TERMINAL EVALUATION

of the UNDP/GEF – Supported Project

"Integrated Livestock and Crop Conservation Programme"

Bhutan

UNDP Project ID: 48573 GEF Project ID: 2911

Yak Herders: Photo by Dr. JigmeSoyabean Product: Photo by Lhab Tshering

Buckwheat field: Photo by Lhab Tshering

Gene Bank, NBC

Evaluation Time Frame: 19 work days (November 21-December 31, 2012)
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GEF Focal Area, Operational Program: Biodiversity, OP # 13 (Agrobiodiversity)
GEF Implementing Agency: United Nations Development Programme
Project Executing Agency: National Biodiversity Center of the Ministry of Agriculture and Forests

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Finally, the TET thanks our excellent driver, Mr. Mani Tamang for taking us safely to Bumthang and ensuring that all the necessary paperwork was in order before leaving. He drove long hours with few breaks and was always cheerful and helpful.

ACRONYMS AND GLOSSARY

Acronyms

ABC	Agrobiodivesity Conservation Project
ADAO	Assistant District Agriculture Officer
AEO	Agriculture Extension Officer
AnGR	Animal Genetic Resources
APR	Annual Progress Report
BD	Biodiversity
BUCAP	Biodiversity Use and Conservation in Asia Program
CPAP	Country Programme Action Plan
CNR	College of Natural Resources
CWR	Crop Wild Relatives
DANIDA	Danish International Development Agency
DAMC	Department of Agriculture Marketing and Cooperative
DAO	District Agriculture Officer
DLO	District Livestock Officer
DOA	Department of Agriculture
DOFPS	Department of Forests and Park Services
DOL	Department of Livestock
EA	Executing Agency
FYP	Five Year Plan
GEF	Global Environment Facility
GNHC	Gross National Happiness Commission
HWC	Human Wildlife Conflict
IA	Implementing Agency
IFAD	International Fund for Agriculture Development
ILCCP	Integrated Livestock and Crop Conservation Programme
JICA	Japanese International Cooperation Agency
LEO	Livestock Extension Officer
M&E	Monitoring and Evaluation
MDGs	Millennium Development Goals
METT	Management Effectiveness Tracking Tool
MoAF	Ministry of Agriculture and Forests
MTE	Mid-term Evaluation
NBC	National Biodiversity Centre
NCIS	National Cattle Information System
NFI	National Forest Inventory
NHBP	National Horse Breeding Programme
NLBP	National Livestock Breeding Programme
OP	Operational Programme
PB	Project Board
PDF	Project Development Facility
PGR	Plant Genetic Resources
PIR	Project Implementation Report

PMU	Project Management Unit
PPD	Policy and Planning Division
RGOB	Royal Government of Bhutan
RNR	Renewable Natural Resources
RNR-RDCs	Renewable Natural Resources Research and Development Centers
ROtI	Review of Outcomes to Impacts
SGP	Small Grant Programme
SLM	Sustainable Land Management
SNV	Netherlands Development Organization
TE	Terminal Evaluation
TET	Terminal Evaluation Team
TOR	Terms of Reference
UNDAF	UN Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United nations environmental Programme
USAID	United States Agency for International Development

Glossary

Dzongkhag	District
Gewog	A block in a District consisting of several villages
Nublang	An indigenous breed of cattle to Bhutan

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Project Title:	Integrated Livestock and Crop Conservation Programme (ILCCP)			
GEF Project ID:	2911		*at endorsement (US$)*	*at completion (US$)*
UNDP Project ID:	48573	GEF financing:	921,985	922,946.48
Country:	Bhutan	IA/EA (UNDP) own:	400,000	8,996.60
Region:	Asia-Pacific	Government:	750,000	2,531,460
Focal Area:	Biodiversity	Other:	850,000	580,010
Operational Programme:	OP-13 (Agro-biodiversity)	Total co-financing:	2,000,000	3,120,466.60
Executing Agency:	National Biodiversity Center (NBC), Ministry of Agriculture and Forests (MoAF)	Total Project Cost:	2,897,485	4,043,413.08
Other Partners involved:	Department of Livestock (NDDC, RNRRDC Jakar, NSBC, NPBC, NHBP), MoAF Department of Agriculture (RNRDCs), MoAF PPD, MoAF DAMC, ICS, MoAF, 8 Dzongkhag 'Livestock' and 'Agriculture' Sectors	Prodoc Signature (date project began):	30th July 2007	
		(Operational) Closing Date:	Proposed: 30 June 2012	Actual: 30 June 2012

PROJECT DESCRIPTION

The "Integrated Livestock and Crop Conservation Programme" (ILCCP) was an initiative of the Royal Government of Bhutan (RGoB) which was financed primarily by the RGoB and the Global Environment Facility (GEF). The Ministry of Agriculture and Forests (MoAF) was the Executing Agency for this nationally-executed (NEX) project, with the National Biodiversity Center (NBC) coordinating the implementation of the project for the MoAF. The total project budget was US$ 2,897,485, including a grant from the Global Environment Facility (GEF) of US$ 921,985 (of which US$ 24,500 was a PDF A grant for project preparation). Implementation of this five year project officially started in July 2007, although on-the-ground activities did not actually begin until mid-2009 because of elections1 (the first ever in Bhutan's history) which took place in 2008. The Project closed on June 30 2012.

The goal of the project was to "ensure that the attainment of food security and self-sufficiency in Bhutan is based on the maintenance of adequate levels of indigenous agrobiodiversity". The overall objective of the project as stated in the project document (prodoc) was "to mainstream agrobiodiversity conservation

1 The PMU initiated very limited field activities in terms of awareness raising of the farmers on agro-biodiversity and training of extension staff towards the last quarter of 2008 (Oct-Dec.).

into livestock and crop development policy and practices in Bhutan." The project aimed to achieve this by enhancing awareness regarding the importance of Bhutan's indigenous agrobiodiversity, strengthening Bhutan's policy framework to conserve its agrobiodiversity, enhancing the capacity of its technical institutions to conserve agrobiodiversity, and by making traditional crops and livestock breeds more attractive to farmers by increasing income derived from these through formation of farmer/herder groups, increased yields, development of more diversified products, and development of markets.

This terminal evaluation (TE) was conducted five months after the project was closed. The evaluation was initiated by UNDP/Bhutan as the GEF Implementing Agency for this project in accordance with evaluation requirements set forth by the GEF. According to the Terms of Reference (TOR) for the TE, the aim of the TE is "to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from the project, and aid in the overall enhancement of UNDP programming".

This terminal evaluation report is structured around the five UNDP/GEF evaluation criteria: *Relevance, Effectiveness, Efficiency, Results/Impacts* and *Sustainability*. In accordance with the TOR for the TE, project relevance, effectiveness, efficiency, sustainability, and impact, as well as monitoring and evaluation (M&E), Implementing Agency (IA) & Executing Agency (EA) Execution, and Assessment of Outcomes, have been rated using the obligatory GEF rating scale presented in Annex 1.

Table 2: Terminal Evaluation Ratings assigned to the project

TERMINAL EVALUATION RATINGS ASSIGNED TO THE PROJECT		
Criterion	**Comments**	**Rating**
Monitoring and Evaluation		
Overall quality of M&E		MS
M&E design at project start up	Indicators and targets are critical elements of an M&E plan, both in terms of how they are defined, and how and when they are measured. The indicators specified in the revised logframe are not especially S.M.A.R.T., and most of the targets appear to be randomly established and not based on meaningful criteria. This has a significant effect on both the ability to monitor a project and the ability to assess project impact. Further compounding the problem, the PMU seemed to view the logframe as a required document with little practical application. The project baseline was not usable as a baseline and nothing was done during the project to correct this sufficiently. Thus, there is no baseline reference with which to compare pre- and post-project situations accurately.	

	The composition of the Project Board included 12 individuals, with all except UNDP and a Sr. Programme Officer from the Gross National Happiness Commission (GNHC), being MoAF staff. Although all the individuals involved held relevant positions in relevant stakeholder institutions, it is good practice (which was not followed in this case) to ensure that a variety of in-county institutions are involved (not just the one executing the project). It is also helpful to involve some international expertise on PBs, especially in the case of NEX projects. It could have been helpful to involve a representative of the private sector on this PB given the importance the project was to have assigned to development of products and markets, and anticipating perhaps that low volume/high value international niche markets might be pursued. Involving someone with agro-ecotourism expertise could have also been beneficial. Finally, it is not customary and is not considered good practice, for the Project Manager to be a member of the PB, as was the case in this project. A Project Manager normally attends all PB meetings in the capacity of Project Manager (rather than as a Board Member). This allows the PM to report to the PB, but does not affect the independence of the PB. Otherwise, the TOR for the PB were in keeping with standard TOR for Project Boards.	MU
Implementation of the M&E plan	The Project Board was not formed until a year and a half after the project began. Because of this, some important decisions were taken outside of the PB, including the decision to double the number of Districts involved in the project. This decision was taken during the inception workshop in which PB members participated. The PB did not meet as often as it was supposed to, missing the critically important final meeting. As a result, the PB did not meet to discuss two critical elements, the project Exit Strategy and the project impact. The Project Manager informs that the final PB meeting was differed until after the TE. It is a good practice for a PB to meet after a TE, but this does not excuse the PB from meeting as scheduled for its last meeting while the project was still ongoing. The late formation of the PB, its composition, and the lack of adherence in full to its meeting schedule limited the effectiveness of the PB in providing overall supervision and direction to the project. Different monitoring systems, including different indicators, were used by the PMU over the life of the project, making impact monitoring difficult. The focus of the monitoring was mostly on inputs, not so much on impact. The Project Manager informs that the last monitoring visits which took place after the TE mission (December 2012) were focused more on impact assessment.	

	All project sites were visited at least once a year by NBC and these visits were conducted jointly with DOL and DOA, making them participatory and even more effective. UNDP visited project sites 7 times over the 5 year project period, visiting a total of four of the eight Districts involved. These were helpful in putting UNDP in the picture and helped to ensure that UNDP was able to provide field-based knowledge oversight to the project. A mid-term evaluation was conducted and the project was downsized in scope as a result. This was beneficial and a good example of adaptive project management based on M&E feedback, although not all MTE recommendations were followed. The TE was conducted within the specified time period according to GEF guidance on MTEs and TEs, although the TE did not have the benefit of some critical input that should normally be available to a TET, including necessary data to assess impact. As a result, the TET took much more time than normal to gather data, much of which was eventually provided by NBC.	MS
IA & EA Execution:		
Overall Quality of Project Implementation/ Execution	The Project has been adequately managed providing inputs of adequate technical quality mostly on time and within budget, while dealing with constraints such as time lag between fund disbursement and receipt of funds by implementing entities, and financial reporting style differences as effectively as could be expected. There is evidence of positive adaptive management following the MTE but stronger direction from the Project Board could have been helpful in ensuring the number of Districts was not increased and ensuring a sound Exit Strategy. A few examples where project implementation could have been significantly improved are in the areas of product and market development, and in the conservation of wild relatives of crops.	S

Implementing Agency Execution (UNDP)	The TET believes that UNDP could have provided even more sharing of lessons and backstopping to the Project, including sharing of lessons learned from other agrobiodiversity initiatives around the world during the project formulation phase, greater support in reviewing TOR and ensuring these were of high quality, especially related to the development of the baseline and the marketing assessment study. Recognizing the general tendency for all projects, but perhaps especially NEX projects, to want to accommodate all interested parties, UNDP in its capacity as a member of the PB could have shared lessons on the benefits of limiting project scope and ensuring that project design was not overly ambitious (and warning of the dangers of increasing the number of Districts involved). UNDP could have also provided greater support in defining S.M.A.R.T. indicators and in defining targets based on meaningful criteria, and could have ensured that the composition of the PB followed best practice, Finally, UNDP could have suggested innovative approaches which NBC may not have been aware of given its experience (including agro-ecotourism), and could have suggested targeted international expertise where this would have been beneficial to this nationally-executed project, including involvement of the private sector both within and outside of Bhutan. UNDP CO made a significant commitment of in-cash co-financing ($400,000) which was not provided. UNDP's co-financing was to align activities in the Rural Enterprise Development Project (REDP) with the ILCCP project as a contribution towards ILCCP Expected Outcomes 4 and 5. The REDP ended, however, when the ILCCP project began and therefore no actual co-financing was provided from the REDP.UNDP/Bhutan has now put a mechanism in place to ensure that commitments of co-financing are realistic and are followed through. A financial audit of the project revealed that financial management was a challenge due to length of time for funds to be received by project activity implementors from the time they were released by UNDP. This problem was successfully resolved.	MS
Executing Agency Execution (NBC)	NBC put a tremendous amount of time and effort into the project and has truly taken the conservation of agrobiodiversity up as part of their core programme, doing this to some extent even before this project began but clearly strengthening this commitment even further during the project. NBC could have benefited from greater study of other relevant initiatives outside of Bhutan, and could have benefited equally from looking to less conventional but important partners within the country, including, for example, the College of Natural Resources, BioBhutan, and other divisions within the MoAF itself such as the Nature Recreation and Eco-tourism Division, and the Human Wildlife Conflict Section (within the Wildlife Conservation Division). NBC did work extremely well with DOL, DOA, DAMC, ICS and this new partnership has been valued by all parties, facilitating replicability and enhancing sustainability of project results.	S

Outcomes		
Overall Quality of Project Outcomes		MS
Relevance	The project was highly relevant within the Government's biodiversity conservation objectives as well as within the broader national development objectives from its inception to its end. It was well aligned with the four main pillars of Gross National Happiness, with Renewable Natural Resource (RNR) sector goals as described in the 10th Five Year Plan, including "enhancing food security" and "enhancing sustainable rural livelihood through income generating opportunities", and with Bhutan's "Vision 2020" ("poverty alleviation" and "achieve a 3-fold increase in real incomes of farmers by 2012"). Conserving agrobiodiversity within the broader context of enhancing food security and self-sufficiency, and ensuring access to benefit sharing is an integral part of the Government's (draft) 11th Five Year Plan (2013-2018). Even though the project was developed under GEF-3, and financed under GEF-4 (and was relevant under both), its development objectives are still highly relevant under GEF-5 (Objective 2) "Mainstream biodiversity conservation and sustainable use into production landscapes/seascapes and sectors", and within this objective, to the Outcomes to "strengthen policy and regulatory frameworks" and to "produce biodiversity-friendly goods and services". The project was relevant to the UNDAF (UNDAF Outcome 5: By 2012, national capacity for environmental sustainability and disaster management strengthened), and to the MDGs (MDG 7: Ensure environmental sustainability), and to UNDP's focus on mainstreaming poverty alleviation and gender equality. The project's efforts remain relevant in the face of significant risks which continue to threaten Bhutan's indigenous agrobiodiversity	R
Effectiveness	The effectiveness of the project was compromised by its design which was too comprehensive and overly ambitious. The project included both in-situ and ex-situ conservation of a large number (at least 27) of animals and plants (both domestic and wild). Its approach included awareness building, policy development, capacity building, enhanced agricultural practices, and new product and new market development. The problems inherent in assuming such a broad thematic focus in any single project, and especially in a medium-size project, were compounded further by the large geographic scope of the project which included *47 p*roject sites within eight Districts around the country, many very difficult to access(Refer to Annex XIV for details on project sites). The project's effectiveness varied significantly according to its expected outcomes, with the greatest effectiveness related to the project's attempts to enhance awareness of Bhutan's agrobiodiversity, and the importance of conserving this for food security. Notwithstanding this awareness, the project has had limited success in stopping the overall trend of replacing traditional crops and livestock breeds with exotic ones, and was not very effective at designating special conservation populations or areas for those crops and livestock breeds where these are still grown/raised in some abundance.	

	The project was not as effective as anticipated in developing new products or markets, or in finding meaningful economic incentives for farmers who have other options to continue to cultivate/raise the traditional ones. It did, however, help develop some new products and markets for buckwheat, barley, soya bean, rice and eggs from indigenous chickens, and in this way, significantly helped those direct project beneficiaries. Although at project end, the impact is small in terms of area under production/population numbers and numbers of people affected, there is evidence that buckwheat, barley, soya and rice farmers in particular will continue to grow in numbers as there have been several expressions of interest from other groups who now want to replicate what the project supported. The project was not effective at conserving the wild relatives of crops. The project's ex-situ conservation efforts were very effective and as a result both AnGR and PGR Gene Banks have been significantly improved through added collections, improved documentation, training of key staff, and provision of needed equipment. The project was successful in formulating a good policy framework including contributing to the drafting of the National Access and Benefit Sharing Policy, contributing inputs to the (draft) National Food and Nutrition Security Policy, and to the (draft) Agriculture and Livestock Development Policies. Considering the above, the project's effectiveness is rated as **Moderately Satisfactory (MS)**.	MS
Efficiency	Overall, the project approach was cost-effective with the exception of capacity building efforts which could have been more cost-effective if focused on enhancing capacity through enhancing the institutional capacity of the CNR, complementing this with fewer and more strategic short study tours abroad.	MS
Sustainability:		
Overall likelihood of Sustainability	According to GEF guidelines, each risk dimension of sustainability is deemed to be critical and therefore the overall rating for sustainability cannot be higher than the rating of the dimension with the lowest rating.	ML
Financial resources	The main thrust of the Government's financial resources directed at agricultural production, as one might well expect, is not to conserve indigenous breeds and cultivars (even if there is recognition of the importance of doing so in the medium and long-term), but rather to enhance food security and self-sufficiency in the immediate and short-term, and the trend is clear that the "development mandate" and the "commodity approach" adopted by the Government will result in financial resources being directed primarily at exotics and not at traditional varieties/breeds. This will result in increased threats to indigenous varieties unless these can become competitive with exotic ones. Lack of adequate financial resources is likely to pose a significant threat in the case of certain crops and indigenous livestock breeds while others appear to either not require continued financial support or will receive this support.	

