
6	Andrew Mushita	CTDT	andrew@ctdt.co.zw	
7	Patrick Kasasa	CTDT	patrick@ctdt.co.zw	
8	Alejandro Argumedo	ANDES	alejandro@andes.org.pe	
9	Ana Carlon Dorrego	ANDES	ana@andes.org.pe	
10	Trygve Berg	NORAGRIC	trygve.berg@nmbu.no	
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19	Nguyen Thuy Duong	SRD	duongintern@srd.org.vn	
20	Vu Dang Toan	PRC		

6.3 ANNEX 3: PROGRAMME

IFAD-Oxfam Novib Programme: Putting Lessons into Practice: Scaling up People's Biodiversity Management for Food Security

Internal Evaluation Agenda and Programme of Activities

GENERAL OBJECTIVE:

- Internal evaluation of the achievements of the IFAD funded programme, in order to take stock of lessons learnt and the sustainability criteria and provide further guidance for an envisaged follow up phase.

General Objective

- Internal evaluation of the achievements of the IFAD funded programme, to take stock of lessons learned and sustainability criteria, and to provide further guidance for a follow up phase.

Specific Objectives:

- To capitalise on the rich experiences of all partners in an open and safe space to draw collective lessons and inspirations
- Review of baseline and end line using 4 key criteria, identify achievements and gaps
- Review of FFS approach and the technical and empowering approach to improve draft as a programme deliverable to IFAD
- Sharpen agreements and use of beneficiaries, target groups and reach
- Define areas for the next proposal and plan

- Capitalise on the valuable experiences of all partners in an open and safe environment, and to extract collective lessons and insights.
- Review baseline and endline results, using the four key indicators (seed security, food security, gender inclusion, and policy engagement), and identify achievements and gaps.
- Review the Farmer Field School (FFS) curriculum and the technical and empowering approach to improve draft as a deliverable to IFAD.
- Hone agreements on the definition of beneficiaries, target groups, and reach.
- Define areas for the next proposal and plan.

LOCATION:

- Although the programme is implemented in several countries and it has a global component, this internal evaluation will use Vietnam as a case study. The workshop will form an input to the global perspective, since partners from Peru and Zimbabwe have been also been invited.

MAIN OUTPUT:

- A high quality document on partners' evaluation of the IFAD-Oxfam Novib funded programme, to serve as an input to the external evaluation, commissioned by IFAD.

PROGRAMME OF ACTIVITIES
2-10 September 2015

DATE AND TIME	DURATION	TOPIC / ACTIVITY	Person/Organization Responsible
02-SEPT-2015			
	Whole Day	**Arrival of participants**	
03-SEPT-2015			
		WORKSHOP	
8:30 AM – 9:30 AM	15 min	Opening remarks	SRD, SEARICE and Oxfam Novib
	15 min	Review agenda and expectations	Facilitator
	10 min	Orientation on logistics during the event	SRD
	20 min	Getting to know each other	Facilitator
9:30 AM – 10:15 AM (1 presentation) 10:15 AM – 10:30 AM (coffee break) 10:30 AM – 12:00 noon (2 presentations) 12:00 noon – 1:00 PM (lunch)	3 hours	Presentation of key achievements and gaps (30 min/ organisation)	SEARICE/SRD, CTDT, ANDES and Oxfam Novib
1:45 PM – 2:45 PM	1 hour	Presentation FFS on PVS, PPB and PVE	ANDES
2:45 PM – 3:00 PM	15min	Coffee break	