	There is a continued financial commitment for several varieties/breeds. The National Horse Breeding Center will now focus its efforts on indigenous horse breeds rather than on exotic ones. The National Dairy Development Center has committed to continue supporting the conservation of the Nublang because of its good milk production potential. The 11th Five Year Plan of the MoAF now includes "minor cereals" (some of these are indigenous crop varieties which were not previously included in previous plans). A GEF project is planned for the Northern Highlands which will include some activities which will be helpful in conserving indigenous sheep breeds and yak, but not enough detail is available for the TET to determine if this will be sufficient to ensure adequate financial coverage for these indigenous livestock breeds. Lack of financial resources will not present major impediments to continued cultivation/raising of some indigenous crops and livestock breeds. Enough farmers now find it economically worthwhile to cultivate some traditional crop varieties such as barley, buckwheat, soya bean, and rice, and to raise traditional chicken breeds for sale of eggs (at least in the areas where the project supported these), that continued cultivation of these seems likely. This is not true, however, of all the crops and livestock breeds of focus of the ILCCP. There are some that appear to be at significant risk because of lack of financial resources and lack of farmer interest in them. Indigenous pig breeds appear to be at particular risk.	ML
Socio-political	Awareness level has been significantly raised regarding the importance of Bhutan's agrobiodiversity, the importance to food security of conserving this agrobiodiversity, and some ways of achieving this. Farmers are taking greater pride in the traditional crop varieties and indigenous livestock. This pride will help ensure sustainability of the conservation effort. A policy framework specifically regarding the conservation of agrobiodiversity including how this contributes to food security and self-sufficiency, and how agrobiodiversity conservation can be incorporated into both crop and livestock development, and how benefits can be equitably shared from this conservation, is now is in advanced stages of preparation, but not yet in place. Even if these policies are adopted (which seems likely at this stage), they exist within a larger policy framework which may possibly promote programmes and practices not totally supportive of this conservation. This does pose a risk, nevertheless, the reality is that the crops and breeds of focus will likely continue in select pockets around the country, even if the bigger focus is on exotics. Although the 11th Five Year Plan of the MoAF does recognize the importance to food security of conserving indigenous agrobiodiversity, the over-riding pressure given the Rupee crisis and the Government's aim to reduce dependency on food imports, is toward increased food production through a greater focus on certain commodities, almost all of which are *not* indigenous. There are exceptions as noted above.	

	Farmers who benefited from the project express interest in continuing with conservation efforts. The number of organized farmer groups to conserve traditional crop varieties and livestock breeds has significantly increased over the project period, and in the case of most of the farmer groups, there is interest from others in joining these groups or forming new groups of their own. This enhances prospects for sustainability, especially in certain areas of the country, especially those either very accessible to markets, or those very far from them. Many new roads are being built around the country, accessing formerly inaccessible areas. The trend is clear—with roads come exotic crops and livestock breeds which pose significant threats to indigenous ones. Considering all of the above, moderate risks to sustainability of the conservation effort exist. There is a national election coming up in early 2013 which may affect the socio-political considerations described above.	ML
Institutional framework and governance	The capacity regarding agrobiodiversity conservation of NBC, the MoAF including PPD and the technical departments, the District Administrations, Gewog Extension Offices, and farmers has been enhanced enabling more effective agrobiodiversity conservation both ex-situ and in-situ. Research on some of the traditional crop varieties such as barley, buckwheat, soya beans, and millet was not being done by RNR Research Centers prior to the project. This research now forms an integral part of the regional RNR Research Centers' research programme, enhancing sustainability. The institutional capacity of NBC was significantly strengthened not only as this relates to agrobiodiversity conservation, but even more broadly in that many new linkages were established with other Government entities with whom NBC might otherwise not have interacted to such an extent, leading to a more effective overall effort. NBC has fully integrated the conservation of agrobiodiversity into their core programme and the institutional capacity of NBC is strong enough to carry on in a catalytic and supportive role advising DOL and DOA on ways to conserve agrobiodiversity. Nevertheless, NBC does not have the capacity (or the mandate) to be the main implementing entity to conserve agrobiodiversity on farm. If the DOL and DOA fully assume these responsibilities, institutional framework and governance should not pose a serious risk to sustainability. Nevertheless, both DOL and DOA expressed concern regarding sustainability of project activities related to those crops and livestock breeds which are not currently economically viable given the need for them to now focus exclusively on the few identified commodities which are economically viable in keeping with the "development mandate" and the "commodity approach". Many indicated that if NBC does not take the leading role to ensure the conservation of the non-economically viable commodities, these will be at significant risk.	ML

Environmental	Although Bhutan is experiencing warming temperatures, it is beyond the scope of this TE to assess the extent to which this may impact the conservation of Bhutan's agrobiodiversity. As the TET has no evidence to suggest environmental factors will influence sustainability in the immediate future, we assume these are negligible. Nevertheless, ex-situ collections have been significantly improved through the project efforts and this provides a back-up in case in-situ conservation efforts fail due to environmental or other factors.	Likely

SUMMARY OF CONCLUSIONS, RECOMMENDATIONS AND LESSONS

Main Conclusions

The main conclusions of this evaluation are:

This highly relevant project contributed significantly to enhancing the awareness of the importance of conserving Bhutan's agrobiodiversity, and this awareness has led to enhanced efforts by the RGoB to conserve this biodiversity both in-situ and ex-situ through programmes that are now fully country owned and driven, and which will likely continue and be further expanded upon after project end. Although the project logic was sound, it was overly ambitious given the resources and time available. As a result, some expected outputs and targets were not fully achieved, including the conservation of wild crop relatives, and the development of new products and markets related to indigenous crop varieties and livestock breeds. Although Bhutan certainly has globally significant agrobiodiversity, genetic characterization has not been done, and as a result it is still unknown exactly how many distinct breeds/varieties the project helped to conserve. This is especially true in relation to indigenous livestock breeds. The Execution modality (NEX) and the institutional arrangements were appropriate although it could have been beneficial to involve a few other national entities especially related to the development of new niche products and markets, and also in training and capacity building efforts. Making full use of national expertise is a sound, sustainable, and cost-effective approach which the project adhered to, but targeted specialized international expertise could also have been of use especially related to identification and conservation of crop wild relatives, community seed banks, agro-ecotourism, and innovative approaches to livestock depredation management. The participatory approach adopted by the project in working together with farmers and with the primary Government entities which are mandated to support them was well thought out and well implemented. The risk exists that, given the production/commodity mandate, these institutions may well now look toward NBC to be the primary responsible entity for conservation of those crop varieties and livestock breeds which are not currently economically competitive.NBC does not have the capacity or the mandate to do this, and there is a risk that certain indigenous crop varieties and livestock breeds may fall between the cracks. Managing this risk will be important to the long-term conservation of this agrobiodiversity.

The main lessons the TET feels are important to share from this project experience are presented in Section 4, along with a few key recommendations.

1. INTRODUCTION

1.1 PURPOSE OF THIS EVALUATION

1. The evaluation was initiated by UNDP/Bhutan as the GEF Implementing Agency for this project in accordance with evaluation requirements set forth by the GEF Evaluation Office. According to the Terms of Reference (TOR) for the Terminal Evaluation (TE), the aim of the TE is "to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from the project, and aid in the overall enhancement of UNDP programming". In accordance with the GEF Monitoring and Evaluation Policy, this TE is also intended to "promote accountability for the achievement of GEF objectives; including the global environmental benefits".

1.2 SCOPE AND METHODOLOGY OF THE EVALUATION

2. The evaluation was conducted by one International Consultant and one National Consultant over a 19 day work period during November/December 2012, five months after the project was operationally closed (30 June 2012). Fifteen of the nineteen work days were in-country, two of those devoted to in-country travel to reach project sites.

3. The TE was conducted in accordance with the "UNDP Guidance for Conducting Terminal Evaluations of UNDP-Supported, GEF-financed Projects", and the "*GEF Monitoring and Evaluation Policy*", and in line with GEF principles including independence, impartiality, transparency, and participation. It seeks to provide evidence-based information that is credible, reliable and useful. In this regard, the TET followed a participatory and consultative approach, and used a variety of evaluation instruments including:

4. ***Evaluation Matrix***: An evaluation matrix was developed based on the set of questions covering the criteria of relevance, effectiveness, efficiency, sustainability, and impact which were included in the TOR for the TE and which were amended by the TET to be most useful to this particular TE. The matrix (presented in Annex XII) served as a general guide for the interviews conducted by the TET.

5. ***Documentation Review***: The TET reviewed more than 65 documents including the project document (prodoc), project reports including Annual APR/PIR, project budget revisions, the Mid-Term Evaluation (MTE) report, progress reports, the GEF Tracking Tool prepared at project start and at mid-term[2], project files, policy and national strategy documents, and other relevant documents. A complete list of documentation reviewed by the TET is included as Annex IV to this report.

6. ***Interview Guides Targeting Specific Stakeholder Groups***: The evaluation methodology included the development of questionnaires used as interview guides (Annexes V and VI) targeted at specific stakeholder groups including farmers, herders, and DOL and DOA Extension Agents, to guide the data gathering and analysis.

7. ***Interviews***: In-person interviews were conducted with 88 stakeholders. Many of these meetings took place with small groups of up to 15 people such as, for example, with an organized group of yak herders, or an organized group of buckwheat farmers, barley farmers, farmers raising horses, etc. A complete list of stakeholders met is included in Annex VII. Most interviews in Thimphu took place in English, whereas most interviews in Bumthang took place in the local language with the National Consultant posing the questions and translating for the International Consultant. Being aware of the

2 The terminal Tracking Tool has not yet been completed, but is expected to be by mid-2013.

potential pitfall in having the National Consultant act as translator, the Terminal Evaluation Team (TET) openly discussed this issue at the mission outset to avoid the problem that the National Consultant would act more as a translator rather than an evaluator. This problem was effectively avoided and the open dialogue to discuss the issue at mission outset could serve as a model for other missions. The summary of field interviews is provided as Annex VIII.

8. ***Follow-up Email Communications***: As time did not allow for all the necessary information to be gathered during the in-country mission, a significant amount of data was requested from the PMU following the return home of the International Consultant. This information was subsequently compiled by the TET in an attempt to better assess project impact as, although the PMU had compiled a great deal of information in terms of project inputs and activities, insufficient information was readily available in a compiled form for the TET to conduct the necessary analysis and assessment related to impact.

9. ***Field Visits***: Because of time constraints and the distances to be covered by rough road, the TET was able to visit only one of the eight Districts in which the project took place (Bumthang). So as not to skew the evaluation toward the one District visited by the TET, telephone interviews and email communications took place with key stakeholders in three additional Districts where project activities took place. In this way the TET was able to consult with stakeholders in four of the eight Districts involved in the project, representing a 50% sample size of the number of Districts involved in the project. The four Districts were chosen by the TET based on selection criteria that would allow assessment of both plant and animal genetic resource conservation efforts undertaken by the project, especially related to those crops and livestock breeds of focus following the MTE.

10. ***Terminal Evaluation Mission Itinerary:*** The TET suggested significant changes to the original itinerary proposed by the UNDP/Bhutan and the Project Management Unit (PMU), which was forwarded to the TET by UNDP. The itinerary was problematic as it proposed spending too many of the short number of days in country just in travel to be able to visit two Districts. Furthermore, the itinerary allowed for only one day in Thimphu prior to leaving on the field visits, and this one day was to meet with many key stakeholders, including NBC, UNDP, the Planning and Policy Division of the MoAF, the Department of Agriculture, the Department of Livestock, the National Livestock Breeding Programme, and the Department of Agriculture and Marketing Cooperatives. Although the original itinerary was revised a few days before the International Consultant left for Bhutan, the revised itinerary was not a great improvement, still suggesting visits to two Districts requiring too much travel time, insufficient time for meaningful meetings (often only 30 minutes per meeting), and combining several different stakeholders together in a single meeting (e.g., a single meeting with ADAO, DLO/ADLO, AEOs and LEOs was proposed). We have entered into some detail here in describing the problems with the itinerary as, in the experience of the Team Leader who has been involved in many evaluations, poor itinerary planning is a common problem. SEE LESSON #1.

11. ***Ratings:*** In accordance with GEF guidelines for project evaluations, achievement ratings as well as sustainability and relevance ratings were assigned by the TET. The TET rated project achievements and outcomes according to the GEF project review criteria (Relevance, Effectiveness, Efficiency, Results and Sustainability), using the obligatory GEF ratings of: Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), and Highly Unsatisfactory (HU). A full description of these ratings and other GEF rating scales is provided in Annex I. The TET also rated various dimensions of sustainability of project outcomes using the GEF obligatory rating scale of: Likely (L), Moderately Likely (ML), Moderately Unlikely (MU), and, Unlikely (U).

12. ***Use of Revised Project Logframe:*** In describing the methodology adopted in this evaluation, it is important to note that significant changes were made to the original project logical framework (logframe) following the Mid-Term Evaluation (MTE) which took place 13 months after field implementation of the

project began. Based on a telephone conference with the Regional UNDP/GEF Technical Adviser in Bangkok (in which the UNDP CO also participated), it was agreed that this TE would focus on the revised logframe, and would assess project progress according to the revised Expected Outcomes, Outputs and Indicators. No documentation was available to provide a snapshot highlighting the substantive changes made to the project which had been agreed by UNDP and the Executing Agency following the MTE (SEE LESSON # 2), therefore the TET studied both the original logframe and the revised one to understand what changes had been made. These are described in Section 2 of this report.

1.3 EVALUATION TEAM COMPOSITION

13. The evaluation team was comprised of Ms. Virginia Ravndal in the capacity of International Consultant and Team Leader, and Dr. Udyog Subedi in the capacity of National Consultant.

Ms. Ravndal is a Biodiversity Conservation Specialist/Wildlife Ecologist who has worked both as a staff member and a consultant for UNDP/GEF on project design, formulation, and evaluation in more than forty countries. She is a citizen of the United States, where she currently lives in the State of New Mexico. She has over 17 years of professional experience designing and evaluating biodiversity conservation initiatives in diverse ecosystems around the world. She has consulted with many organizations including UNDP, FAO, the World Bank, UNEP, USAID, the U.S. National Park Service, Winrock International, the Smithsonian Institution, and others. She is on the Board of Directors of two Non-Governmental Organizations. Ms. Ravndal's efforts during her tenure as the first Principal Technical Advisor on Biodiversity for UNDP/GEF were instrumental in the GEF's decision to include agrobiodiversity in the GEF portfolio.

Dr. Udyog Subedi is a veterinarian by training and a citizen of Bhutan, where he currently lives and works as the Principal Consultant for DrukRudevs Consults, a Bhutanese consulting company. Dr. Subedi has worked extensively in the field of agriculture, initially in public service and later as an agricultural consultant. He holds a Bachelor of Veterinary Medicine and a M.Sc. in Rural Development Planning. He has more than 18 years of professional experience in agricultural sectors. He was Project Manager of the UNDP-Helvetas funded community development initiative, where he spent three years living with the community to establish and manage a new community cooperative. He has been involved as an expert in evaluations of several agricultural projects including ones financed by SNV, Helvetas, and IFAD.

1.4 STRUCTURE OF THIS REPORT

14. This terminal evaluation report documents the achievements and successes, as well as the shortcomings and constraints, encountered by the project and includes four sections. Section 1 briefly describes the purpose, scope and methodology of the evaluation; Section 2 presents an overview of the project; and Section 3 presents the findings of the evaluation. Conclusions, recommendations and lessons are presented in Section 4. Lessons and recommendations are cross-referenced to the relevant paragraph in the report for fuller context. Lessons are highlighted in blue for ease of reference, while recommendations are highlighted in green. Annexes are found at the end of the report.

1.5 CODE OF CONDUCT ADHERED TO BY THE TET

15. The TET reviewed and agreed to adhere to the UNEG "*Ethical Guidelines for Evaluations". B*oth consultants signed the "*Evaluation Consultant Code of Conduct and Agreement Form" (Annex IX).* All information gathered by the TET is considered by the TET as confidential. Stakeholders interviewed were routinely informed by the TET at the outset of each interview about the confidentiality of the information shared and also about the purpose of the evaluation.

2. PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

2.1 PROJECT BACKGROUND AND DURATION

16. The five-year "Integrated Livestock and Crop Conservation Project" (ILCCP) was conceived in 2004. The project document (prodoc) was signed several years later in July 2007 with a total project budget of US$2,897,485, including a grant contribution from the GEF of US$ 921,985 (of which US$ 24,500 was a grant for project preparation), and commitments of co-financing totalling US$ 2 million. The project inception workshop took place in September, 2007, shortly after the project was signed. Project preparation activities, including description of the baseline, took place in late 2007 and in 2008. Due to the first ever elections being held in the country in 2008, the Project was not fully in swing until early 2009, when project field implementation activities began in earnest. The Project was operationally closed a little more than three years later, in June 2012. Thus, although this was technically a five year project, field implementation took place over only a three year period, and in the case of numerous field sites, far less than this (with project activities in some sites taken place over less than a one year period).

17. Projects and Government programmes to conserve agrobiodiversity had been underway for at least seven years before this project began. The Agro-biodiversity Conservation (ABC) Project, financed by the Government of the Netherlands, which ended in 2005, focused on ex-situ conservation of both plant and animal genetic resources, whereas the "Biodiversity Use and Conservation in Asia Program" (BUCAP), the first phase of which began in 2000 financed by the Norwegian Development Fund, focused on in-situ plant genetic resources conservation. The later project is still ongoing in Bhutan, and is now in Phase III. The UNDP/GEF-supported ILCCP project was proposed by the RGOB to ensure continuation of the activities initiated under these two projects and to build further upon the foundation they had laid.

2.2 PROBLEMS THAT THE PROJECT SOUGHT TO ADDRESS

18. The over-arching problem that the project sought to contribute to solving was dependency on other countries for food security and the inherent lack of sustainability in this dependency. The RGOB recognizes that conserving agrobiodiversity is one critical (although by no means the only) aspect of enhancing food security and self-sufficiency, and understands the threats to this agrobiodiversity. Threats to traditional crop varieties were described in the project document as "introduction of new varieties", "change in food habits", "substitution by other crops", "market accessibility and associated processing problems", and "ban on shifting cultivation and damage by wild animals". Threats to traditional livestock breeds were described as "introduction of new breeds", "cross-breeding, inbreeding and an unsound breeding policy", "reduction of area of grazing land", "processing problems and market availability", and "availability of cheap cross-border livestock". The project document states that the underlying cause of most of these threats is the RGOB's own policies related to agricultural and livestock development and to nature conservation, and the drive for food security and self-sufficiency.

In keeping with the GEF approach that projects should represent strategic interventions that attempt to remove critical barriers to the conservation of the biodiversity of focus, the project document described the barriers as:

- "levels and spatial distribution of diversity of traditional yields and varieties are poorly understood, preventing effective priority setting"
- "agencies supporting agricultural and livestock development promote yield improvement as the only solution to food security, without considering the value of diversity"
- "farmers assign lower monetary value to traditional crop varieties and animal breeds because of

low yields and low prices in markets that currently promote homogeneity in products",

- For most farmers "access to markets and ability to meet market requirements is limited"
- "institutional capacity, and policy implementation does not adequately integrate agrobiodiversity conservation into agricultural and livestock development"
- "little understanding or support for the value of the conservation of traditional varieties and breeds as a contribution to food security and self-sufficiency"

2.3 IMMEDIATE AND DEVELOPMENT OBJECTIVES OF THE PROJECT

19. The immediate development objective of the project is "to mainstream agro-biodiversity conservation into livestock and crop development policy and practices in Bhutan".

The project aimed initially to accomplish this through seven outcomes. Later, following the MTE, these were reduced to the following three Outcomes:

Outcome 1: At a systemic level, the capacity of the MoAF is adequate to mainstream agro-biodiversity conservation into the attainment of food security and self-sufficiency.

Outcome 2: Capacity of MoAF agencies (NBC, and Stakeholders) strengthened to support farmers in agro biodiversity conservation.

Outcome 3: Farmers benefit from sustainable utilization of traditional varieties and breeds of Indigenous Genetic Resources (IGR).

2.4 CHANGES MADE TO THE PROJECT DESIGN

20. The original project logical framework (Annex X) describes 7 Expected Outcomes and 31 Expected Outputs. These were reduced to 3 Outcomes and 9 Outputs following the MTE in April 2010. Surprisingly, the project did not prepare a summary describing these changes and apparently the Project Board did not request such documentation. The TET believes preparing such documentation is a helpful practice which should be followed when substantive changes are made to a project following its approval by the GEF. Based upon a comparison of the original logframe with the revised logframe, the TET found that the following substantive changes were made to the project design during implementation:

1. Genetic Characterization was dropped as an expected project output. According to the revised logframe, genetic characterization of plant and animal genetic resources (including wild relatives of these) is no longer envisaged as it was in Output 1.2 in the original logframe which stated, "Gaps in existing databases are addressed through collection and characterization of indigenous genetic resources".
2. Development of a certification system was dropped. According to the revised logframe, development of a certification system for products from indigenous crops and livestock breeds is no longer envisaged. The original logframe included Output 4.4 "Development and implementation of a certification system for products of traditional varieties and livestock breeds".
3. The project in-situ conservation efforts were to focus on fewer traditional crop varieties and indigenous livestock breeds in the revised logframe. Following the MTE, the project no longer included in-situ activities to conserve 89% of the livestock breeds of original project focus. In-situ activities related to poultry, pigs, sheep and horse were discontinued, meaning that instead of focusing on 6 animal species (and some 19 indigenous breeds within these 6 species), the project

would seek to conserve only 2 indigenous livestock breeds (yak and Nublang). The number of traditional crop varieties was also reduced, but not nearly to such an extent. Only millet (2 varieties) was dropped, leaving7 traditional crop varieties.

4. Reduced focus on conserving wild relatives of crops, and no mention of focus being limited to only "high value" wild relatives. Instead of conserving all wild relative species in-situ which are not already represented in the protected areas system as was originally planned, according to the revised logframe, only "a set number of wild relative species not represented in the protected area system are conserved in-situ".Output 1.3 "spatial databases of indigenous genetic resources, and especially wild relatives, are created" was dropped. Instead, an indicator was included "study on two CWR" which was associated with Output 2.2 "Ex-situ collections of AnGR are established and gaps in existing PGR databases are addressed through PGR collection" with a target of "at least two CWR assessed and conserved in-situ",
5. Targets reduced. Under Outcome 3, instead of "increasing the productivity of at least four traditional varieties and breeds", the target is reset to "increasing the productivity of at least one variety or species by at least 15%". Under Outcome 4 the target was reduced from "at least one crop or livestock species in each target site is being produced for a new diversity-based market created through the project" to "at least one crop or livestock species in at least 60% of the project sites is being produced...", and under Outcome 5, the target was reduced from "in each targeted site", to "in at least 60% of project sites farmers cultivating traditional varieties or raising traditional breeds are supplying markets that were not accessible to them."
6. Original Output 1.4 "emergency measures required for conservation of most endangered varieties and breeds are identified and implemented" was dropped in the revised logframe.

It is beyond the scope of this evaluation to recommend whether such substantive changes warranted communication between the GEF Implementing Agency (UNDP) and the GEF Secretariat to determine whether or not authorization was required to maintain the same GEF financing while significantly reducing the commitment of the project in terms of its scope and expected outputs.

In addition to the above-described changes made to the project after project document signature, another significant change was made well before the MTE. At the project inception workshop held within two months after the project document was signed, the participants decided to increase the number of project sites, doubling the number of Districts involved from the original four to eight. The justification for including the additional Districts was that one "has potential for improved farming of traditional varieties", another has "extensive farming of special Bumthang Native Buckwheat", another has "both barley and buckwheat", and yet another has "three selected livestock species in one site". The TET provides their assessment of the wisdom of this decision in Section 3 of this report.

2.5 EXPECTED RESULTS INCLUDING INDICATORS AND TARGETS

21. An overview of the project's expected results (its objective, expected outcomes, indicators and targets) is provided in *Table 3: Expected Project Results,* which is an extract of the Project's revised logframe (included in its entirety in Annex XI, *Revised Project Logical Framework*).An analysis of the attainment of project Outputs, Outcomes and Objectives is presented in Section 3.3 (Project Results and Impacts), which compares, as best as possible, the project's indicators and targets at project inception (when the baseline was developed) with the indicators and targets at the time of the TE. The TET's assessment of the strengths and weaknesses of the logframe is included in Section 3.1 (Assessment of Project Design Logic, Strategic approach and Scope).

TABLE 3: EXPECTED PROJECT RESULTS (WITH PERFORMANCE INDICATORS AND TARGETS)

Performance Indicator	Target
Objective: To mainstream agrobiodiversity conservation into livestock and crop development policy and practices in Bhutan	
1. Number of varieties cultivated, breeds raised	At the end of the project, all traditional varieties and breeds present in the target sites at the beginning of the project will still be cultivated or, where losses are inevitable, samples will have been conserved ex situ. The areas of cultivation and numbers of livestock will not have decreased (except in those cases where ex situ conservation is essential) At the time of the mid-term evaluation, no declines will be evident, and ex situ measures will have been completed.
2. Diversity of wild relatives	At the end of the project, all high-value wild relatives in the target sites for which conservation was not previously secured by inclusion in the protected area system will have a secure conservation status, as measured by the number and sizes of populations outside protected areas remaining constant or increasing. At the time of the mid-term evaluation, all such populations will have been identified.
3. Contribution of indigenous genetic resources to household income	At the end of the project, the proportion of farmers who report that income derived from indigenous genetic resources is "significant" or "highly significant" in terms of total household income will have increased by 10% compared with figures in year 1. In no site will this figure be less than 5%. At the time of the mid-term evaluation, no farmers will report that their view of the value of indigenous genetic resources to household income has declined in the previous 2 years
Outcome 1: At a systemic level, the capacity of the MoA is adequate to mainstream agro-biodiversity conservation into the attainment of food security and self-sufficiency.	
1. Number of national policies, plans and guidelines (identified) incorporating biodiversity, and especially agro-biodiversity	By the end of the project, RNR sector 11th Five Year Plan, National Biodiversity Policy and Food and Nutrition Security Policy include strong elements on conservation of agrobiodiversity
2. Number of recommendations to different sectors on implementing the National Biodiversity Policy and National Food and Nutrition Security Policy.	Practical recommendations for agriculture, livestock and Forest sectors developed to strengthen sectoral policies, and practices related to agro biodiversity conservation, including wild relatives of agricultural crops
Outcome 2: Capacity of MoAF agencies (NBC, and Stakeholders) strengthened to support farmers in agro- biodiversity conservation	
1. Capacity of NBC in ex-situ management of AnGR and PGR	Staff capacities on processing, cryopreservation, conservation AnGR and PGR characterisation, Gene Bank's equipment and information system upgraded.
2. *Ex-situ* conservation facilities for AnGR. 3. Number of AnGR doses and PGR samples preserved in the Gene Bank. 4. Study on two CWR.	*Ex situ* collections of AnGR are established. Collections built up to 2,000 samples of PGR and 4000 doses of AnGR. At least two CWR assessed and conserved in-situ.
5. Capacity of Livestock and agriculture development agencies.	Technical capacity of agriculture and livestock development agencies built in agro biodiversity management.
6. Number of agencies and *Dzonkhags* incorporating agro biodiversity conservation as part of regular program	NLBP under DOL incorporates breeding and management of traditional livestock varieties (in-situ and ex-situ) DAMC incorporates marketing of agro biodiversity products amongst programs on farmers' cooperatives.

Performance Indicator	Target
	At least 4 potentials Gewogs include in-situ agro biodiversity management DoFPS includes agro biodiversity theme especially wild relatives of crops) in the national forest survey.
Outcome 3: Farmers benefit from sustainable utilization of traditional varieties and breeds of IGR	
1. Production of traditional crop varieties and traditional livestock breeds increased	One product per site in at least 6 sites for crops increased by 15% over baseline Communities in at least 4 sites in 3 districts undertake actions to conserve traditional breeds of Yak and local cattle (Nublang)
2. Increased revenue to farmers from traditional crop varieties and traditional livestock breeds/and their products	Farmers in at least 11 sites increase income by 15% on average over baseline through better production and marketing of traditional crops and animal breeds and products
3. Level of public awareness increased	Surveys of farmers, agricultural and livestock sector professionals and the general public reveal that awareness of the importance of agro-biodiversity conservation for food security and self-sufficiency has increased significantly by the end of the project, compared with surveys in year 1

Source: Project Revised Logical Framework (2010)

2.6 MAIN STAKEHOLDERS

22. The project's main stakeholders were many and varied including::

- The National Biodiversity Center (NBC), a non-departmental agency of MoAF,
- Approximately 555 farmer households in eight Districts spanning all regions of the country,
- The MoAF Department of Livestock (DOL), including its District Administrations,
- Gewog Extension Centers, National Dairy Development Center[3], National Horse Breeding Program and National Sheep Breeding Farm.
- The MoAF Department of Agriculture (DOA), including its District Administrations, Gewog Extension Centers, and the National Organic Programme,
- MOAF Planning and Policy Division (PPD) and its Information and Communication Services.
- the Department of Agricultural and Marketing Cooperatives (DAMC), Information and Communication Services and,
- The Renewable Natural Resources Research and Development Centers (RNR-RDCs).

3. FINDINGS

3.1 PROJECT DESIGN AND FORMULATION

3.1.1 Assessment of Project Logic, Strategic Approach, and Scope

23. The project logic was sound, i.e., create awareness of the importance of Bhutan's agro-biodiversity--and the importance to food security and self-sufficiency of conserving it; enhance the technical capacity of those institutions who can best support farmers to conserve this agrobiodiversity on-farm, while also ensuring back-up conservation of these plant and animal genetic resources ex-situ in

3Formerly the National Livestock Breeding Programme

gene banks (building on the infrastructure and capacity that already existed to make these fully functional); create an enabling policy environment to ensure widespread adoption of agrobiodiversity conservation; and, finally, create economic incentives for those most directly responsible for choosing to either continue or discontinue growing these varieties/breeds, i.e., the farmers.

24. The design problem lay not in the logic, but rather in the scope. The ILCCP project scope was overly ambitious, including too many crop varieties and livestock breeds (initially at least 19 livestock breeds and at least 9 crop varieties4), too many project sites (47)[5], and too many expected Outcomes and Outputs. Instead of increasing the number of Districts involved in the project from 4 to 8 (as was done at project inception), the number of Districts could well have been reduced.[6]SEE LESSON # 15. The number of livestock breeds included in the project *was* reduced significantly following the MTE from the original 19 (4 horse breeds, 4 pig breeds, 8 chicken breeds, 1 sheep) to 2 (yak and Nublang). The variety of traditional crops included in the project was also reduced, but to a far lesser extent, deleting only one crop (millet) while maintaining maize, buckwheat, barley, soya bean, rice, legumes and mustard. Although this reduction in the number of crops and livestock breeds was helpful, the TET believes there were still too many included to realistically accomplish all that was expected for each, i.e., "increased yields", "increasing area under production of these varieties", "development of new products", "identification and access to new markets", and "developing mechanisms whereby groups of farmers/herders could benefit from these". SEE LESSON # 3. Although there is often the temptation to include more regions/districts so that more can benefit from a project, the result is often a broadening of scope to an extent where project impact is diluted instead of enhanced.

Following the MTE, and in compliance with the recommendations of the MTE, the only two livestock species of focus were yak and Nublang. Pig was excluded. Although the TET believes the decision to reduce the number of commodities of focus of the project was a sound one, it questions why the decision was taken to discontinue project activities related to the conservation of indigenous pig breeds, since these are some of the indigenous livestock breeds which appear to be most highly and immediately threatened according to information received by the TET during interviews with the DOL, and with the farm manager of the pig breeding center

25. An essential early step in defining a strategic and focused biodiversity conservation project intervention is an in-depth analysis of threats, root causes and critical barriers to conservation. Although some important barriers to conservation and threats to the genetic resources being conserved by the project were identified, a true threats and root causes analysis was not conducted. Such a formal exercise would have been helpful in defining a more focused project intervention. Threats appear to have been accurately defined, but a comprehensive threats and root causes analysis also includes an exercise to define what a project can and cannot realistically do about these, and in this way, the project design was lacking.

4 This problem will be raised later in the report, but the Project never clearly identified the number of varieties of crops or the number of indigenous livestock breeds it would focus on, clumping instead many of these together, e.g. horse or pig or chicken, instead of naming each of the 4 breeds of horse or each of the 4 breeds of pig or each of the 8 breeds of chicken. To the best of our ability to decipher this, the TET believes there were 28 total varieties and breeds included in the project originally)

5 Refer to Annex XIV for details on commodities and sites

6 Although eight Districts were included in the project, there were a far greater number of project sites, including four sites for Nublang, nine sites for chicken, eight sites for pig, three sites for yak, two sites for sheep, one site for horses, and numerous sites for buckwheat, barley, rice, maize, legumes, soya bean, and millet, for a total of 47 project sites.

26. Although it is important to analyze and describe all the outcomes that are necessary to achieve a certain objective, it is not necessary that a single project take on the task of attempting to achieve all those outcomes. A single project cannot possibly do it all, i.e., one intervention cannot address all threats and all barriers. An important step in defining a strategic intervention is to decide how much a project can realistically do and which identified threats and barriers it can address given the existing institutional capacity, project time frame and budget. The TET believes that more realism should have gone into the design of this project. Another important step in defining a strategic project intervention is to define what other activities (outside of the project) must be undertaken in order for the project intervention to be successful, and who (other than the project) is best placed to undertake those activities, and then to "complete the puzzle" with all the necessary parts, not just the one project. Finally, sequencing of activities and interventions is also critical. Logical sequencing of all required interventions often requires a longer time period than what is permitted in a single project and this must be born in mind during the design of the project. In the case of the ILCCP project, it was unrealistic to assume that new products and new markets could be developed from so many crop varieties and livestock breeds, and that in addition the income derived from these would be increased during the three year implementation time frame of this project. It was also important to understand that although some activities in all three expected Outcomes could be undertaken simultaneously, the awareness building (Output 3.3) and the capacity building efforts (in particular, Output 2.3) served as important foundations which had to be built up to some degree before other Outputs could reasonably be achieved. There was a logical sequence that needed to be followed that was not adhered to as closely as it might have been.

27. The logic to not undertake genetic characterization of the AnGR was, in the opinion of the TET, unsound. Without genetic characterization studies of some of the livestock breeds of focus of the project (i.e., pigs, horses, chickens), it is not possible to know how many breeds are being conserved and whether or not these are truly globally significant --as the project supposes. Previous genetic characterization studies were undertaken on the chickens of Bhutan, but NBC and the RNR-Research and Development Center in Jakar, the Center responsible for the research on chickens supported by the ILCCP project, believe the research requires further validation to be able to know the true number of breeds/types in the country. The Japanese study suggests that there are not 8 breeds of indigenous chicken as is generally supposed, but far fewer, with some of the "breeds" really only genetic mutations. The justification given by NBC for not undertaking the genetic characterization as part of the project was the cost of doing so (which no one had actually calculated before the TET made an attempt to do so with the inputs of NBC staff), and the philosophy that it was necessary to take action to conserve all phenotypic varieties without the delay that would be incurred by such studies. Nevertheless, the information obtained by the TET suggests that most of the livestock breeds are not so immediately endangered that this "shotgun" approach was warranted, and the time and cost would not have been prohibitive. A more cost-effective approach might have been to undertake the genetic characterization by sending the necessary samples to institutions outside of Bhutan before implementing costly conservation measures (both in-situ and ex-situ).SEE RECOMMENDATION # 4.

3.1.2 Assessment of Project Logical Framework

28. The project document was designed in late 2003/early 2004. Thus, the original logframe dates back to GEF 3. Upon the recommendation of the MTE, the logframe was revised in mid-2010 to "better align with GEF 4, to streamline the presentation of outcomes and outputs, and to increase the probability of achieving targets by project end".

29. As indicated previously in this report, seven expected project Outcomes and 31 Outputs were described in the original project logframe. These were reduced to three Outcomes and nine Outputs following the MTE. This reduction involved both presentational as well as substantive changes.

30. As agreed with the UNDP CO and the UNDP/GEF Regional Technical Adviser, the TE focused its evaluation on the revised logframe rather than on the original. Most of the changes made were positive ones, with three important exceptions. The TET believes it was a mistake to drop #1 and #6 (Refer to page 21), and that #4 should have been much more specifically described. Genetic characterization (#1) is essential if conservation is to be based on science. Without the information provided by genetic characterization studies, it cannot be known if the conservation effort is being directed to actual breeds or merely to conserve a variety of the same breed with phenotypic variation. Identification of emergency measures (#6) required for the conservation of the most endangered varieties and breeds and actions taken based on these identified measures would certainly have represented a cost-effective and more strategic approach which prioritized where conservation efforts should be directed and the TET disagrees with dropping this after the MTE, especially as there are certain breeds that do appear to be at greater risk than others (i.e., indigenous pig breeds). Finally, it is not reasonable to expect a good result, if the direction given is vague as in the case of #4 where the indicator is simply stated as "study on two CWR". There are many problems with such broad, vague indicators. Thus, it is not surprising that the result was also less than impressive. The TET offers a more in-depth assessment of this in Section 3.3.2.

31. The methodology agreed with UNDP is that the TE would not focus on whether substantive changes were so extensive as to require authorization from the GEF Secretariat, but would limit its assessment of the logframe to determining whether the revised logframe went beyond the recommendations of the MTE by reducing even further in scope, the number of activities, or targets agreed. The TET found that the revised logframe is in keeping with the MTE recommendations.

32. Although an improvement over the original, the revised logframe also suffered from several weaknesses including:

1) Lack of consistency between some Outputs and Indicators and Targets. For example, Output 2.4 is "agriculture and livestock sector *policies* integrate agrobiodiversity conservation issues", whereas the indicator has nothing to do with policies but instead relates to implementation of programmes and states "Number of agencies and Dzonkhags incorporating agrobiodiversity conservation as part of regular program".[7] Likewise, Output 3.2, ("Traditional varieties and breeds have access to new and larger markets") refers only to markets, whereas the target, ("farmers in at least 11 sites increase income by 15% on average over baseline through better production and marketing of traditional crops and animal breeds and products") refers not only to markets, but also to increased production and hints (although indirectly) at new product development – which was actually intended to be one of the main activities involved in achieving the Output.

7 A comprehensive in-depth analysis of the revised logframe is not expected as part of this TE. Rather, the analysis provides illustrative examples of weaknesses in design.