3:00 PM – 4:45 PM	1 hour & 45 min	Learning notes: • Relevance • Effectiveness • Efficiency • Impact and sustainability • Analysis of reasons behind achievement (or not) of objectives	Facilitator
4:45 PM – 5:00 PM	15 min	Orientation on field visits	SRD
04-SEPT-2015			
	Whole Day	**FIELD VISIT**	
		• Check-out from hotel (Hanoi) • Travel to Yen Bai Province • Check-in at hotel (Yen Bai) • Visit FFS farmer group in Bao Ai Commune	SRD
05-SEPT-2015			
	Whole day	**FIELD VISIT**	
		• Check-out from hotel (Yen Bai) • Visit FFS farmer group in Bach Ha Commune. • Meeting with local partners and lunch at Yen Bai City. • Travel to Hanoi	SRD
06-SEPT-2015			
		TRAVEL TO CAN THO CITY	
		• Check-out from hotel (Hanoi) • Travel to Noi Bai Airport • Travel to Can Tho City	SRD
3:00 PM – 4:00 PM	1 hour	• Arrival at Can Tho Airport • Travel to Ninh Ki!u 2 • Check-in at hotel	CTU-MDI
6:00 PM – 8:00 PM	2 hours	• Welcome dinner • Orientation on field visit	CTU-MDI

PROGRAMME OF ACTIVITIES
2-10 September 2015

DATE AND TIME	DURATION	TOPIC / ACTIVITY	Person / Organization
07-SEPT-2015			
		FIELD VISIT	
7:00 AM – 9:30 AM	2.5 hours	• Check-out from hotel (Ninh Kieu 2) • Travel to Kien Giang province	
9:30 AM – 12:00 noon	2.5 hours	• Visit My Lam Seed Club, My Lam village, Hon Dat District, Kien Giang Province	
		• Lunch at Seed Club	
2:00 PM – 5:00 PM	3 hours	• Travel to Ninh Ki!u 2 (Can Tho) • Check-in at hotel	
08-SEPT-2015			
		WORKSHOP	
8:00 AM – 8:30 AM	30 min	• Travel to Can Tho University	
8:30 AM - 9:00 AM	30 min	• Remarks from MDI	• Dr Dang Kieu Nhan
9:00 AM -10:30 AM	1.5 hours	• Programme Information • Report on strengthening capacity building • Report on PPB results • Report on Seed club development and management • Report on impact of CBDC/FARES programme to seed security in An Giang	• Hu''nh Quang Tín • Nguy#n H$ng Cúc • Nguy#n H$ng Tín • Tran Thi Linka • Nguy#n Ti%n Tâm • Hu''nh Hi&p Thành
10:30 AM – 11:00 AM		• Coffee break	
11.00 AM – 12.00 noon	1 hour	• Discussion and Reflection	
12:00 noon – 1:00 PM	1 hour	• Lunch	
1:00 PM – 1:30 PM	30 min	• Presentation of flipcam / pictures	CTDT, SEARICE and ANDES

1:30 PM- 3:30 PM	2 hours	• Presentations / Review of FFS curricula / ToT	CTDT, SEARICE with introduction by Rene Salazar
3:30 PM – 4:00 PM		• Coffee break	
4:00 PM – 5:00 PM		• Discussion and Reflection	
09-SEPT-2015			
		WORKSHOP	
8:00 AM- 8:30 AM	30 min	• Travel to Can Tho University	
8:30 AM -10:00:AM	1.5 hour	• Assessment partnership / lessons learned for SD=HS proposal	Gigi Manicad
10:30- 12:00 AM	1.5 hours	• Feedback	• Trygve Berg • Bert Visser • Rene Salazar
1:00 AM- 3:00 AM	2 hours	• Action points for follow up phase	Gigi Manicad
3:30 PM – 4:30 PM	30 min	• Continue discussion on follow up phase	Gigi Manicad
4:300 PM- 5:00 PM		• Evaluation (event)	SEARICE
6:00 PM onwards		• Farewell Dinner	
10-SEPT-2015			
		DEPARTURE	
		• **To Ho Chi Minh / Hanoi**	

6.4 ANNEX 4: REPORTS

Report from Bert Visser, SD=HS Scientific Adviser
Travel Report Internal Evaluation IFAD Programme
TRAVEL REPORT INTERNAL EVALUATION IFAD PROGRAMME
Bert Visser, Vietnam, September 2015,
This report is a compilation of the notes taken during the IFAD programme internal evaluation held from 1–10 September, 2015. Notes have been grouped by country and topic. Results refer to the programme period 2012–2015, unless indicated otherwise.