2) Some of the indicators defined are not S.M.A.R.T. (Specific, Measurable, Achievable, Relevant, and/or Time bound). For example, the Indicator related to Output 2.3 "Livestock and agriculture development agencies and Dzongkag Extension staff trained in the importance of/and approaches to agrobiodiversity conservation" is "capacity of livestock and agriculture development agencies". This indicator is not specific in defining that capacity, and is not measurable as stated. The baseline is very general, i.e., "lack technical capacity agrobiodiversity management" and the target as stated in the logframe is not at all specific, measurable, or time-bound ("technical capacity of agriculture and livestock development agencies built in agrobiodiversity management"). Likewise, the source of verification is unspecified, being listed merely as "reports of NBC". Given this definition of an indicator, a baseline and a target, it would be impossible not to achieve it, and is therefore meaningless.

3) Many targets appear to be randomly established and not based on meaningful criteria. This resulted in unreasonable expectations regarding some livestock species in terms of anticipated increase in population numbers and improvement in productivity given reproductive cycles and other factors requiring longer time frames. Moreover, randomly set targets, even if achieved, do not necessarily result in the desired outcome. Targets should not specify random quantitative amounts/increases/decreases, but rather should be based on projections that are meaningful. SEE LESSON # 10. Regarding the target specified in the original logframe, "By the end of the project, in each target site, the productivity of at least 4 traditional varieties or breeds has been increased by at least 15% through breeding, selection, and/or improved cultivation/husbandry, compared with yields in year 0", one might well ask, why 4 varieties? Why 15%? Will increasing productivity of these 4 (undefined) varieties increase farmer income enough to give them the incentive to continue growing these? Unfortunately, one might well ask the same questions of the revised target in the revised logframe, "One product per site in at least 6 sites for crops increased by 15% over baseline".

4) Lack of specificity in the definition of some Expected Outputs. For example, Output 2.1 is stated as, "Strengthening of capacity of NBC". This is not at all specific. Strengthened in what specific areas? The indicator gives a clue "capacity of NBC in ex-situ management of AnGR and PGR" but is still not very specific. Finally, the target tells the reader what type of capacity is aimed for.

5) Weak analysis and description of risks and assumptions. For example, the stated risk/assumption related to Outcome 1 is, "institutional mandates do not prevent effective coordination and cooperation". What does this refer to? Based on this vague description, it would not be possible to plan actions to avoid the risk.

The above-described illustrative weaknesses in the logframe had an effect on the monitoring of the project, especially impact monitoring.

3.1.3 The design of the Project M&E Plan, including Development of the Baseline

This section is an assessment of the *design* of the M&E plan, whereas an assessment of the *implementation* of the project M&E plan can be found in Section 3.2 of this report.

Indicators and Targets

33. Indicators and targets are critical elements of an M&E plan, both in terms of how they are defined, and how and when they are measured. The indicators specified in the revised logframe are not especially S.M.A.R.T., and most of the targets appear to be randomly established and not based on meaningful criteria. This has a significant effect on both the ability to monitor a project and the ability to assess project impact. SEE LESSON # 11.

The Project Baseline

34. Although it is evident that tremendous effort went into developing the baseline, insufficient thought and guidance was given to how it would be used, and therefore, the end product is mostly unusable, and indeed cannot be used as a baseline to compare pre and post project situations. For example, the stakeholders interviewed are not the same ones that the project worked with (e.g. the project supported an organized group of yak herders but instead of getting data from that group on how many yak they had, etc, the information was obtained from a single yak herder). Furthermore, the type of information does not correlate well with the indicators. Thus the type of information is mostly not usable /comparable. The way in which the vast amount of information is presented in the document also makes it very difficult to use as a working baseline. Finally, the baseline database developed cannot be updated, thus making its only relevancy in terms of searching for specific data from one point in time. Neither the document nor the databases are user-friendly and indeed neither has been used by NBC or anyone else to date, although all parties agree there is still value in analyzing comprehensive data collected in the survey to identify trends. Following the TE, NBC may well strive to do so.

The Project Board (PB)

35. The composition of the Project Board included 12 individuals, with all except UNDP and a Sr. Programme Officer from the Gross National Happiness Commission (GNHC), being MoAF staff. Although all the individuals involved held relevant positions in relevant stakeholder institutions, it is good practice (which was not followed in this case) to ensure that a variety of in-county institutions are involved (not just the one executing the project). SEE LESSON # 12. It is also helpful to involve some international expertise on PBs, especially in the case of NEX projects. It could have been helpful to involve a representative of the private sector on this PB given the importance the project was to have assigned to development of products and markets, and anticipating perhaps that low volume/high value international niche markets might be pursued. Involving someone with agro-ecotourism expertise could have also been beneficial. Finally, it is not customary and is not considered good practice, for the Project Manager to be a member of the PB, as was the case in this project. Otherwise, the TOR for the PB were in keeping with standard TOR for Project Boards. Section 3.2.5 provides an assessment of the functioning of the PB.

3.1.4 Linkages with other Interventions in the Sector within the Country

36. More extensive contact could have been made with other relevant ongoing initiatives in country to learn from these and to enhance prospects of sustainability of the project outcomes. In particular, the TET believes that more contact was warranted with: 1) the Nature Recreation and Eco-tourism Division of MoAF regarding agro-ecotourism potential, 2) the Human Wildlife Conflict Section of the Department of Forests and Park Services (DOFPS) and international conservation NGOs regarding livestock depredation problems, and, 3) with BioBhutan, regarding development of new low volume/high value products and niche international markets for these. Although not originally envisaged in the meeting agenda of the TE mission, the TET requested a meeting with the Nature Recreation and Eco-Tourism Division and found that there is great interest in the concept of agro-ecotourism and that in fact the Government has requested the IFAD Sustainable Land Management (SLM) project to look further into this. The Project was unaware of this, and according to the Nature Recreation and Eco-tourism Division, no contact had been made with them by the Project. Similarly, the Project had not contacted the Human Wildlife Conflict Section to discuss innovative approaches to solving the livestock depredation which is a main concern of most of the farmers with indigenous livestock. The Project might also have benefited from contacting some of the international NGOs that have extensive experience in this area even if they may not all operate in Bhutan. SEE RECOMMENDATION # 5.

3.1.5 Lessons from relevant Initiatives incorporated into Project Design

37. Greater sharing of lessons learned and awareness of relevant agrobiodiversity initiatives in other countries (both completed and ongoing) would have been helpful. The GEF has supported more than 25 agro-biodiversity conservation projects, many of which are highly relevant including, for example, the projects in the highlands of Ethiopia "Dynamic Farmer-Based Approach to In-Situ Conservation of Plant Genetic Resources", and in the Andes of Peru and Bolivia where many similarities exist both in the natural environment as well as in the approach adopted to conserve plant genetic resources. There are many other projects which this one could have learned from. This project did, of course, learn from the Biodiversity Use and Conservation in Asia Programme (BUCAP), which was a source of co-financing for this project and which operates in Bhutan, Vietnam and Laos, but greater focus at project design stage to learn from other agrobiodiversity conservation efforts would have been helpful in ensuring a sound project design. UNDP in its role of facilitating knowledge management, including lessons learned, could have usefully shared more of this information with NBC and project designers at the design stage. SEE LESSON # 4.

3.2 PROJECT IMPLEMENTATION AND MANAGEMENT

3.2.1 Partnership / Institutional Arrangements

38. Partnership/institutional arrangements were generally well thought out and successfully executed. Especially effective was the partnership between NBC and the DOL and DOA. NBC correctly understood that it does not have the institutional mandate or the capacity to work directly with farmers except on a very limited basis (mostly to introduce new model approaches to be replicated), and correctly chose to partner with DOL and DOA in this regard, working closely with their Extension Agents in the field.

39. Although for the most part the right institutions/organizations were involved, the TET believes it would have been beneficial to involve two others, namely the College of Natural Resources (CNR), and the NGO, BioBhutan. One agrobiodiversity seminar sponsored by the project took place at CNR, the institution where all DOL and DOA Extension Agents receive their training. Although the capacity building provided to DOL and DOA Extension Agents through short study tours abroad has benefitted key project beneficiaries, i.e., the farmers, the TET believes a more extensive collaboration with CNR could have resulted in a more cost-effective approach to training extension agents compared with sending them on brief study tours abroad, and would have had the added benefit of enhancing sustainability by enhancing institutional capacity. The TET would have liked to have seen the project support the CNR in three specific ways: 1) help CNR to incorporate agrobiodiversity conservation into its curriculum by jointly developing the necessary courses, 2) invest in training trainers by training a few CNR lecturers on agrobiodiversity conservation, and, 3) help CNR to develop a few practical training modules to be used by the Extension Agents to explain agrobiodiversity conservation to the farmers/herders (including visuals comparing costs and benefits of raising traditional varieties/breeds with exotic ones).

40. BioBhutan was potentially an important stakeholder that was not included in the project. Given the project's expectations regarding development of new products and new markets for these products, BioBhutan's knowledge and experience in developing new products based on agricultural commodities and working with farmer groups, certification and marketing agents to develop new international niche markets could have been of great use to the project. The project had not contacted BioBhutan during its five years in operation. The TET requested a meeting with BioBhutan and found its experience very relevant and useful, and recommends that NBC pursue further contact with this NGO.SEE RECOMMENDATION # 1.

41. Finally, although the National Forest Inventory (NFI) of DOFPS was originally to have been involved in the project activities related to the conservation of wild relatives of traditional crops, they were actually not involved in any way except that a preliminary meeting to discuss their involvement took place between the Project Manager and the NFI. Although involvement of the NFI appears at first glance to be a logical approach, in fact, given the timing of the NFI (which did not begin until the ILCCP project was close to closing), and given the capacity of the NFI (which does not include expertise on identification of these species), this was not, in the opinion of the TET, a realistic approach.

3.2.2 UNDP and Implementing Partner Implementation /Execution, Coordination and Operational Issues

UNDP as GEF Implementing Agency (MS)

42. UNDP provided helpful and important support to the Project. It could usefully have applied itself in its capacity as a knowledge management broker to an even greater extent. UNDP could have:

- Done more sharing of lessons learned from other agrobiodiversity initiatives around the world, especially during the project formulation phase.
- Provided greater support in reviewing TOR and project products to ensure these were of high quality. This was especially important both for the development of the project baseline as well as the marketing assessment study commissioned by the project. Note is taken by the TET that the MTE specifically indicated that, "in collaboration with RAP, UNDP Bhutan must also provide guidance to the PMU on finalization of consultant outputs. For instance, review of the baseline study report or the Market Assessment study…The project's sound planning depends on these products however, the quality of these reports is unsatisfactory". The UNDP CO and NBC apparently did invest significant time in reviewing and commenting on these products (as per personal communication with both), but the TET still considers both products to be of poor quality. The TET requested NBC to provide them with a copy of the TORs on which basis the products were developed, and finds that the TOR themselves are a main cause for the products not being of practical use. In both cases, the assignment given was far too broad in scope to expect a product that could be highly specific, and the TOR too general, leaving much to interpretation in terms of how the products should be structured and how they were eventually to be used. NBC faults the products for being of poor quality, but the TET puts more of the onus on the poor quality of the TOR for the preparation of these products. SEE LESSON # 13.
- Recognizing the general tendency for all projects, but perhaps especially of NEX projects, to try to accommodate all parties interested in participating in a project, UNDP could have shared lessons on the benefits of limiting project scope and ensuring that project design was not overly ambitious while also ensuring that a good replication strategy was built into project design (to ensure that all interested stakeholders would eventually benefit from the project either directly or through replicating results). UNDP could have been more insistent on sharing lessons regarding why increasing the number of Districts involved in the project was not advisable.
- Although UNDP did provide support on the development of the revised logframe, even greater support to developing S.M.A.R.T. indicators and targets based on meaningful criteria would have been useful.
- UNDP could have shared best practices related to effective Project Board composition and could have strongly urged that the PB meet specifically to discuss the draft Exit Strategy and the project's own assessment of impact.

- Greater sharing of information regarding the purpose and methodology of TEs could have helped to ensure that NBC was more prepared for the terminal evaluation before it was fielded. The UNCP CO might have participated more effectively in ensuring that the TE mission itinerary was well planned, obviating the need for making so many late changes.
- UNDP could have suggested innovative approaches which NBC may not have been aware of given its experience, and could have encouraged more thinking "outside the box", especially related to private sector involvement in the area of product and market development (not just depending on DAMC for this).
- UNDP might have suggested targeted international expertise where this would have been beneficial to this nationally-executed project, perhaps especially in the areas of innovative predator management techniques to help alleviate one of the biggest concerns of the herders of yak and horses, agro-ecotourism, and low volume/high value international niche market development. The TET recognizes that UNDP has partnered with the Wildlife Conservation Division of DoFPS to attempt to address HWC in the country and that UNDP implementing partners share lessons and project results at established forum including mid-year and annual reviews. This is very helpful, but it may have also helped to reach outside the country to learn from the experience of others in these particular areas.

In addition to being more proactive as a knowledge management broker, UNDP could have managed the co-financing commitments more effectively, ensuring it was able to follow through on its own commitment, but also ensuring good understanding of what is meant by co-financing. (See section on project finance for more details on this.)

NBC as Executing Agency (MS)

43. The NEX execution modality choice for this project was a good one, and NBC was the appropriate institution within the MoAF to act as the coordinating entity. NBC collaborated effectively with its partners in the project, especially with the DOL and the DOA. NBC put a tremendous amount of time and effort into the project and has truly taken the conservation of agrobiodiversity up as part of their core programme, doing this to some extent even before this project began, but clearly strengthening this commitment even further during the project.

44. Project management and administration, although satisfactory, could have been improved had NBC been able to have fully taken up the recommendation of the MTE to hire additional PMU staff recognizing as indicated in the MTE that "managing the extensive activities of ILCCP is a full time engagement', and that, "the PMU's technical capacity also needs to be strengthened". According to the Project Manager, new staffs were to join NBC in both the AnGR and PGR programmes, but these two staff only actually came on board in 2012.

3.2.3 Project Finance

45. The total project budget of US$ 2,897,485 was appropriate, as was the way in which it was assigned to the various project outcomes. The largest proportion of the budget was assigned to Outcomes 2 and 3. Although the overall appropriation of project funds according to expected Outcomes was appropriate, the appropriation of project funds according to certain Outputs and activities could have been improved somewhat by assigning proportionately more funding to Output 3.2, which dealt with development of new products and new markets. Some other project areas/activities that were under-budgeted include:1) development of the Cattle Information System Database developed by the NLBP, and,2) The PGR germplasm processing protocol was to have been validated by the project to assure it was

at par with international standards. Project funds were insufficient to pay for this but thanks to the outreach done by NBC help was secured from FAO to do this.

46. The financing situation changed significantly from the time the prodoc was signed to the time project implementation began. The signed prodoc indicated that the status of co-financing commitments totalling US$ 1,090,000 in cash and US$ 910,000in-kind were "secure" (Table 4).The UNDP CO had committed the largest in-cash co-financing amount ($400,000). This contribution was never realized, and instead UNDP contributed only US$ 8,997 (1% of the co-financing commitment it had made). The TET requested the UNDP CO to provide an explanation for the lack of follow through on this significant commitment, and they made an effort to do so but without success as the individuals responsible are no longer in Bhutan and apparently not reachable. It is clear that the UNDP CO has taken the lesson seriously and has now ensured that commitments of co-financing are realistic and are followed through in the formulation of new programmes/projects. SEE LESSON # 5.

47. Whereas the UNDP co-financing was less than anticipated, the co-financing realized from the Government significantly exceeded the original commitment by $1,781,460 for a total of $2,531,460.This financial commitment is a good indication of the Government's strong commitment to the project.

48. Other planned co-financing commitments included $440,000 from the BUCAP Phase 2 project funded by the Norwegian government ($340,000 of this in cash and $100,000 in cash), $280,000 cash contribution from the Netherlands Government-funded Agrobiodiversity Conservation (ABC) project, $70,000 in cash from SDA (Dutch Government), and $60,000 in-kind from the private sector. All of the above was secured except the $60,000 from the private sector which was in fact a misunderstanding regarding how co-financing is defined. NBC included it as an estimate of the amount they expected the hotel industry to spend in buying products marketed with project support. Greater understanding of what is meant by co-financing would have been helpful in avoiding this problem, and greater oversight by UNDP as the GEF implementing Agency would have been beneficial to ensure a more realistic representation of co-financing commitments.

TABLE 4: CO-FINANCING COMMITMENTS AND STATUS AT PRODOC SIGNING

Co- Financing Sources				
Name of Co-financier (source)	Classification	Type	Amount (US $)	Status*
UNDP	IA	Cash	400,000	secure
RGoB	Government	In kind	750,000	secure
BUCAP	Bilateral / NGO	Cash in – Kind	340,000 100,000	secure
SDA	Bilateral	Cash	70,000	secure
Netherlands (Type III)	Bilateral	Cash	280,000	secure
Companies	Private Sector	In kind	60,000	secure
Sub-Total Co- Financing			2,000,000	

SOURCE: SIGNED PROJECT DOCUMENT

Notwithstanding the shortcomings associated with the planned co-financing, total co-financing secured actually surpassed the planned amount. Actual co-financing amounts secured are presented in Table 5.

TABLE 5: ACTUAL CO-FINANCING SECURED BY THE PROJECT

Co-financing (type/source)	UNDP own financing (mill. US$)		Government (mill. US$)		Partner Agencies (mill. US$)		Total (mill. US$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	400,000	8,996.60			690,000	537,010	1,090,000	542,010
Loans/ Concessions								
• In-kind support			750,000	2,531,460	160,000	43,000	1,600,000	2,574,460
• Other								
Totals	**400,000**	**5,000**	**750,000**	**2,531,460**	**850,000**	**580,010**	**2,690,000**	**3,116,470**

Financial management of the project was generally good although there were challenges. A financial audit of the project in 2009 revealed that financial management has been a key challenge due to the length of time it was taking for funds to get to the field. Funds were released on a quarterly basis by UNDP and took almost a full quarter to get to where they needed to be spent. Once released from UNDP, funds had to pass through GNHC and two Departments within the Ministry of Finance, which delayed the process in reaching the field. After discussing with GNHC, the process was shortened and fast-tracked. Since then, UNDP processes fund releases within 3-4 days after receiving the FACE. The cheque is then deposited into MoF's Budget Fund account, and the IPs are informed immediately. The IP then follows up with the Department of Public Accounts to get the fund released to the IPs project account. From there the money is transferred to the field. In this way, UNDP and the Ministry of Finance successfully managed to shorten and speed up the process and there has been no problem with fund lapse since then.

49. Another financial management issue was the different financial accounting methods used by UNDP and by NBC. Although these differences caused headaches and the need to spend more time on financial reporting, they did not significantly affect project outcomes.

3.2.4 Project Time Frame and Work Planning

50. The project officially lasted five years as was originally planned, but due to significant delays in project implementation (described in Section 2 of this report), the actual implementation time period was only around three years, and less than this for some activities. For example, according to information provided to the TET by the PMU in response to a written questionnaire, the project only began its activities in Shingchuri village in December 2011, with only 6 months left in the project. This shortened project time period constrained what could have been achieved, especially in project efforts to increase yields (Output 3.1), and in the area of new product and market development (Output 3.2).

51. Although work planning was generally sound and realistic, the work planning related to the activities to conserve wild relatives of crops was inappropriate. As described in Section 3.1 of this report, the NFI did not even begin field surveys until close to the time this project was about to be operationally closed. A different way of achieving this result should have been sought and the work plan should have been revised to reflect this.

3.2.5 Monitoring and Evaluation: Implementation of M&E (MU)

The TET's assessment of the *design* of the M&E plan is included in Section 3.1 of this report. This section deals with the *implementation* of the M&E plan.

The Project Board

52. The Project Board was not formed until January 2009, a year and a half after the project officially began. Because of this, some important decisions were taken outside of the PB, including the decision to double the number of Districts involved in the project. The PB did not meet as often as it was supposed to according to the original M&E plan, or as often as this TE deems was needed to provide the project with the necessary oversight and direction. Although the Board should have met a total of 10 times according to its TOR, it actually only met four times during the five year project. This limited the effectiveness of the PB in providing overall supervision and direction to the project.

53. Two important meetings of the PB did *not* take place. The TET believes that the PB should have met specifically to discuss in detail the draft Project Exit Strategy to ensure this represented a solid plan of action, identifying critical areas which would continue to require support and how this was to happen after project end. It should have also insisted on a much more thorough and quantified analysis of project results/impacts. The justification given by the PMU for not convening a fifth meeting of the PB was "time constraints and because very minimal activities were implemented after the 4th PB meeting" (Project Completion Report of NBC, 2012). The TET does not consider this strong justification, and as indicated, there were two very good reasons to have at least one more PB -- the Exit Strategy, and the discussion regarding project impact.

The Monitoring System

54. Four different monitoring systems, including different indicators, were used by the PMU over the life of the project. Use of different systems makes it difficult to monitor progress or impact. As previously explained, the baseline prepared by the project was never used. And, rather than using the indicators to monitor the project, the PMU relied on progress reports focused on inputs and activities which were prepared by the DOL and DOA and by District Extension Officers working in the field. The PMU then conducted field site visits primarily to ground-truth those reports. The reports did not include impact-oriented information but rather described such things as e.g. how many workshops had been undertaken, how many farmers had been involved, etc. Then, in 2010, the project began using a set of outcome-based questions which the Project Manager prepared in Excel format. Finally, at project end, an "impact assessment questionnaire" was developed by the Project Manager and this is what is now being used to gather the latest information from the field. The reason why varied systems were used seems to stem from: 1) lack of understanding of the PMU regarding how the logframe was to be used as a working tool to monitor the project and to be able to assess its results and impacts, 2) indicators and target definitions that did not particularly lend themselves to easy monitoring, and, 3) a recognition late in the project of the need to focus more on impact while still monitoring inputs and activities. Overall there was insufficient focus on assessing impact. The focus of the monitoring was mostly on inputs, not so much on impact.

55. An attempt was made by NBC to involve farmers in M&E by providing them with surveys to complete that included information on increases/decreases in yield. These were completed on a one-time basis during the last year of the project according to the PMU.

Project Site Visits by the PMU and by UNDP

56. On the positive side, all project sites were visited at least once a year by NBC and these visits were conducted jointly with DOL and DOA, making them participatory and even more effective. Visiting all project sites yearly was a real accomplishment given distance and often difficult access (sometimes requiring several days driving followed by several days walking to reach sites), and this shows a strong institutional commitment to M&E on the part of NBC.

57. UNDP visited project sites 7 times over the 5 year project period, visiting a total of four of the eight Districts involved. A Team group evaluation was done in July 2012. Although UNDP's visits to project sites and its participation on the PB were critical and useful, the TET believes that UNDP might have been more cognizant of areas in which this NEX project needed more help (these areas are mentioned in Section 3.2.2 of this report.

Independent Evaluations (MTE & TE)

58. The MTE was conducted in March, 2010 after the project has been under implementation for approximately 3 months, with 2 and 1/4 years of project implementation remaining. The MTE visited two of the eight Districts involved in the project, one of these being the same as the one visited by the TET (i.e., Bumthang). Numerous recommendations were made by the MTE which were, for the most part, followed by the project -- although not always.

59. MTE recommendations *not* successfully implemented included: 1) the recommendation to place greater emphasis on conservation of wild relatives, 2) Although the project did collaborate with DAMC on marketing of buckwheat and a few other products, it did not as suggested by the MTE, "devise tangible product marketing strategies and time bound marketing Action Plans", 3) the project did not adhere to the MTE recommendation to add more staff to the PMU.

60. The TET does not believe it was realistic to ask the project to do much about the conservation of wild relatives and believes this should have been dropped altogether at the time of the MTE. The lack of follow through on the other two recommendations had significant effects on the project's ability to achieve its targets, and, in the opinion of the TET, these were important shortcomings.

61. The MTE and the TE were conducted within the specified time period according to GEF guidance on MTEs and TEs, although the TE did not have the benefit of some critical input that should normally be available to a TET, including a self-impact assessment done by the project, or at the very minimum, data which the TET could compile to make a reasonable assessment of impact. As a result, the TET took much more time than normal to gather data, much of which was eventually provided by NBC. One reason given by the PMU of why a self-impact assessment was not done was that crops are harvested in Nov/Dec whereas the terminal impact assessment had to be conducted during the 2ndquarter of 2012 before the crops were harvested.

3.2.6 Adaptive Project Management

62. Feedback from M&E activities was used successfully for adaptive management. Perhaps the best example of this was that as a direct result of the recommendations made by the project MTE, the project was downsized in scope and targets were reduced. This was beneficial and a good example of adaptive project management based on M&E feedback. However, as pointed out above, not all recommendations made by the MTE were followed. The TET concurs with the MTE on most recommendations made, and considers that better adaptive project management would have resulted had more of those recommendations been pursued.

3.3 PROJECT RESULTS AND IMPACTS

3.3.1 Overall Results

63. A summary of the attainment of the overall project objectives is presented in this Section, followed immediately by a summary of project achievements, and then a description of some shortcomings. This is followed by a Review of Outcomes to Impacts in Table 7.Evaluation of the achievement of the nine project Outputs is next. The TET offers their evaluation of project achievements using the performance indicators as specified in the revised logframe in Annex XI. This Section (3.3.1) also includes an assessment of how relevant the project was, the degree of country ownership, the sustainability of project results, and how well the project was mainstreamed with UNDP priorities (Note: Whereas this section focuses on mainstreaming with UNDP priorities, mainstreaming with *Government* priorities is addressed in the sections on country ownership and in the section on sustainability).

Attainment of project objectives

64. The immediate development objective of the project as stated in the logframe was "to mainstream agro-biodiversity conservation into livestock and crop development policy and practices in Bhutan". Three objective indicators were specified. The targets for each objective indicator are presented below immediately following the indicator:

> Indicator # 1: "Number of varieties cultivated, breeds raised". Target: "At the end of the project, all traditional varieties and breeds present in the target sites at the beginning of the project will still be cultivated or, where losses are inevitable, samples will have been conserved ex situ. The areas of cultivation and numbers of livestock will not have decreased (except in those cases where ex situ conservation is essential). At the time of the mid-term evaluation, no declines will be evident, and ex situ measures will have been completed"
>
> Indicator # 2: "Diversity of wild relatives". Target: "At the end of the project, all high-value wild relatives in the target sites for which conservation was not previously secured by inclusion in the protected area system will have a secure conservation status, as measured by the number and sizes of populations outside protected areas remaining constant or increasing. At the time of the mid-term evaluation, all such populations will have been identified"
>
> Indicator # 3: "Contribution of indigenous genetic resources to household income". Target: "At the end of the project, the proportion of farmers who report that income derived from indigenous genetic resources is "significant" or "highly significant" in terms of total household income will have increased by 10% compared with figures in year 1. In no site will this figure be less than 5%. At the time of the mid-term evaluation, no farmers will report that their view of the value of indigenous genetic resources to household income has declined in the previous 2 years".

Although changes were made to Expected Outcomes, Outputs and targets following the recommendations of the MTE, no changes were made to the objective indicators or the targets associated with these following the MTE. The result is inconsistency between the Objective indicators and the rest of the logframe. Objective indicator # 2 is vague, being stated as merely "diversity of wild relatives". The target provides more information of what was intended. This target (see above) was not achieved and indeed, following the MTE, there was no intent to attempt to achieve it. This Objective indicator should have been revised and is also the case with the target.

Summary of achievements

65. Key project achievements include:

- A policy framework regarding the conservation of agrobiodiversity has been drafted which incorporates inputs from diverse stakeholders. The various policies are at different stages of preparation, with some close to finalization and one awaiting Cabinet approval.
- The (draft) 11th Five Year Plan of the MoAF directs investment of Government resources in agriculture over the next five years (2013-2018)and as such is a critically important strategic document. It is in the final stages of preparation. The Chief of the PPD of the MoAF indicated to the TET that experiences gained (especially best practices) from implementing the ILCCP project were mainstreamed into the Plan.
- Awareness level has been significantly raised regarding the importance of Bhutan's agrobiodiversity, the importance to food security of conserving this agrobiodiversity, and some ways of achieving this, through the awareness campaign initiated by the project which effectively targeted a diverse set of stakeholders including farmers, policy makers, District DOL and DOA officers, DOL and DOA extension agents, school students, and consumers. Farmers are taking greater pride in traditional crop varieties and indigenous livestock breeds as a result of this enhanced awareness.
- The technical capacity of the MoAF, including PPD and the technical departments, the District Administrations, Gewog Extension Offices, and the farmers/herders has been significantly enhanced, enabling more effective agrobiodiversity conservation both ex-situ and in-situ.
- The institutional capacity of NBC has been significantly strengthened, not only as this relates to agrobiodiversity conservation, but even more broadly in that many new linkages were established with other Government entities that NBC might otherwise not have interacted with to such an extent.
- Ex-Situ conservation of both plant and animal genetic resources has been significantly improved by project efforts to add to PGR and AnGR Gene Bank collections, improve documentation, provide needed equipment, and train NBC staff.
- There appears to be a good probability that the conservation supported by the project will be sustained for at least certain traditional crop varieties (i.e., millets, buckwheat, barley, soya bean, rice, maize, legumes), as evidenced by farmer interest in them and their inclusion in National (in the case of millets),and District or Gewog proposed work plans and budgets for the next five years.
- There also appears to be a good probability that the conservation effort supported (but not initiated) by the project will be sustained in the case of certain indigenous livestock breeds, especially Nublang and yak, but this success is not due primarily to project efforts but rather to the good milk production potential of Nublang, and the adherence to tradition and lack of better options for yak herders.
- Numerous (12)new farmer/herder groups were formed (which now have good bylaws) and these were provided with seed monies to establish group savings, as well as simple but much appreciated equipment, and training, and in some cases packaging, labeling, and venues to market their products directly, all of which provides a necessary foundation to enable them to derive benefits in future from conserving traditional crop varieties and/or livestock breeds. Most of these have in fact already derived some financial benefit, and some have group savings.
- NBC now collaborates closely with DOL and DOA, including District Livestock and District Agricultural Officers and DOL and DOA Extension Agents, thereby enhancing prospects for agrobiodiversity conservation within productive landscapes.

Main Shortcomings

66. The main shortcomings identified by the TET are:

- Project design was overly ambitious, including too many commodities, too many project sites, too many expected project outcomes and outputs, and in some cases, unrealistic targets.
- The project did not develop conservation action plans (including priorities) for the various crops and livestock breeds of focus.
- Agrobiodiversity conservation elements are incorporated into major relevant policies and into the draft 11th FYP of the MoAF, but these exist within a larger policy framework which may promote programmes and practices not totally supportive of this conservation. A hard-core analysis pinpointing aspects of policies, programmes, incentives that may have *adverse* effects on the conservation of indigenous varieties/breeds would have been helpful.
- Insufficient effort on quantifying costs and benefits to the farmer of raising traditional crops/livestock breeds as compared with exotic ones, and lack of development of materials which Extension agents and others could use to present this comparative cost/benefit information to farmers. The project recognized that awareness alone is not sufficient for farmers/herders to conserve traditional varieties/breeds and that they must benefit economically from doing so, but fell short of quantifying the real costs and benefits associated with each of the commodities of focus and comparing these with the alternatives available to farmers.
- Two key project products, the baseline and the marketing assessment, on which the success of many other project activities depends, were unusable and were never improved to the extent necessary to ensure they would be used.
- The potential agro-ecotourism market was not explored, representing a real missed opportunity to develop new products/markets to provide incentives for farmers to conserve agrobiodiversity.
- Lack of innovation and "thinking outside the box", especially regarding development of incentives, specialty products, and niche markets.
- Insufficient effort to learn from other agrobiodiversity conservation efforts around the world resulting in missed opportunities to incorporate lessons learned from those experiences in the project design and in its implementation.
- Although mention is made of important threats to the genetic resources being conserved by the project, a true threats and root causes analysis was not conducted. This would have been helpful in defining a strategic and more highly focused project intervention.
- The Project Exit Strategy is not well developed. It does not identify actions or lay the foundation for pursuing actions to ensure sustainability of project results, but rather is fairly topic and seems to have been understood as a document in which the sustainability of the project effort should be justified. Exit Strategies should be highly analytical strategic documents pointing out sometimes harsh realities that continue to threaten the biodiversity of interest and defining a concrete action plan to address these threats. For example, the Exit Strategy should identify those indigenous crop varieties and livestock breeds which may be most at risk in the immediate future given the Government's "development mandate" and "commodity approach" and outline a plan …
- Approach to capacity building which, although effective, may not have been the most cost-effective approach in the medium term.
- Genetic characterization is lacking for some of the traditional livestock breeds of focus, meaning that we don't really know exactly what we are conserving and can't really be sure if this is of either national or global significance. The project did nothing to rectify this situation.
- Ineffectual and inadequate effort directed at conservation of crop wild relatives.

- Inadequate contact with relevant ongoing initiatives in Bhutan (BioBhutan regarding low volume/high value products and niche markets; Nature Recreation and Eco-tourism Division regarding agro-ecotourism; Human Wildlife Conflict Management Section regarding innovative solutions to livestock depredation).
- Impact monitoring of the project was weak.
- A significant commitment of $400,000 in co-financing was made by UNDP, but only 2% of this ($8,997) was actually provided.

3.3.2 Effectiveness and Efficiency

Achievement of Project Outputs

67. This section provides the TET's evaluation of how well project Outputs were achieved using the GEF rating scale of HS = Highly Satisfactory; S = Satisfactory; MS = Marginally Satisfactory; MU= Marginally Unsatisfactory; U = Unsatisfactory; HU = Highly Unsatisfactory.

TABLE 6: EVALUATION OF ACHIEVEMENTS OF EXPECTED PROJECT OUTPUTS AT PROJECT END

Component		Evaluation*					
		HS	S	MS	MU	U	HU
Output 1.1	Draft National Policies and guidelines incorporating agro biodiversity conservation.		X				
Output 1.2	Policy analysis of sectoral policies identifies gaps and inconsistencies		X				
Output 2.1	Strengthening of capacity of NBC		X				
Output 2.2	*Ex situ* collections of AnGR are established and gaps in existing PGR databases are addressed through PGR collection.	X					
Output 2.3	Livestock and agriculture development agencies and Dzongkhag Extension staff trained in the importance of/ and approaches to agro biodiversity conservation			X			
Output 2.4	Agriculture and livestock sector programmes[8] integrate agrobiodiversity conservation issues			X			
Output 3.1	Yield of traditional crop varieties and livestock breeds improved through breeding and cultural improvements			X			
Output 3.2	Traditional varieties and breeds have access to new and larger markets.				X		
Output 3.3	Farmers, agricultural and livestock sector professionals and the general public are aware of the contribution of agro biodiversity conservation to food security and self-sufficiency	X					
	Conservation of crop wild relatives					X	
	Research supported by the project					X	

8TET Note: This Output refers, in fact, to programs, not policies.

EFFECTIVENESS OF POLICY & GUIDELINE DEVELOPMENT ACTIVITIES (S)

Output 1.1 Draft National Policies and guidelines incorporating agro biodiversity conservation.

Output 1.2 Policy analysis of sectoral policies identifies gaps and inconsistencies.

68. A policy framework regarding the conservation of agrobiodiversity has been prepared. The *National Food and Nutrition Security Policy* is ready to be submitted to Cabinet. This policy was two years in the making due to extensive stakeholder consultations undertaken at both national and District levels (which is considered by the TET as an indicator of strong participation). According to the PPD of the MoAF, the draft policy is expected to be approved. Strong elements of agrobiodiversity conservation are included in the draft policy thanks to the project inputs. The National Access and Benefit Sharing Policy is another key policy which the project was very instrumental in developing in conjunction with another ongoing project in Bhutan on Bio-prospecting. It is the first of its kind in Bhutan, and includes strong elements regarding agrobiodiversity conservation. Finally, both the Draft Livestock and the Draft Agriculture Policies also include animal and plant genetic resource conservation elements as a direct result of this project's support.

69. The risk exists that even if agrobiodiversity conservation elements are incorporated into relevant policies and into the 11th Five Year Plan of the MoAF, these may exist within a larger policy framework which may promote programmes and practices not totally supportive of this conservation. Analysis of policies, programmes, and incentives that may have an *adverse* effect on the conservation of indigenous varieties/breeds would have been a helpful exercise. For example, how does/will the "development mandate" and the "commodity approach" outlined in the 10th FYP, and strengthened further in the 11th FYP, affect conservation of traditional crop varieties/livestock breeds? Which traditional varieties/breeds are likely to fall through the gaps in the context of this approach, and what specific actions need to be taken to ensure they don't? This type of hard-core analysis of adverse elements was not however an expected Output of the project, and therefore the project cannot be faulted for not undertaking such an analysis. The TET's rating for effectiveness of policy development efforts is S.

EFFECTIVENESS OF CAPACITY BUILDING EFFORTS (S)

Output 2.1 Strengthening of capacity of NBC.

Output 2.3 Livestock and agriculture development agencies and Dzongkhag Extension staff trained in the importance of/ and approaches to agro biodiversity conservation.

70. The capacity building efforts undertaken by the project were effective, but perhaps not the *most cost*-effective over the medium or long term in some cases. As a result of the project, the capacity of NBC AnGR staff was significantly enhanced in the areas of cryopreservation, documentation, liquid nitrogen plant operation, DNA extraction, and characterization. NBC PGR staff capacity was also significantly enhanced in the areas of documentation and characterization. In addition, both the AnGR and the PGR information systems (CryoWeb and GBIS respectively) related to the gene banks were upgraded. Finally, the AnGR Gene Bank has been significantly upgraded as a result of the project's purchase of important equipment.