Notes on IFAD programme activities in Vietnam

In North Vietnam, the programme works mainly with ethnic minorities, and a large majority of the active farmers are female. In the Mekong Delta, in the South, rice cultivation is a major source of income and is mostly managed by men. In the north, hybrid varieties of rice have gained a substantial, but minority, share of seed sales. At the same time, traditional varieties have often lost quality, although they can fetch a 40–100% higher price in the local markets.
Government programmes are not focused on local capacity building, and no coordination or synergies exist between the various programmes that affect small-scale agriculture.
North Vietnam
Sustainable Rice Intensification (SRI) has provided a 10–25% increase in productivity, mainly through a reduction of inputs (fewer seeds, fertilisers, and herbicides).
Farmer Field Schools (FFS) have been run in 21 communities.
Eighteen rice varieties have been selected from segregating F4–F5 populations, provided by the Food Crop Research Institute (FCRI). Populations were selected for disease resistance, proper duration, plant height, and taste. In addition, rehabilitation of farmer varieties of sticky rice was undertaken, for which preferred characteristics were defined at the outset. Both negative mass selection and positive pedigree selection were undertaken (panicle to row). Also, crossings were performed, from which four lines were further selected and tested. In Bao Ai commune, farmers requested a second phase of the programme that would allow them to cross the traditional sticky rice variety with a non-photosensitive variety. A farmers' video reported as main outcome of the FFS the empowerment ("we never thought we could do this").
The government official who visited Yen Bai, offered financial support to the programme, if both the farmers and the government appeared to be satisfied. He also suggested to scale up the programme, to increase impact.
Mekong Delta
A visit was paid to My Lam community, from which the first farmers' variety was registered (HD in 2010). The seed club had 16 members (very few female) and produced seed over approximately 200 hectares. The average land holding was 3 ha, high yields; approximately 6–8 tonnes/ha. The seed club was open to new members, on the condition that FFS training had been completed successfully.
When asked how farmers measured their success, they mentioned more self-consciousness. My Lam was known as a seed-producing village.
The network of 42 seed clubs was also mentioned as a major learning tool for seed producing farmers. The network may function as a source of information for (regional) government policies.
At the Mekong Delta Research and Development Institute of Can Tho University, an overview was provided of all work undertaken since the start of the CBDC programme. Over time 18,000 farmers had participated in FFS; 92 Training of Trainers (ToT) sessions had been organised for farmers, and 199 for extension service staff. Two hundred trainers were now available. Of the 328 new farmer varieties that had also been developed, two were registered and more were in the pipeline. Twenty-four thousand hectares of non-registered varieties were currently being grown in the Mekong Delta. The budget appeared to determine the level of activities. The local government had supplemented programme funds.
When discussed, there appeared to be an interest in training sessions on vegetables, since these are less prone to price fluctuations. This may also attract more female farmers.
One farmer's presentation put forward the following as challenges:

- Age of the FFS participants
- Insufficient labour capacity
- Lack of seed storage facilities
- Need to strengthen relationships between farmers and authorities.

Policy issues in relation to Vietnam

- Can seeds of farmers' varieties be allowed in the market?
- Can these varieties be registered?
- Should seed lots produced by farmers be inspected and certified?

The law requires the registration of both seed producers and varieties for sale, and prohibits the sale of uncertified seed lots outside the community of the producer. Indeed, the government official met in Yen Bai, confirmed that farmers would have to respect these seed law requirements. Currently, farmers in Yen Bai are not yet producing seed for sale outside their community. In the Mekong Delta, two farmers' varieties have been registered, and seed from a number of public sector varieties produced. Also, seed from a number of non-registered varieties have been produced. All these seed lots had to be tested and certified. Non-registered varieties could only be sold in their own province, a relaxed policy, given that these varieties were best adapted to local conditions (in particular, salinity).
Asked whether meeting certification standards was a problem, farmers said they could meet the requirements as a result of the training they had had.
Another issue is how to implement new policies. The challenge is how to translate and move policy issues experienced at the community level to higher (national) levels.

Notes on the IFAD programme carried out by ANDES in Peru

Lares Valley

Seven FFS function on a permanent basis.
On potato seeds:

- 35 new coloured varieties are maintained for the gastronomy market
- 160 commercialised native varieties
- 225 non-commercial varieties are also maintained.