71. The technical capacity of the DOL and the DOA to conserve agrobiodiversity, including their District Extension staff and staff of the NLBP, was also significantly enhanced as a direct result of this project's efforts. Much of this capacity building was done through short study tours to nearby countries including Thailand and Nepal. Although this was helpful to those who participated, the TET believes that fewer study tours should have been undertaken and only for select individuals for whom the type of

highly specific training required was unavailable in Bhutan. Furthermore, instead of such a strong focus on study tours abroad for Extension Agents and MoAF officials (27 Extension Agents participated in study tours in Nepal and another 8 MoAF officials from various departments participated in study visit to Thailand), the project should have explored the option of enhancing the capacity of the College of Natural Resources, the institution responsible for training all DOL, DoFS and DOA Extension Agents in Bhutan. The benefits would have been threefold: 1) more cost-effective (as best as the TET could determine with the assistance of UNDP, the capacity building efforts cost the project US$ 208,740, 2) would have enhanced institutional capacity in country leading to greater sustainability of the conservation effort, and, 3) would have also helped to address the problem of high mobility of Extension Agents (they must move at least every five years according to Government policy) as all Extension Agents would receive the training. SEE LESSON # 6.

72. The project also supported the development of a "National Cattle Information System" which, although according to the Program Director of the National Dairy Development Center (formerly the National Livestock Breeding Program), will be of great practical use, is not yet operational due to insufficient funding to allow the job to be completed. Nevertheless, the TET met jointly with the NLBP and the consultant who had developed the system, and it is clear that this will be finalized as the consultant is willing to complete the job pro-bono and the NLBP is very keen to use it. This is an example of a helpful project activity for which financial planning was inadequate. The TET points out that the recently received (December 26) status report on completion of project targets provided by NBC to the TET which indicates that "National Cattle Information System developed through ILCCP for selective breeding and management is housed at NLBP and operated by NLBP", is not an accurate description of the actual status, as indicated above. Our rating for effectiveness of the project's capacity building efforts is S.

EFFECTIVENESS OF EX-SITU CONSERVATION EFFORTS (HS)

Output 2.2 *Ex situ* collections of AnGR are established and gaps in existing PGR databases are addressed through PGR collection.

73. Ex-Situ conservation prospects related to both plant and animal genetic resources have been significantly improved by project efforts to add to the collections, improve documentation, provide needed equipment, and train NBC staff. Project inputs built successfully on the existing infrastructure foundation (which had been provided through the ABC project) to transform what existed into functioning plant and animal genetic resource facilities that are now effectively conserving plant and animal genetic resources. With the improved technical capacity and the greatly improved facilities, the project reports that 5,000 doses of semen have been collected from chicken, ram, and pigs and are being conserved in the AnGR Genebank. As a result of the project efforts, plant germplasm collections have also been significantly increased, with 1,400 new accessions to the Gene Bank. The PGR germplasm processing protocol has been validated and is now at par with international standards thanks to the outreach done by NBC to secure help from FAO in this regard. The project was originally to pay for this cost but project funds were insufficient for this.

74. Even though the project felt the "community seed bank" was a success, the TET does not agree. The community seed bank was established less than one year before project completion as a pilot to collect and conserve seed from farmers as most (95%) of the seed supply bought by the Government to conserve in the Genebank and to provide to other farmers comes from them. The Government considers community seed banks as an important way of meeting seed demands while at the same time conserving local seed diversity. The Project therefore supported the establishment of the community seed bank as a pilot. It is basically a display, and even as a display, many improvements could be made (labeling is very inadequate, there is no record keeping of where seeds came from or of their characteristics). The seed

bank includes both traditional varieties as well as exotics, but these are not labeled as such. In short, it is not, as the TET was incorrectly informed by both NBC and the District DOA Officer, a place where farmers bring seeds and can buy seeds, and where seeds of all traditional varieties in the region are kept along with records of where they were obtained as well as a complete description of their characteristics. The community seed bank is an example of where the project should have sought outside expertise if such a venture were to be pursued, as the expertise for this does not exist in Bhutan. Immediately following the TE mission, a mission was expected from BI and the expert from that organization planned to visit the community seed bank. This should help to ensure that if the idea of the community seed bank is to be pursued, the effort will begin with a clear definition of the purpose of the seed bank and how it is to operate and document holdings. The evaluation strove to provide evidence-based information that is credible, reliable and useful. In order to obtain this information, the practice of triangulating findings through *multiple lines of evidence and the use of* gathering the same type of information from different types of stakeholders was used, as was the practice of asking the same question in at least two different ways. LESSON # 7.Asking questions in only one way, and of only one type of stakeholder, may result in inaccurate interpretation of information, not due to lack of cooperation on the part of the interviewee, but rather to different understandings of what is intended.

75. Because by far the greater focus of the project's ex-situ conservation efforts was on the AnGR and PGR Gene Banks, and not on the community seed bank, the rating assigned by the TET for effectiveness of ex-situ conservation efforts is HS.

EFFECTIVENESS OF MAINSTREAMING AGROBIODIVERSITY INTO AGRICULTURE AND LIVESTOCK DEVELOPMENT PROGRAMMES (MS)

Output 2.4 Agriculture and livestock sector *programmes*[9] integrate agrobiodiversity conservation issues.

76. The project's efforts to mainstream agrobiodiversity into agriculture and livestock development programmes consisted of efforts to establish nucleus herds of indigenous livestock breeds (including pigs, sheep, and chickens), efforts to market buckwheat by DAMC. The project's efforts to establish Nucleus Herds of traditional breeds of sheep, pigs and chicken were ineffective. The idea was to establish herds from which breeding stock could then be shared as necessary with farmers to ensure they had access to pure traditional breeding stock and to ensure that genetic diversity of these traditional breeds was maintained on farms – i.e., this was an approach to ex-situ conservation to be used to complement in-situ activities of farmers. The approach was to establish these herds at Government institutions, establishing a nucleus herd of indigenous pigs at the NPBC, a nucleus herd of sheep at the NSBC, and an indigenous chicken breeding facility at RNR-RDC (Jakar).

77. The NPBC is now desperately trying to get rid of the pigs bought through the project because it cannot afford to continue to feed them. The Program Director of the NPBC stated that given the new focus on development ("as opposed to conservation"), that the NPBC could no longer afford to include activities on indigenous pig breeds as they were not economically viable, and if a nucleus herd of indigenous pigs is to be kept, this would have to be taken up by NBC.

78. Many of the chickens at the RNR-RDC bought with project funds died due to inappropriate climatic conditions for them where the Research Center is located, and due to poor design of the facility built for them with project funds. At the end of the project, there is still no breeding stock that can be shared with farmers and we are still no closer to understanding if there are, as supposed, 8 distinct breeds or far fewer than this because no genetic characterization was undertaken.

9NOTE: Although the output refers to policies, all the indicators and targets refer to programmes, thus the TET understands this output as referring to programs not to policies and changed the word accordingly in this presentation.

79. The nucleus sheep herd was disbanded at the outset of the ILCP project as a result of a decision taken by the MoAF

80. Of all the efforts, the nucleus herd of Nublang is the most successful, but even in this case, there is no knowledge of how pure this herd really is as no genetic characterization has been undertaken. The herd existed before the project began. The project's role included paying for Nublang bulls to be provided to farmers in several Districts, supporting inclusion of Nublang at Biodiversity fairs and expos, and providing support to a Nublang conservation seed fund in collaboration with the DOL. Altogether, project efforts to establish nucleus breeding herds were ineffectual.

81. On the other hand, the TET considers that certain commodities are now effectively conserved through the efforts of the District DOA and DOL staff working with farmers in their Districts to support continued raising of traditional breeds of chicken in the Districts of Trashigang and Pemagatshel, and continued cultivation of traditional varieties of soybean in Trashigang and rice varieties in Tsirang. DOL efforts to support yak herders in Bumthang have also been helpful, although not strategic (as will be further elaborated upon in another Section of this report). The above successes can be attributed directly to project support to the DOL and the DOA which enhanced their awareness and capacity to help farmers to conserve indigenous agrobiodiversity.

82. In regards to efforts by DAMC to market traditional products, the DAMC provided some support to several groups to build them sales counters where they could sell their products. TET considers this to have had little effect. The biggest successes are with soybean and buckwheat. Although buckwheat flour is being marketed now on a commercial scale, and although DAMC is promoting greater production (to reach 75 tons by next year), the sale of this flour is currently not economically viable. The Government is highly subsidizing the flour, paying all the cost of processing, packaging and transportation. The project was not involved in that effort but rather in developing a few new and good buckwheat products and marketing these locally, with most sales being on a pre-order basis, as well as selling to visiting tourists who come to visit the sales counter built with project support through DAMC.

EFFECTIVENESS OF PROJECT EFFORTS TO IMPROVE YIELD OF TRADITIONAL VARIETIES/BREEDS (MS)

Output 3.1 Yield of traditional crop varieties and livestock breeds improved through breeding and cultural improvements.

83. There were mixed results in terms of the project's effectiveness to improve yields related to indigenous livestock breeds. The approach of the project was to enhance yield by increasing the number of animals. In this regard, the project identified a select group of farmers who were considered "breeder farms" for indigenous pigs and indigenous poultry, and provided them with breeding animals and chicken sheds and pig sty. At the end of the project, none of the breeder farms have sufficiently large populations to be able to provide other farmers with piglets and pullets as was intended. In the case of chickens, at least, the reproductive cycle is short enough that one could have expected a better result by this time. However, most multiplier farms do not have sufficient birds to supply to other needy farmers and are still building their stocks to ensure they maintain a minimum of 100 parent stocks. One poultry farmer group, the Chummung Group in Pemagatshel District, does have breeder farmers who have already begun supplying pullets to other farmers in their group.

84. The project also provided a few yak and Nublang bulls as well as stallions of indigenous horse breeds to target communities to try to enhance breed purity and to ensure genetic diversity within those herds. This has been a long-standing practice supported by the DOL long before the project. Details are

kept by DOL and NBC on the breeding bulls, stallion and their progenies, but there is no monitoring other than keeping records of the number of animals, to enable determining whether this effort is having the desired effect of enhancing breed purity. Project beneficiaries interviewed by the TET indicated that this effort has helped them, in part because the Government buys animals from them. The TET believes this project support was helpful although clearly not innovative or out of the ordinary type of support normally provided by the Government.

85. The effectiveness of the project's efforts in improving traditional crop yields was greater. The project provided those farmers interested in growing traditional varieties of certain crops with the necessary seeds to do so, obtaining the seeds from other farmers who grew them. This was a good approach, enhancing pride and providing incentives for those who grew the traditional varieties. The project also strove to enhance seed quality by training farmers on seed selection, and strove to improve management practices (through training on safe storage of seeds, composting, and preparation of bio-pesticides and bio-fertilizers). According to project data reviewed by the TET (most of which was not compiled and not easy to glean information from), as best as we can determine, the project was effective in increasing production (which had been on the decrease prior to the project) of soybean, buckwheat, barley, millets, mustard, and rice. This appears to be sustainable as farmer groups interviewed by the TET indicated they not only plan to continue cultivating these varieties but also plan to expand the area under production, and more farmers are interested in joining or forming their own groups to grow and market these varieties. It would be most helpful if NBC could compile quantitative data on all of the above. This was, unfortunately, not possible for the TET to do with the data available at the time of the TE.

EFFECTIVENESS OF CREATING INCENTIVES FOR FARMERS/HERDERS TO RAISE INDIGENOUS CROPS/LIVESTOCK & OF IN-SITU CONSERVATION EFFORTS (MU)

Output 3.2 Traditional varieties and breeds have access to new and larger markets.

86. The marketing assessment study commissioned by the project was not very helpful. It was far too general to be of practical use, in many cases suggesting what was already obvious. The TET attributes the lack of utility of the product with the lack of direction provided in the TOR and the scope of the marketing assessment which was far too comprehensive. A serious attempt to assess the potential products and markets and to develop a plan to pursue those would have focused on each individual commodity and different expertise would have been sought for each. Instead the market assessment was to do this for all the commodities of focus of the project and a single consultant was hired to do the job.

87. More might have been accomplished if the PMU had involved the private sector to a greater extent, and perhaps contracted international expertise related to the development of niche products for international markets. The project could have also benefited from involving other organizations in Bhutan experienced in product development and marketing (such as for example, BioBhutan). Involving those with marketing expertise to a greater extent in the project instead of attempting to do so much themselves would have been beneficial. The project did partner to some extent with DAMC, but this involvement was quite limited and not very innovative.

88. Greater emphasis on quantifying costs and benefits of raising/growing traditional crops/livestock as compared with exotic varieties/breeds would have been beneficial in enhancing the effectiveness of the project's efforts to create incentives for farmers to grow these, as would the development of a few materials which Extension agents and others could have used to present this comparative cost/benefit information to farmers and herders in a way they could easily understand. The project recognized that awareness alone is not sufficient for farmers/herders to conserve traditional varieties/breeds and that they must benefit economically from doing so, but fell short of quantifying the real costs and benefits

associated with each of the commodities of focus and comparing these with the alternatives available to farmers/herders. LESSON # 8.

89. Although the project was successful in developing new products from buckwheat, barley, and soya, and also in enhancing marketing for these products as well as enhancing the marketing of eggs from local chicken breeds (further detail on the aforementioned is provided below), other than these efforts, not much was done to develop new products associated with other traditional crop varieties/livestock breeds, and the markets for these are small-scale, normally local markets with occasional marketing opportunities pursued in Thimphu.

90. Some missed opportunities include what the TET believes could have been important sources for generating income for project beneficiaries with good replication potential for benefitting others in future. Two such missed opportunities include development of community-based agro-ecotourism, and development of yak soft cheese for both export to niche markets in Europe and other regions, as well as for sale to hotels and other outlets nationally in Bhutan.

91. In regards to agro-ecotourism, the TET assessment is that there appears to be a good market for community-based agro-ecotourism, yet nothing was done to explore this possibility. The TET requested a meeting with the Nature Recreation and Ecotourism Division of the MoAF who it turns out has been discussing ecotourism, including agro-ecotourism with IFAD, and it is now pursuing the development of an agro-ecotourism project to be supported through the IFAD project. The Nature Recreation and Ecotourism Division is enthusiastic about this opportunity and believes there will be a good market. Other than collaborating with the Wangchuck Centennial Park in Bumthang to organize a Nomadic Festival in 2010 which showcased a variety of yak and buckwheat products, the project had no contact with that Division of the MoAF over the project lifespan, and missed, we believe, an important opportunity for a new source of generating additional income for farmers/herders related to agro-ecotourism, especially since the community-based ecotourism model already exists in Bhutan. The country's first community- based eco-tourism trail, the Nabji-Korphu trail in Trongsa was opened in 2006 and is successful. RECOMMENDATION # 2.

92. Anticipating the new (still in draft) Financial Inclusion Policy which specifies that all loans to farmers are to be provided at a certain interest rate through the Bhutan Development Bank, the project might have thought of incentives it could propose to encourage farmers to cultivate traditional varieties, such as perhaps suggesting that those farmers/herders who apply for loans to cultivate traditional varieties/breeds would have access to loans at a lower interest rates. This is another example of thinking outside the box.

93. There appears to be a good probability that the conservation supported (although not catalyzed or initiated by) the project will be sustained for at least certain traditional crop varieties, as evidenced by their inclusion in National, District and Gewog proposed work plans and budgets for the next five years. For example, indigenous minor cereals such as finger millet and foxtail millet (which were deleted from the project scope following the MTE), now form a part of these five-year plans which direct agricultural investments of Government resources. This is true of the MoAF Five Year Plan and has also been translated to the District level with millets included, for example, in the Pemaghatshel District level plan and budget according to the DAO there. Another good indication that the conservation of these crops will be sustained is that research on some of the traditional crop varieties such as barley, buckwheat, soya beans, and millet was not being done by the RNR Research Centers prior to the project. This research now forms an integral part of the regional RNR Research Centers' research programme. As another example, buckwheat is now included as one of the Government's identified commodities within the commodity approach and several new buckwheat products have been developed, albeit only being produced at present on a small-scale and only on a pre-order basis. The area under cultivation of certain

traditional varieties of crops including barley, buckwheat and soya has increased over the project period, as has the number of farmers growing these according to information provided by NBC in response to a questionnaire developed by the TET to obtain this information.

94. The project's efforts to ensure the in-situ conservation of soybean have been particularly successful. The project helped form the group in the village of Yobinang (comprised of 34 farmers) where soya beans used to be farmed but where these were no longer farmed due primarily to soil fertility problems. The project initiated a group savings scheme (to which households contributed Nu 100/ per sale of soybean products), improved seed quality and distribution, improved soil quality, and improved products through improved processing, packaging and marketing. There is now a demand for these soya products in the local market, however, the volume of production is still low. The project reports that 360kg of soybean was sold in two seasons (2009-11), which for the group is a very significant success. The project further reports that the group has earned a total income of 17,400, of which Nu.6600 has been deposited as group savings. Because of the success in this village, soya bean production will now be encouraged by DOA and NBC in another area where the soil quality is even better.

95. Buckwheat has always been cultivated by farmers in Bumthang, but was not cultivated in Jalikhar village (which had shifted to potato cultivation). The project encouraged some farmers from Jalikhar to cultivate Buckwheat, forming a group of 7 farmers in 2008. The group has grown by two members since that time. They make Buckwheat flour and cakes. All members of the group participated in an Expo of their products in two other Districts (Haa and Paro) where they earned substantial income. Most of their product is sold through advanced order, although some is also sold at the sales counter located at Chamkhar. The members sold product worth Nu. 240,000 and now have a savings account with Nu.30,000 ($5455). Buckwheat flour was not readily available in the past. Now, with the formation of the group, flour is readily available. Presently the group cultivates buckwheat on 15 acres of formerly fallow land. In addition they supply seeds to 20 other farmers who plant it and supply buckwheat grain back to the group. The group processes and markets the products. Within the same district, farmers from Ura Geog (another block) have approached the District Agriculture Officer (DAO) to ask for support (seed and other inputs) to help them cultivate buckwheat on 1,000 acres. The DAO has indicated it will provide inputs for them to cultivate 400 acres. The impact of the project has been felt not just in Choekhor, but throughout the District. The area under buckwheat cultivation has increased from 434 to 907 acres over the project period, and the production of buckwheat has increased from 340,400 kg to 531,000 kg (as of December 2012).

96. Project support to barley farmers in Bepsur village in Bumthang District has been very effective. The group comprised of 10 members, received training and some equipment to make excellent barley cakes, flour, bread and pasta. The group sold products worth Nu. 102,500. The one shortcoming was the lack of equipment to dry pasta in order to be able to make dried pasta for sale.

97. The project experience with marketing traditional rice varieties in Tsirang was also a good success. The project intervention effectively cut out the middle man, and gave these rice farmers access to new markets (in Thimphu). Replication of this model took place, thereby enhancing effectiveness even further. The AEO in another village, learning of this experience, supported farmers in his area with the same marketing strategy, and the ADAO in Bumthang also replicated marketing practices of buckwheat products with barley farmers he helps in other villages.

98. Project efforts to support the production, labeling and marketing of eggs of traditional breeds of chicken and to help form new farmer groups were successful in several areas (Chimung, Udzrong), and appear to be sustainable without further external assistance.

99. Just as in the case of some of the traditional crops, there also appears to be a good probability that certain indigenous livestock breeds, in particular, Nublang cattle, will be conserved but this is not a direct result of the project efforts. The conservation of the Nublang appears to be secure mostly because of its milk production potential. Because of this potential, the commitment of the National Dairy Development Center (a new Government center that must focus on increasing milk production) to this breed is strong. Although the project provided support to develop the NCIS database, more could have been done by the project to identify those populations of Nublang which are pure and to identify strategic conservation populations/pockets.

100. The situation regarding yak, the other livestock breed that was retained after the MTE, is less clear. It would have been helpful for the Project to compile basic data such as total number of yak herds in the country, the herd populations of each of these, their distribution including how close they are to roads, the interest level of the herder in continuing to raise yak, etc.., and based on this information, have prepared a plan of action for the conservation of yak, prioritizing certain specific populations and addressing their priority needs.

101. The TET met with the group of Yak herders in Choekhor (Bumthang), one of the two yak groups formed in 2008 and supported by the project. The project provided support for the group to be formed (establishing good Bylaws and a group savings system and providing seed monies to capitalize it), and provided basic equipment (butter churners/cream separators) which helped reduce the need for labor, an increasing constraint as more people move from the countryside to the cities. Although the group expressed great gratitude to the project for its support, no new yak products or markets for yak products were developed. Although the project provided a "sales counter" in the closest town in an attempt to facilitate marketing of products, this was not used by the yak herders as they themselves (without the help of the project) found a middle man to market their products more cost-effectively.[10]The District Agriculture Officer also helped the group himself by taking their products to market in Thimphu whenever possible. The group reports that their income has increased very slightly since the project began, but they attribute this to higher prices. One notable success is that the group does have savings which it didn't have before the project. Nevertheless, the problems and threats which existed at the beginning of the project continue to pose problems. Community grazing lands continue to be degraded, predation continues to pose a real problem (the group lost 35 yak last year to predators), and the middleman who is bringing yak products from China to sell in local markets at lower prices is still operating. The possibility of further developing the product and the market for soft yak cheese was, unfortunately, overlooked by the project despite the fact that it is a good quality product already being produced by yak herders and despite the fact that there appears to be good market potential for it (more of it is being sold to hotels in Bhutan, and, given the interest in cheese in many European countries, the United States, and elsewhere, there may well be a good market for yak cheese which would be a novelty and could fetch a good price). This was a missed opportunity as was the potential market for agro-ecotourism related to yak herding combined with other traditional farming and ecotourism activities. The project did not investigate these. The TET questions why the yak herders in Sephu were not included in the project as their location with immediate access to the road and therefore to markets, and the large size of their herds, seems to suggest that their involvement in the project could have been strategic (especially if the soft yak cheese product were to be pursued).

10 There were also contradicting reports of why the sales counter was not used including that the space was not big enough to be shared with the vegetable group which took most of the room, the yak group had not invested labor in the construction of the building, the yak group did not agree to the terms proposed by the project in that they should sell their products to the buckwheat group for them to market on their behalf. As despite the TET's best efforts to discern the real reason for not using the sales counter, a clear picture of the reason was not found, the TET assumes that the reason stated by the yak group is the main reason why the sales counter has not been used.

102. The TET also met with a group of horse herders (even though the project dropped horses after the MTE). The group was formed 9 years ago (well before the project began) and has a total of 41 horses of the Yuta breed. The NHBP has supported this group over the years, buying stallions from the group to provide other groups with breeding stock, providing the group with additional stallions, and providing fencing material and pasture seeds. The project supported the group in these same ways, basically replacing the normal Government inputs with project-provided inputs of the same kind. No new products or markets were developed although the group reported that they hired out 9 horses in 2012 to the nearby National Park for tourists to use to carry cargo. The group considered the income derived from that single event as meaningful to them. That opportunity did not come about however because of the project but because of the initiative of the Gewog Administration. With demand placed by the tourism company, the Gewog head coordinated with the farmers for procurement of their horses for use by the tourism company. The project has done nothing to institutionalize that arrangement or to promote the use of the horses in ecotourism despite the fact that the horse group lives inside the National Park and an important trekking trail passes through their land. The problems this group encountered at the beginning of the project are still their main problems which have not been resolved by the project, i.e., loss to predators (the group lost 14 foals this year and 11 last year), lack of enough grazing land and continued degradation of grazing lands. The group was unaware that other horse groups raising traditional varieties existed in the country, believing themselves to be the only such group.

103. It is not clear if this is the case for all four indigenous horse breeds or only for some of these, but according to interviews which the TET conducted with the National Horse Breeding Program, as of 2013 it will focus exclusively on local breeds (as opposed to its previous focus exclusively on exotic breeds).

104. Whereas the conservation of Nublang, and horse breeds seems to be secure (although not entirely or even primarily as a result of project interventions), indigenous sheep and pig breeds appear to be at significant and increasing risk, and indeed their populations have continued to decrease over the project period. In the case of sheep and pigs, the project interventions were not effective.

105. Although clearly the project had success in developing a limited number of new products and new markets, much more could have been accomplished in this regard and some obvious opportunities were overlooked and some potentially important partners not included. Project inputs were largely traditional with little innovation and not enough thinking "outside the box" and reaching out to those with expertise in low volume/high value international niche markets. SEE LESSON # 14. The rating assigned by the TET for the project's effectiveness in creating new products and new markets and developing new incentives for farmers to grow/raise traditional varieties/breeds is therefore MU.

EFFECTIVENESS OF THE PROJECT'S AWARENESS BUILDING EFFORTS (HS)

Output 3.3 Farmers, agricultural and livestock sector professionals and the general public are aware of the contribution of agro biodiversity conservation to food security and self-sufficiency.

106. Farmers are taking greater pride in traditional crop varieties and indigenous livestock breeds as a result of cost-effective activities sponsored by the project such as biodiversity fairs and Expos. One DOA's efforts resulted in the group of buckwheat farmers preparing food served at the Royal wedding, a very prestigious event which helped to raise the level of pride and awareness of these traditional varieties. This pride will help ensure sustainability of the conservation effort. Realizing this, the District Administrations themselves are supporting expos and biodiversity fairs to enhance awareness even further. As an example, the group of barley farmers from Bepsur (in Bumthang) participated in a biodiversity fair in December with support from the District and from NBC (but with no project support). Although farmers are clearly taking more pride in the traditional varieties, the TET believes it would be helpful for the terminology commonly used in the country by Extension Agents and others to be modified

so that this pride is translated better when referring to varieties and breeds. At present the most common way of referring to these is "local" varieties versus "improved" varieties. This terminology may unintentionally send the opposite signal of that which is desired. Perhaps the term "exotic" or some other term could be adopted instead of "improved".

107. The project supported village gatherings to discuss agrobiodiversity, student visits to NBC facilities, a seminar at CNR on agrobiodiversity, trade shows, expos, food fairs, and the production of publications including two very good books – one on indigenous livestock breeds and one on indigenous crops that had been written but not published (the project paid the cost of publishing them), a television documentary, radio programs, two DVDs, leaflets, posters, poems and songs. The project jointly sponsored a biodiversity fair to celebrate the "International Biodiversity Year (2010) in which agrobiodiversity conservation was featured along with the conservation of nature.

108. All those interviewed by the TET confirm that awareness levels have significantly increased as a result of the project's efforts. The TET assigns a rating of HS to the effectiveness of the awareness enhancing effort.

EFFECTIVENESS OF CONSERVING CROP WILD RELATIVES (U)

109. Note: No expected Output in the revised logframe mentions the conservation of wild relatives. Nevertheless, there are Indicators and targets associated with the conservation of wild relatives which are associated with Output 2.2, and therefore the TET has included a section evaluating the effectiveness of project efforts to conserve wild relatives.

110. The Project was not effective in conserving crop wild relatives (CWR). The TET believes that the project design, even in the revised logframe, included unrealistic expectations regarding what the project could do with the given time and resources and institutional capacity existing at the time. The original intent of the project regarding what was to be done on CWR was very unrealistic indicating that, "At the end of the project, all wild relative species that are not already represented in the protected area system have been conserved in situ, either through modification/extension of the protected area systems or through land use agreements with local authorities." As agreed with UNDP, this evaluation focuses on the revised logframe. The revised target and indicator are not a huge improvement, leaving much to interpretation. The indicator is given as, "study on two CWR", the target is, "at least two CWR assessed and conserved in-situ. This is an example of "you get what you ask for". The indicator and the target is so vague that the project's assertion that, "studies on five CWR species have been initiated and four Interim in-situ conservation sites identified" must be accepted. However, the only work done on wild relatives which the TET is aware of is that the Project Manager located wild rice in one Government Reserve Forest, *Vigna sp*. in 2 sites, and a wild relative of buckwheat in a farmer's field.. The relevant authorities and the farmers were informed of the finds but other than this, not much was accomplished. The knowledge regarding crop wild relatives and the conservation status of these wild relatives is not, in the opinion of the TET, any better off today than it was at the beginning of the project.

111. The approach to identify where CWR existed was to partner with the National Forest Inventory (NFI) who would undertake this effort as part of their sampling of forest plots. The project should have assessed whether this was really the best way to gather info on wild relatives given NFI does not have the required taxonomic capacity to identify wild relatives, and the timing of the NFI was not scheduled until almost project end. Furthermore, if this partnership was to be pursued, it would have required, at the minimum an input from NBC with a list of what the wild relatives were that NFI should be looking for. Such a list was never provided. Neither NBC nor the Department of Forests have the taxonomic expertise to be able to identify CWR, and no effort was made to contract external expertise for this purpose.

EFFECTIVENESS OF RESEARCH SUPPORTED BY THE PROJECT (U)

Note: There is no specific Output related to research, but because the project supported research, the TET felt this should be included in the assessment of effectiveness.

112. Genetic characterization is lacking for some of the traditional livestock breeds of focus, meaning that we don't really know exactly what we are conserving and can't really be sure if this is of either national or global significance. Following the MTE, genetic characterization was dropped from the logframe. This was a mistake as it would have perhaps been more cost-effective to find out if conservation efforts were warranted for some breeds/varieties before initiating this efforts, especially for those that are not immediately threatened (such as the chicken,…) On the other hand, it would have also been important to determine genetic characterization of some that do seem to be immediately threatened, such as the pig, while at the same time initiating the conservation effort.

113. Research supported by the project included a study on chickens done by the RNR-RRC in Jakar, one on milk production of Nublang cattle done as a M.Sc. thesis, and one on genetic characterization of pigs done as a PhD thesis. The research on chickens was fraught with problems. Thus, at project end, there are no usable research results. Furthermore, as the genetic characterization of the chickens is not known and the project did not support this type of research, it is not possible to know, even after investing in research and conservation efforts, if there are indeed 8 local chicken breeds (as is generally believed) or fewer. As a result, it cannot be known if we are directing research and conservation efforts at breeds that merit this effort or not in terms of their importance to conserving indigenous animal genetic resources. The M.Sc. research on genetic parameters of milk yield in Nublang cattle was helpful in that it has practical potential for improving milk yield in Nublang. The research which the project supported on indigenous pigs does not arrive at any conclusion as to the true number of indigenous pig breeds in Bhutan, so, as with the case of chickens, the question is still there (as it was at the project beginning) as to whether there are four indigenous pig breeds or less than this. Since the indigenous pig will likely be one of the breeds most at risk with the new development mandate of the DOL, this is a serious shortcoming.

3.3.3 Impact

Review of Outcomes to Impacts

114. The GEF recognizes that, given relatively short project time frames (most projects averaging 3 to 5 years), many GEF-supported projects will not fully achieve the desired impact within the project period. To describe the likelihood that expected project outcomes will eventually be translated into intended impacts, the UNDP/GEF Evaluation Office recently outlined the "Review of Outcomes to Impacts (ROtI)" methodology which provides an indication of the overall likelihood of achieving the desired impact through evaluating both the achievement of outcomes as well as the progress towards intermediate states. The methodology uses an A to D rating scale to rate achievement of outcomes and to rate progress toward what is referred to as "intermediate states". The overall likelihood of achieving the impact is rated with a combined rating. The rating scale is described in full in Annex 1.

TABLE 7: REVIEW OF OUTCOMES TO IMPACTS AT PROJECT END

Component	Findings	Review of Outcomes to Impacts
Outcomes		
Outcome 1: At a systemic level, the capacity of the MoA is adequate to mainstream agro-biodiversity conservation into the attainment of food security and self-sufficiency.	Policies have been drafted and some are at advanced stages of preparation with one in line for Cabinet approval but none have yet reached the stage of formal adoption, although indications are that this is likely. Thus, the measures designed to move towards intermediate states have started, but have not yet produced results.	AC: Likely
Outcome 2: Capacity of MoAF agencies (NBC, and Stakeholders) strengthened to support farmers in agro-biodiversity conservation	PGR and AnGR Gene Banks are functional with significant number of new accessions, enhanced documentation, and with all the basic equipment required for effective ex-situ conservation efforts. NBC now has technical capacity in cryopreservation, PGR characterization, documentation and equipment maintenance. DAO and DLO Extension Agents are trained in agrobiodiversity conservation techniques. DAMC has incorporated marketing of some products of traditional crop varieties in their efforts. The NLBP (now the National Dairy Development Programme) continues to breed Nublang (but indigenous pigs are now excluded). The NHBP will now focus exclusively on indigenous horse breeds, dropping their former focus on exotic breeds. Crop Wild Relatives (CWR) have not been included in the National Forest Inventory and it is unlikely they will be anytime soon as the capacity to do so does not exist within the DoF.	BC: Moderately Likely
Outcome 3: Farmers benefit from sustainable utilization of traditional varieties and breeds of IGR	Public awareness regarding the importance of Bhutan's agrobiodiversity and the importance of conserving this in order to achieve food security and greater self-sufficiency has increased. In some cases, for some products and for some farmer groups, revenue from these has increased, whereas this is not true for all the commodities of project focus or for all the farmer groups. Likewise, in some instances (for some crops and livestock breeds) there have been increases in yield, whereas there have been no increases in other cases. Although some information exists, quantification of yield has not been thorough, making it even more difficult to assess this. Some new products and some new markets have been developed for some commodities, whereas others are basically in the same situation they were in at project start. In some cases, the measures designed to move towards intermediate states have started and are producing concrete results, whereas in other cases there are no concrete results as of yet.	BC: Moderately Likely

According to this review of outcomes to impacts using the ROtI method, the overall likelihood of impacts being achieved is one case (33%) of "Likely" and two cases (66%) of "Moderately Likely". Thus, using this methodology, the Project is moderately likely to contribute to the global environmental benefits described in the objectives it set out to achieve.

3.3.4 Relevancy

115. The project was highly relevant within the Government's biodiversity conservation objectives as well as within the broader national development objectives from its inception to its end. It was well aligned with the four mail pillars of Gross National Happiness, with Renewable Natural Resource (RNR) sector goals as described in the 10th Five Year Plan, including "enhancing food security" and "enhancing sustainable rural livelihood through income generating opportunities", and with Bhutan's "Vision 2020" ("poverty alleviation" and "achieve a 3-fold increase in real incomes of farmers by 2012"). Conserving agrobiodiversity within the broader context of enhancing food security and self-sufficiency, and ensuring access to benefit sharing is an integral part of the Government's (draft) 11th Five Year Plan (2013-2018). Even though the project was developed under GEF-3, and financed under GEF-4 (and was relevant under both), its development objectives are still highly relevant under GEF-5 (Objective 2) "Mainstream biodiversity conservation and sustainable use into production landscapes/seascapes and sectors", and within this objective, to the Outcomes to "strengthen policy and regulatory frameworks" and to "produce biodiversity-friendly goods and services". The project was relevant to the UNDAF (UNDAF Outcome 5: By 2012, national capacity for environmental sustainability and disaster management strengthened), and to the MDGs (MDG 7: Ensure environmental sustainability), and to UNDP's focus on mainstreaming poverty alleviation and gender equality. The project's efforts remain relevant in the face of significant risks which continue to threaten Bhutan's indigenous agrobiodiversity.

3.3.5 Country Ownership

116. **Country ownership of the project is deemed HS.**There was full country ownership of the project and its objectives. NBC has clearly adopted agrobiodiversity conservation as being part of their core program. Country ownership was very strong in part because the project design was well aligned with the country's development goals as described in the previous section. The project is well aligned and consistent with the 2008-2012 United Nations Development Assistance Framework (UNDAF) and the 2008-2012 Common Country Programme Action Plan (cCPAP), another important indicator of country ownership as UN assistance to a country must accurately reflect the country's development priorities and is jointly developed by UN agencies and Government.

117. Adoption of enabling policies is another important indicator of country ownership. The project itself supported the elaboration of several important policies, most of which are in advanced stages of preparation and one of which (the National Food and Nutrition Security Policy) is awaiting Cabinet approval. Although it is premature to know, indications are good that, at least in the case of the National Food and Nutrition Security policy, that it will be approved (as per TET communication with the PPD).

118. The financial commitment which the government initially made to the project during the design phase (indicated by means of co-financing letters provided by national counterparts) compared with the actual financial commitment which the government has maintained throughout project implementation is another important indicator to assess the country's ownership of a project. In-kind co-financing by the MoAF at the time of prodoc signing was anticipated at US$750,000 but in actuality reached US$ 2,074,500, more than twice the amount originally envisaged.

119. The financial commitment which the government will continue to make to agrobiodiversity conservation after project end is another important indicator of country ownership and clearly also affects

sustainability of project results. This is covered in the section immediately following this one (Section 3.3.6).

120. Government staffing related to the project objective is another indicator of country ownership. There are positive changes in the staffing of NBC related to agrobiodiversity, with an additional two staff now involved in agrobiodiversity conservation in NBC compared with what existed at the beginning of the project. Two additional staff (one in AnGR and one in PGR) was brought on specifically because of the project and are now core NBC staff. This will enhance the long-term impact of the project in terms of continuity and up-scaling of agrobiodiversity conservation activities in the country.

3.3.6 Sustainability and Project Exit Strategy

121. **Overall likelihood of sustainability is ML**. According to GEF guidelines, sustainability is based on several dimensions including financial resources, socio-political considerations, institutional framework and governance factors, and environmental factors. Each risk dimension of sustainability is deemed to be critical and therefore, according to GEF guidelines, the overall rating for sustainability cannot be higher than the rating of the dimension with the lowest rating.