To maintain 400 rather than 20 potato varieties is motivated by the indigenous culture.
Repatriated seed will only last (i.e. remain sufficiently virus-free) for a limited number of years. Therefore, an on-site cleaning facility (connected to the seed bank?) is needed in the Potato Park, and farmers need to be trained in *in vitro* cleaning of potato plantlets.
100 maize varieties are maintained in the programme context.
The barter market functions in the framework of a vertical mountain ecology. Households do not have access to produce and seeds they cannot cultivate on their own land (i.e., because they are not at the right altitude).
A training module for a gender analysis of seed systems has been developed.
The national law contains provisions for local adaptation plans.
Suggestions:

- To link farmers' knowledge to the relevant parts in the ITPGRFA, i.e. Farmers' Rights as well as the Global Information System.
- To arrange for farmer-to-farmer exchange through the Treaty's Technology Transfer Platform.
- To create a 'boomerang' effect, from local to national to global, and back to national.

Five policy proposals have been submitted.
Knowledge management needs to be improved. A better documentation and communication strategy within the programme is required.
A small implementation window exists under the Peruvian law in harmony with UPOV 1991 for the sales of heritage variety seeds.

Notes on the IFAD programme carried out by CTDT in Zimbabwe

A comparison of weather data with farmers' experiences indicated more extremes in rainfall patterns over the last 10–20 years. Traditional knowledge on weather prediction is likely to change as animal behaviour and plant responses will change in reaction to climate change.
The multiplication factor of seed fairs (number of farmers reached over the number participating in FFS) amounts to a factor of 4–5.
Uncertified farmers' seeds can be sold only within a radius of 20 km.
Partnerships with CIMMYT, ICRISAT and CBI are foreseen, in order to provide starting material for the FFS.
CTDT systematised its experiences with the FFS and produced a reviewed and improved a draft guide. It has focused mainly on pearl millet and maize, although groundnut and sorghum are also discussed to some extent. The document still requires more input on gender.

Lessons learned

Scaling up activities that strengthen farmers' seed systems will remain a major challenge. Improved knowledge management may address this challenge; so too may wider sharing of traditional knowledge, and advocacy for better and more appropriate policies.
The success of the programme depended, to a large extent, on the ability to involve public sector institutes (breeding institutes, universities, extension services), and to acquire complementary support from local government for programme operations.
For the purpose of scaling up, training extension agents is essential.

Knowledge management includes internal and external elements; the external is also relevant for accountability and transparency.
Policy advocacy work should also address the sub-regional level, since any decisions (e.g. on plant breeders' rights) are taken at that level. We have currently no access at that level (ARIPO, COMESA, SADC, ASEAN).
Farmers can better afford participatory variety selection (between stable lines), participatory variety enhancement (adaptation of segregating populations to local circumstances), rehabilitation of preferred farmers' varieties (selection for better yields and shorter duration). They can less afford to perform crosses and selection. If the latter option is chosen, it is often for reason of control (selection of parents by farmers). In all cases, coalitions with the public sector are essential. Farmers cannot sustain all activities that are needed, particularly in preparation for climate change.
The gap between the DUS/VCU system incorporated in seed laws and small farmers' capacities is still very large. Policy advocacy should be based on this experience.
A thorough gap analysis of our FFS approaches carried out by SEARICE highlighted many aspects that need to be addressed in the next phase of the programme.
Outreach is important and still a weakness within the programme. It has been decided that all FFS curricula and field guides will be prepared for publication at the global programme level, and that these curricula might be complemented by an on-line document, discussing general aspects, e.g., the socio-cultural context of FFS, their role in poverty alleviation, empowerment, experiential learning, and food security objectives. The country-specific curricula and field guides should be self-explanatory and contain all necessary details. Editing may be done at the programme level. All these should also be ready for the IFAD programme report.

Elements for the narrative

Since the impact of climate change differs between communities and ecosystems, locally adjusted coping strategies are needed; diversity will provide options for a differentiated response.
Our programme does not want to create museums of traditional diversity. FFS will lead to change in the farming systems. What our programme does aim to do, is support and maintain a dynamic PGR management system that is under farmers' control, and in which PGR diversity evolves continuously, in response to changing circumstances, as a contribution to food security and sustainable agriculture.
Plant breeding without seed production is meaningless. The programme has integrated the two.
Three years is not enough for a full breeding cycle that regularly takes up to ten years. Each project covers only a limited section of the efforts made, and programme outputs should reflect this.
In this line, sustainability of all activities is a concern. How can we minimise programme interventions in existing sites, in order to free up sufficient capacity to work in new communities?
Q: Has the programme been an effective means to help reduce poverty in the target sites?
A: Our work is only an attribution to poverty reduction, but an important one.
Can we use the FAO Guide on National Seed Policy as an instrument to request national debate and changes in seed laws?
Our work on farmers and crops could be better linked to the wider food agenda, to food diversity on people's plates, e.g., the Slow Food' movement that uses a very similar narrative.
Increased crop diversity is an effective way to cope with the local effects of climate change, often associated with more variable and unpredictable weather patterns.

Programme results

1. This programme has been able to contribute to farmers' empowerment and farmers' control over seed security. What is new and unique to this programme is the scale of the operations. We have been able to reach xxx farmers in yyy Farmer Field Schools, therefore showing that major scaling up and mainstreaming of efforts, to increase and improve PGR under farmers' control, is feasible. A following phase should build on this initial success and result in further scaling up and mainstreaming of initiatives, towards a stage in which these initiatives can spread autonomously and be integrated in the plans and activities of national and local governments.
2. This programme has been able to forge new, effective coalitions in each of the programme countries, at an unanticipated scale. Breeding institutes have made germplasm and staff available; extension services have become deeply engaged; universities have provided technical support; and local governments have provided organisational and financial support to community activities. Farmer Field Schools in PGR management are no longer an isolated affair amongst small farmers and CSOs; they have gained recognition and support from all relevant stakeholders.
3. This programme has not only shown once more that farmers can be breeders, but also that farmers can be efficient and professional seed producers, thereby providing a major share of the seed required for the functioning of informal seed systems. The programme has provided new insights into which participatory breeding approaches are more feasible, and which are more demanding on farmers, and

into how seed production of farmers varieties (and other varieties) can be organised effectively at the local level.

4. This programme has shown that farmers take the lead in such initiatives, selecting crops, setting breeding objectives, performing evaluation and selection, and creating new crop diversity, in addition to maintaining preferred traditional diversity.
5. This programme has linked the local farmers' agenda to the national and global policy agenda, providing evidence for the need to change policy rooted in community experiences. It has provided ideas and recommendations for a policy change that will further strengthen the role of informal seed systems in the local and global supply of food.
6. In the process, this programme has carried out new experiments an applied innovations, in particular to cope with the consequences of climate change. New lines and varieties of early duration and with better drought tolerance have been produced. Varieties that combine traditional traits with better adaptation to the new circumstances are under development, and the re-introduction of crops and varieties that better fit changing circumstances, has been undertaken. Traditional knowledge has been used in field experimentation and has been rooted in the bio-cultural background in which it can best develop.

Focus of a new programme plan

The new programme plan will present a follow-up phase, and while most current activities need to be continued and further scaled up, some major new aspects will be introduced. The programme may also incorporate new experienced partners, e.g. Li-Bird, Umberto Rioz, and/or expand work to new areas (CTDT in Zambia or Malawi).

1. Participatory knowledge management from the local to the global level: 1) linking local and traditional knowledge with scientific knowledge; 2) facilitating better and consistent analysis of collected data and experiences; 3) providing new tools for documenting and retrieving this information; 4) allowing enhanced mainstreaming of results and experiences in various publications, extending from pictorial information, leaflets, monographs, and policy briefs to scientific publications. This requires new approaches, new tools, new alliances, and greater involvement of the educational sector.
2. Working on our target groups. Gender and social inclusion need more attention. This may require the selection of new and additional crops that are under women's management, such as vegetables, or that are relevant to the poor, in particular, such as neglected and underutilised species. The new programme should acknowledge the general unattractiveness of agriculture to the rural youth, find ways to involve them in the food diversity agenda, and to offer them the prospect of a better livelihood.
3. The value chain needs more attention, in order to improve livelihoods. Attention not only to the development and production of new varieties and the re-introduction of crops and varieties, but also to the marketing of produce and ways to provide more control to farmers in the value chain, by developing new marketing channels or re-arranging the relations in current marketing channels (price setting, role of middlemen, reduction of post-harvest losses, etc.).
4. Regional policies gain importance in the further development of political and economic blocks (COMESA, ARIPO, SADC, ASEAN). This requires an additional presence and advocacy of the programme at these levels. This approach would also allow for initial regionalization of the entire programme efforts, as part of its scaling up and mainstreaming objective.

Report from Rene Salazar: SD=HS Technical Operations Adviser
Reflections on IFAD-Oxfam Novib 3 Year Programme
Reflections on IFAD-Oxfam Novib 3 year Programme

1. Strengthening the partnership between farming communities and public plant breeding institutions.

As NGOs, we tend to focus more on the role of communities in the management of plant genetic resources (PGR), but research institutions play an equally important role. While each system has its own comparative advantages and strengths, both are essential to participatory plant breeding (PBB). Wider access to PGR, greater capacity to produce hundreds of breeding lines, and faster genetic progress are all strengths of formal institutions, for example, but setting up breeding objectives, and local evaluation and adaptation are best done by local communities.
Another important component of on-farm PGR management is influencing and changing the research priorities of, and approaches to, formal plant breeding. PPB partnerships with research institutes provide the ideal opportunity to do this—further highlighting the value of such partnerships.

(Note: I did not speak of this in Can Tho but maybe this is an important addition.)

Thus, more attention needs to be paid to publishing scientific and technical papers; these are the life blood of research institutions and are powerful channels through which both policy makers and the scientific community can be convinced.

The following partnerships:

- ANDES with CIP, and INIA (in Peru)
- CTDT with the Crop Breeding Institute of MoA (CBI), CIMMYT and ICRISAT
- SEARICE – SRD with the Food Crop Research Institute (FCRI)

are examples of on-going development of “best practices” of these partnerships, where research institutions usually provide breeding lines and periodic technical support, and farming communities provide local knowledge, sharper definition of effective traits for different environments, effective evaluation of breeding lines, and local selection.
More concrete examples are:
a) F4 rice breeding lines (bulk-selected) were sent to the FFS communities in Son La province in North Vietnam. Four seasons later, at F8, during the El Niño drought of the 2015 winter-spring season, one line was the best performing rice plot in the commune. This line was a cross from a local variety with Q2, a decades old Chinese rice HYV. Eight advance breeding lines of pearl millet from the CBI are being evaluated by farmers working with CTDT. CIP repatriated several hundred local cultivars to the Potato Park / ANDES to provide disease-free planting materials, and PVS on 27 cultivars were conducted for adaptation in three different altitudinal zones.

2. Developing alternative models of seeds policies and regulations, to provide space for farmers to manage PGR and their cultivars and seeds.
Policy work continues to help both national and international systems establish policies and regulations to support the community PGR system. However, the IFAD-Oxfam Novib programme provided concrete, alternative models such as policies and regulations adjusts to concrete successes of the national projects. In Vietnam, local governments at the provincial and district levels provided a type of “certification” to allow farmers to produce and sell unregistered varieties at the village, district, and even provincial levels, thereby avoiding the constraint of wide adaptation trials, since most farmers’ varieties are for local adaptation. While this is happening in a country where implementation of seed laws and regulations is weak (reportedly 50-100% failure to implement in most provinces), the effort of the IFAD-Oxfam Novib programme to formalise “registration” under government institutions provides alternatives and more powerful proof and chance of changing official policies to support local PGR management.

CTDT has drafted a Farmers’ Rights Law, to provide policy support to farmers’ PGR management; and the varietal registration office (need to check the exact name of the institute) is in discussion with CTDT for exemptions to farmers’ varieties, bred for local adaptation. The same policy adaptation is also happening in Peru, with INIA providing exemptions for farmers’ cultivars (Alejandro is supposed to cite this provision – it was in Spanish when explained to me by INIA).

3. Implementation of the programme under changing socio-economic, political, cultural, and climate conditions.

As projects are implemented, changing realities are taken seriously into consideration. These realities are offering both new threats and new opportunities to local farmers, who are also redefining their crop priorities and the preferred characteristics of their cultivars. For example, new crops and more importantly, new priority characteristics of rice cultivars emerge as irrigation systems allow for two to three crops per year. Crop preferences change, as market access increases the value of other crops. Farmers in the Potato Park and Lares in the Andes maintain a wide diversity of potatoes, but also reserve large portions of their farms for cultivars that have high market demand. Changes in climate and weather patterns are also redefining the important traits of cultivars, and some older varieties are becoming less relevant. New varieties, some of them created by farmers, replace them.
The projects do not live in the past therefore, but are helping farmers to conserve and develop crop diversity for the present. They are also preparing farmers for the continuation of their PGR work in the future.
For example, an important, local cultivar may be conserved for its important niche use, but such cultivars are not only conserved in the projects "as they are", they are subjected to strong selection pressures, to increase their productive potential. This is because, in the end, farmers conserve by utilization. Local cultivars are therefore conserved by increasing their utility and value.
Thus, local maize, potatoes, and a number of legumes in the Andes will be conserved by subjecting these cultivars to plant variety enhancement (PVE). The same approach is used in Zimbabwe for pearl millet, maize OPVs, sorghum, and ground nut (to expand to other dry land legumes). Vietnam has succeeded in enhancing the productivity of local rice cultivars, especially those that are priced in the market and those used for special purposes.

The IFAD-Oxfam Novib programme will contribute significantly to the discussions on conservation; believing that the main aim should be the conservation of the diversity of genes or broad genetic base of crops, not the conservation of specific phenotypes. What is even more important is that the programme assists with the conservation of the farmers' system of PGR management, which is what maintains and creates diversity.

4. Improving approaches, methodologies and tools

The IFAD-Oxfam Novib programme has improved approaches, methods, and tools.
Detailed improvement of the FFS PPB field guide for rice was developed by SEARICE, SRD, FCRI, PPSD and rice farmers in North Vietnam. These improvements include:

- A guide to the use of participatory tools in assessing the PGR situation and setting up breeding objectives.
- A detailed guide on hybridization and management of F1 seeds.
- A detailed guide on different selection techniques; selection is a crucial matter as it accounts for 90% of plant breeding, and many PPB projects succeed because this critical knowledge and skills are available.

CTDT has improved its FFS PPB curriculum and drafted an improved FFS PPB field guide, focused on plant variety selection and plant varietal enhancement, covering maize OPV, pearl millet, sorghum, and groundnut (to serve as a model for other dry land legumes). ANDES, in Peru, has improved its FFS PPB curriculum and field guide for potato, maize OPV and beans; from hybridization, creation of diverse synthetic populations, to plant varietal enhancement.
The challenge (and it will continue to be a major challenge), is to have an efficient and systematic approach, as well as methods and tools to incorporate traditional knowledge and local cultures and beliefs into the FFS PPB curriculum and field guide. A case in point is the world view of Andean farmers, that cultivars are not only expressions of their genes but also of their "spirit". Another example is that male maize parent plants cannot be cut after pollination (to ensure that no seeds from its cobs will mix with the next generation); killing a plant at its highest stage of maturity is taboo. Isolation by time (for cross pollinating species) is not applicable, as farmers plant according to their agricultural calendars and other signs from nature. At the same time, as nature changes, so too does this traditional knowledge. ANDES is currently preparing a field guide that will capture these world views, using popular local symbols (as in the use of the Southern Cross rather than the diversity wheel PAR tool).
The other major challenge is the need for a stronger component in the FFS PPB curriculum and field guide on gender concerns and for segregation in the organization, collection, and analysis of data, to capture the preferences of women, weaker members of the community, and the young, and the old. ANDES has developed a gender framework for community PGR work and is finalizing a major theme under the FFS PPB field guide.

Report from Trygve Berg, NAU's Adviser
Summary of Observations

IFAD Internal Evaluation Workshop: Can Tho, Vietnam, 9 September 2015
Since I will conduct the external evaluation of the above programme, later in 2015, I attended the internal evaluation as an observer only. My reflections below are preliminary and will be subject to scrutiny during the external evaluation.
Methodology and approaches. The programme developed curricula and field guides for Farmer Field Schools (FFS) and participatory plant breeding (PPB). These have been used in FFS classes and seem to have achieved their dual objective: to build technical capacity and self-confidence (empowerment). They also have potential for wider adoption and use, worldwide. Like the original FFS, for Integrated Pest Management (IPM), the PPB Farmer Field School evolves through continuous experience-based modification. There may be scope for continuous refinement of the FFS curricula and field guides.
Participatory Plant Breeding. While the term includes the word 'participatory', there is no common understanding on who should participate. The programme has active collaboration and relationships with public sector institutions, both national (agricultural research centres and local universities) and international (CGIAR). Experiences gained through building, and benefitting from, such relationships are among the contributions of the programme. This could be discussed as a success factor and possible precondition for continuation after external programme support has ended.
'Seed Clubs'. Plant breeding without seed multiplication and distribution can only have very limited impact. In the Mekong Delta this programme has linked up to already established seed clubs, thus creating a line of activities ranging from pre-breeding (by public institutions), to local testing and selection (by farmers), to multiplication and marketing of seeds (also by farmers). The programme has shown the potential of this method of organizing activities. This should be discussed as a model.
Seed laws. When farmers begin to market seeds, they enter a field of activities that is subject to regulation by seed laws. Because of this, the programme was obliged to work with regulatory authorities, to create a legal environment in which to sell the seeds; remarkable headway has been made. Perhaps such policy work will have a better chance of success when supported by real and productive activities among famers.
Adaptation to climate change. Farmers in the programme areas experience unusual weather, and respond by adapting their farming systems. PPB may be an additional contribution to the necessary adaptation, since it allows genetic response in terms of local evolutionary breeding, where the crops are exposed to the direct and indirect effects of the changing climates.
Relevance. The programme has disproved the common notion that PPB is an alternative in marginal areas only, where the seed industry is absent. In Vietnam, the programme is recognised for its role and contributions in high potential, intensively farmed areas, dominated by commercial farming. The wider (global?) relevance and potential of the programme's methods and approaches should be discussed.

6.5 ANNEX 4: POWERPOINT PRESENTATIONS

SRD:

- Programme in Northern Vietnam. Putting Lessons into Practice: Scaling up people's biodiversity management for food security, September 2015.

Oxfam Novib:

- From lessons to practice and impact. Global Programme: Three-year achievements, 03 September 2015.

CTDT:

- Summary of achievements, September 2015.

- FFS for PPB/PVS curriculum and field guide. Farmers' empowerment and control in PGR management.

ANDES:

- FFS PPB. Building on local experiences & Andean peoples' worldview; a focused intervention within a complex system.
- Peru Case: Key Achievements and Gaps

SEARICE (including FARES):

- Farmer Field School on Participatory Plant Breeding. Curriculum Development.

FARES:

- Indicators for Evaluation (2011-2015): DARE project indicators (end result the programme expects to achieve).
- Programme Report (2011–2015): Strengthening Farmer - Agricultural Research and Extension System Partnership (FARES). Vietnam 2011–2015.
- Report on Capacity building: Strengthening Farmer - Agricultural Research and Extension System Partnership (FARES): Vietnam, by Mekong Delta Research Development Institute (MDI) and Can Tho University (CTU).
- Achievements in Rice Breeding of FARES Farmers in the Mekong Delta, Can Tho University.
- M&E Fares Activities using GSI 09 Sept. 2015. Programme Presentation: Informal seed supply system development and management in The Mekong Delta, MDI 08.09.2015.
- Impacts of CBDC/FARES on seed production & seed security in An Giang Province. Department of Agriculture & Rural Development of An Giang 8/9/205.

For more information, or to comment on this publication, please email

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