TABLE 8: ANALYSIS OF RISKS THAT MAY AFFECT PERSISTENCE OF PROJECT OUTCOMES

Financial Resources Risks (Moderately Likely – ML)
The main thrust of the Government's financial resources directed at agricultural production, as one might well expect, is not to conserve indigenous breeds and cultivars (even if there is recognition of the importance of doing so in the medium and long-term), but rather to enhance food security and self-sufficiency in the immediate and short-term, and the trend is clear that the "development mandate" and the "commodity approach" adopted by the Government will result in financial resources being directed primarily at exotics and not at traditional varieties/breeds. This will result in increased threats to indigenous varieties unless these can become competitive with exotic ones. Lack of adequate financial resources is likely to pose a significant threat in the case of certain crops and indigenous livestock breeds while others appear to either not require continued financial support or will receive this support. There is a continued financial commitment for several varieties/breeds. The National Horse Breeding Center will now focus its efforts on indigenous horse breeds rather than on exotic ones. The National Dairy Development Center has committed to continue supporting the conservation of the Nublang because of its good milk production potential. The 11th Five Year Plan of the MoAF now includes "minor cereals" (some of these are indigenous crop varieties which were not previously included in previous plans). A GEF project is planned for the Northern Highlands which will include some activities which will be helpful in conserving indigenous sheep breeds and yak, but not enough detail is available for the TET to determine if this will be sufficient to ensure adequate financial coverage for these indigenous livestock breeds. Lack of financial resources will not present major impediments to continued cultivation/raising of some indigenous crops and livestock breeds. Enough farmers now find it economically worthwhile to cultivate some traditional crop varieties such as barley, buckwheat, soya bean, and rice, and to raise traditional chicken breeds for sale of eggs (at least in the areas where the project supported these), that continued cultivation of these seems likely. This is not true, however, of all the crops and livestock breeds of focus of the ILCCP. There are some that appear to be at significant risk because of lack of financial resources and lack of farmer interest in them. Indigenous pig breeds appear to be at particular risk.

Socio-political Risks (Moderately Likely – ML)

Awareness level has been significantly raised regarding the importance of Bhutan's agrobiodiversity, the importance to food security of conserving this agrobiodiversity, and some ways of achieving this. Farmers are taking greater pride in the traditional crop varieties and indigenous livestock. This pride will help ensure sustainability of the conservation effort.

A policy framework specifically regarding the conservation of agrobiodiversity including how this contributes to food security and self-sufficiency, and how agrobiodiversity conservation can be incorporated into both crop and livestock development, and how benefits can be equitably shared from this conservation, is now is in advanced stages of preparation, but not yet in place. Even if these policies are adopted (which seems likely at this stage), they exist within a larger policy framework which may possibly promote programmes and practices not totally supportive of this conservation. This does pose a risk, nevertheless, the reality is that the crops and breeds of focus will likely continue in select pockets around the country, even if the bigger focus is on exotics.

Although the 11th Five Year Plan of the MoAF does recognize the importance to food security of conserving indigenous agrobiodiversity, the over-riding pressure given the Rupee crisis and the Government's aim to reduce dependency on food imports, is toward increased food production through a greater focus on certain commodities, almost all of which are *not* indigenous. There are exceptions as noted above.

Farmers who benefited from the project express interest in continuing with conservation efforts. The number of organized farmer groups to conserve traditional crop varieties and livestock breeds has significantly increased over the project period, and in the case of most of the farmer groups, there is interest from others in joining these groups or forming new groups of their own. This enhances prospects for sustainability, especially in certain areas of the country, especially those either very accessible to markets, or those very far from them.

Many new roads are being built around the country, accessing formerly inaccessible areas. The trend is clear—with roads come exotic crops and livestock breeds which pose significant threats to indigenous ones.

Considering all of the above, moderate risks to sustainability of the conservation effort exist.

There is a national election coming up in early 2013 which may affect the socio-political considerations described above.

Institutional Framework and Governance Risks (Moderately Likely – ML)

The capacity regarding agrobiodiversity conservation of NBC, the MoAF including PPD and the technical departments, the District Administrations, Gewog Extension Offices, and farmers has been enhanced enabling more effective agrobiodiversity conservation both ex-situ and in-situ.

Research on some of the traditional crop varieties such as barley, buckwheat, soya beans, and millet was not being done by RNR Research Centers prior to the project. This research now forms an integral part of the regional RNR Research Centers' research programme, enhancing sustainability.

The institutional capacity of NBC was significantly strengthened not only as this relates to agrobiodiversity conservation, but even more broadly in that many new linkages were established with other Government entities with whom NBC might otherwise not have interacted to such an extent, leading to a more effective overall effort. NBC has fully integrated the conservation of agrobiodiversity into their core programme and the institutional capacity of NBC is strong enough to carry on in a catalytic and supportive role advising DOL and DOA on ways to conserve agrobiodiversity.

Nevertheless, NBC does not have the capacity (or the mandate) to be the main implementing entity to conserve agrobiodiversity on farm. If the DOL and DOA fully assume these responsibilities, institutional framework and governance should not pose a serious risk to sustainability. Nevertheless, both DOL and DOA expressed concern regarding sustainability of project activities related to those crops and livestock breeds which are not currently economically viable given the need for them to now focus exclusively on the few identified commodities which are economically viable in keeping with the "development mandate" and the "commodity approach". Many indicated that if NBC does not take the leading role to ensure the conservation of the non-economically viable commodities, these will be at significant risk.
Environmental Risks (Likely – L)
Although Bhutan is experiencing warming temperatures, it is beyond the scope of this TE to assess the extent to which this may impact the conservation of Bhutan's agrobiodiversity. As the TET has no evidence to suggest environmental factors will influence sustainability in the immediate future, we assume these are negligible. Nevertheless, ex-situ collections have been significantly improved through the project efforts and this provides a back-up in case in-situ conservation efforts fail due to environmental or other factors.

Project Exit Strategy

122. Because an effective Exit Strategy can significantly enhance sustainability of project results, this section also provides an assessment of the Exit Strategy developed by the Project.

123. Exit Strategies should be hard-core, realistic analyses of what still needs to be done to ensure the desired project impact is achieved. The strategy should identify and prioritize needed follow-on actions, and develop a plan for pursuing those actions. Exit strategies should place special attention on identifying project outcomes in jeopardy of *not* being sustainable, rather than on trying to convince readers that they *are* sustainable.

124. Development of a meaningful exit strategy requires time and resources and should be considered as an actual expected output of a project. It should be drafted at a stage in the project at which there is still enough time to implement measures to enhance sustainability, normally ¾ of the way through project implementation, with ¼ of the project time still remaining. Exit strategies should define where specific follow-on financial support is critical to sustainability of project outcomes. Exit strategies can include plans to convene donor roundtables (where appropriate, facilitated by UNDP) and other ways to approach donors to determine their interest in supporting identified follow-on actions.

125. Although the ILCCP Project Exit Strategy is a step in the right direction, it doesn't take the project where it needs to be at project end, i.e., with a concrete strategy and plan of action of next steps to ensure sustainability of project outcomes and to address those aspects of the project not yet achieved at project end. For example, in regards to the conservation of indigenous horse breeds, the strategy indicates, "there is opportunity for eco-tourism which will enhance demand for horse and thus it's utility". No such opportunities were actually pursued by the project and the "strategy" does not offer anything concrete in terms of prioritized future actions to ensure the conservation of horse breeds but instead offers a very general statement that is of little practical use. Likewise, the Exit Strategy indicates that, "the marketing strategy will be further improved and opportunity will be explored for its implementation through the formulation of new projects." Will the marketing strategy really be improved? How? By Whom? With what funds? If everything is in place now to improve the marketing strategy, why wasn't it improved during the project? What new projects are being formulated? By Whom? For What? What donors will the proposals be presented to? This level of specificity is required for a concrete Exit Strategy. The project did not undertake an exercise to identify those varieties and breeds which may be most at risk given the focus on the "development mandate" and the "commodity approach". This should

have been considered in the exit strategy. The Exit Strategy does not identify and prepare for future possibilities to pursue to ensure sustainability of project results such as for example, ensuring farmer groups are aware of GEF/SGP options and helping them as necessary to prepare concrete proposals for funding, it has not built the necessary bridges with other relevant initiatives such as the ongoing IFAD project, or with BioBhutan regarding niche markets. SEE LESSON #9. Even though the project has ended, the TET recommends that the Exit Strategy be further elaborated and once finalized a last PB meeting be convened to discuss it. RECOMMENDATION # 3.

3.3.7 Mainstreaming with UNDP Priorities

126. The project was very effective in mainstreaming its objectives with a key priority of both the Government as well as UNDP, i.e., reducing poverty. This project targeted some of the poorest people in the country, living in some of the most remote regions. The project was also successful in mainstreaming its objectives with another priority of UNDP, i.e., gender equality. Most farmer groups formed or supported by the project demonstrated gender equality, or in some cases (e.g., buckwheat and barley groups) were comprised of a majority of women. The project was successful in ensuring gender equality and good participation of women in capacity building efforts, and also in keeping track of the number of women benefiting from the project (both in absolute terms as well as in terms of percentage of total beneficiaries).According to data kept on this by the PMU, 156 women and 399 men participated in capacity building activities, and 156 women farmers and 399men farmers were direct project beneficiaries.

3.3.8 Replicability

127. Cross exchange of information and experience between farmers and between DAO and DOL Extension Agents, and replication of successful project initiatives, has occurred as reported by both farmers and DAO and DOL Extension Agents interviewed by the TET who mentioned that they had learned from the experiences of others. This cross exchange and replication enhances the overall impact of the project, and also enhancing sustainability of the conservation effort. One frequently-cited example of replication is that the AEO in Semjong applied the marketing model which he became aware of from the AEO in Tsirang (who had helped a group of farmers in his District with rice marketing), applying the model to market legumes. Another example provided to the TET is the successful experience marketing buckwheat is being replicated with barley farmers in another village because of the ADAO's awareness of that model. Discussions held with DOL and DOA Extension Agents during the TE suggest that there has been a fair amount of knowledge sharing between Extension Agents with others working in the same field and even with non-direct project beneficiaries. This was facilitated by the regional meetings held for the RNR officials where the success stories and experiences are shared. This appears to be a good mechanism for sharing information and enhancing prospects of replication. It may also be helpful to institutionalize this knowledge-exchange, perhaps in the form of an email group (as all Extension Agents seem to have access to internet).

128. Although the TET believes the cross exchange of information and experience has been good and that the project has made a strong effort in this regard, several cases of lack of sharing of basic knowledge also came to the attention of the TET, with cases of both farmers and Extension Agents not being aware of relevant activities or in some cases, even the existence of highly relevant groups. As one example, the horse herders met in Tang believed themselves to be the only people in Bhutan with this breed of horses, and were not familiar with other organized groups. Similarly, the TET found some lack of sharing of information regarding yak groups.

4. LESSONS AND RECOMMENDATIONS

4.1 LESSONS

129. The key lessons gleaned from this project are presented below in Table 9. Each lesson is cross-referenced to the Section in the report where it first appears to provide the reader with the full context.

TABLE 9. LESSONS THAT CAN BE LEARNED FROM THIS PROJECT

Lesson		Cross Reference
Lesson # 3	Focused projects with specific objectives tend to have greater impact, and normally represent more strategic interventions, compared with projects that try to do it all. Ensuring the scale and scope of a project is consistent with the resources and time frame allocated to it is critical to its success.	Sect. 3.1.1
Lesson # 15	Developing a strong replication strategy ensures that others also ultimately benefit from the project success, but trying to benefit everyone in a single project normally has the opposite result. Although there is often the temptation to include more regions/districts so that more areas can benefit from a project, the result of including too many areas is often a broadening of scope to an extent where project impact is diluted instead of enhanced.	Sect. 3.1.1
Lesson# 11	The indicators and targets as described in a project's logical framework should be seen as the main framework for monitoring the impact of a project, and the M&E plan should be directly based on these. Too often, indicators are not S.M.A.R.T. and therefore are not used to monitor a project. The project's logical framework should not be seen as a document that once developed can be "checked off the list". Rather it is a practical tool that forms the basis for monitoring the impact of an intervention.	Sect. 3.1.3
Lesson # 10	Targets should be established based on meaningful criteria, and these criteria (not just the target itself) should be specifically described. Moreover, establishing timetables whereby periodic monitoring of targets is done is helpful so that it is not just at project end that a project evaluates to what extent targets were achieved.	Sect. 3.1.2
Lesson# 8	Cost/benefit analyses should routinely be done in projects where conservation is dependent upon stakeholders choosing between different ways of earning income (as, for example, choosing to raise exotic pigs or indigenous breeds). These analyses should also consider issues such as cultural values, local taste preferences and other criteria that may not be economic. Results of the analysis should be made available to the key stakeholders (in this case, farmers) in a format easily understood by them.	Sect. 3.3.2
Lesson # 9	Providing guidelines for the development of Exit Strategies by UNDP/GEF may help ensure these are hard-core, realistic, analyses of what still needs to be done to ensure the desired project impact is achieved, and to prioritize these actions. Development of a meaningful Exit Strategy requires time and resources and should be considered as an actual Expected Output of a project. It should be drafted at a stage in the project at which there is still enough time to implement measures to enhance sustainability, normally ¾ of the way through project implementation, with ¼ of the project time still remaining. Exit strategies should be realistic, not utopian. Exit Strategies should define where specific follow-on financial support is critical to sustainability of	Sect. 3.3.6

	project outcomes. Exit strategies can include plans to convene donor roundtables (where appropriate, facilitated by UNDP) to identify donors interested in supporting identified follow-on actions. These strategies should focus on identifying project outcomes in jeopardy of *not* being sustainable, not on trying to convince readers that they are.	
Lesson #14	GEF projects provide a special opportunity to engage in innovative approaches. There is a tendency to use GEF projects to do what is normally being done, only more of it. Innovation may be lacking. UNDP, in its capacity related to knowledge management can help ensure that Nationally Executed GEF interventions are innovative and incorporate lessons learned from other projects around the world.	Sect. 3.3.2
Lesson #12 1	Project Board composition is important to project success. It is a good practice to ensure that expertise is represented from numerous institutions/organizations, not just the Ministry implementing the project, and inclusion of international expertise may be especially helpful in ensuring innovation and knowledge sharing from relevant initiatives around the world in the case of NEX projects. Always try to include a real champion for the project on the PB.	Sect. 3.1.3
Lesson # 7	Asking questions in only one way, and of only one type of stakeholder, may result in inaccurate interpretation of information, not due to lack of cooperation on the part of the interviewee, but rather to different understandings of what is intended. It is important in evaluations to triangulate and to ask the same question in several different ways.	Sect. 3.3.2
Lesson # 2	Whenever substantive changes are made to a project logframe, a list of these should be prepared by the PMU and shared with the UNDP CO and the RTA (not just in the form of a revised logframe, but rather a detailed concise list of substantive changes made). This would be helpful for ease of monitoring and would also help ensure accountability.	Sect. 1.2
Lesson # 6	Building the capacity of an existing institution in country whose mandate is training is normally more cost-effective compared with sending people who would normally go to that institution on short study tours abroad, and has added benefits of enhancing sustainability. Short study tours abroad were helpful in enhancing the capacity of DOL and DOA Officers and Extension Agents, but a partnership with the College of Natural Resources, the institution responsible for training all DOL, DoFPS and DOA Extension Agents, could have been a more cost-effective approach to capacity building in the medium and long-term and would have also addressed the problem of high mobility of DOL and DOA Extension Agents.	Sect. 3.3.2
Lesson # 4	UNDP COs should ensure that PMUs are aware of the GEF project database (www.thegef.org/gef/gef_projects) and how to use it. After a joint exercise to identify the most relevant initiatives (both completed and ongoing), UNDP should facilitate contact between the PMU (or preferably even before this during the project design stage) and those individuals who were/are most involved in the most relevant initiatives in other countries. In order to do this, it is important that the GEF maintain contact information for those individuals, and include this information in the project database. Even in the case of completed projects, email addresses can often be very useful in contacting the main person/s that was involved. This is a very cost-effective tool for sharing lessons.	Sect. 3.1.5

Lesson # 1	Developing guidelines for MTE and TE mission itineraries, and sharing these with UNDP COs, could avoid the fairly common problem of poor mission itinerary planning. Helpful guidance is provided in the Guidelines for UNDP/GEF TE, but further elaboration might be beneficial.	Sect. 1.2
Lesson #13	Good TOR are an essential requisite for good products and project outputs. Although outputs and other deliverables are normally intensively scrutinized, the TOR guiding the development of these deliverables is normally given less scrutiny. It may be especially helpful in NEX projects for UNDP Country Offices to assist in developing strong TOR.	Sect. 3.2.2

4.2 RECOMMENDATIONS

130. The recommendations outlined below are directed at three different parties, NBC, the UNDP CO, and UNDP/GEF, and are intended to be helpful both to this project in ensuring its impact continues to be felt after project end, and to future projects in Bhutan and elsewhere.

Recommendations for NBC

Recommendation # 3: The TET recommends that the Exit Strategy be further elaborated to include elements described below, and that the PMU convene one more PB meeting (even though the project has ended) to discuss the Exit Strategy once finalized.(Section 3.3.6)		
Task	***Time frame***	***Deliverable***
Identify those traditional crop varieties and those indigenous livestock breeds most at risk given the "development mandate" and the "commodities approach", and describe concrete actions that need to be undertaken to avoid this risk.	By 2/13	
Define and describe specific critical populations which should be conserved for each traditional crop variety and each indigenous livestock breed (as an illustrative example, "the yak herd comprised of 632 yak in Sephu owned by Sephu farmers). For livestock breeds, define the minimum viable population required for each livestock breed to be conserved over a specified time frame, the desired number of distinct populations (herds) to ensure maximum genetic diversity, and the specific herders who have herds of the size required. Regarding crop varieties, define where in the county, i.e., what highly specific locations, are best suited for the long-term conservation of these varieties based on defined criteria, define the minimum acreage required to conserve each variety, the number of sites required and the criteria for defining these sites (i.e., altitudinal variation, soil type and climatic variation, etc…). Identify specific "conservation farmers", i.e., those with great knowledge and experience in growing the traditional varieties and with interest in conserving them, and target support to them. Focus conservation efforts exclusively on these specific populations until such a time as resources are not limited and a broader conservation effort can be undertaken. For now, it is essential to prioritize use of limited resources, not to try to conserve all these varieties/breeds everywhere they exist.	By 6/13	

Help those specific farmers/herders who have been identified as having critical conservation populations (as described above) to elaborate funding proposals to the SGP and to other funding sources.	By 8/13	
Recommendation # 4: The TET recommends that the genetic characterization of chickens, pigs, and horses be done as soon as possible and before further resources are invested in their conservation. It is not cost- effective for Bhutan to develop its own capacity to do this genetic characterization at this time, rather samples should be sent to those institutions outside of Bhutan with existing capacity in this regard for them to do the analysis. (Section 3.1.1)		
Task	***Time frame***	***Deliverable***
Find out how much this would cost and what institution/s are best placed to do it.	By 2/13	
Collect the necessary samples and send them off.	By 3/13	
Prioritize conservation actions depending on the results of the genetic characterization.	By 5/13	
Recommendation # 2: The TET recommends that consultations be undertaken with the Nature Recreation and Eco-Tourism Division of the MoAF to discuss specific ways in which agro-ecotourism prospects might be pursued. (Section 3.3.2)		
Task	***Time frame***	***Deliverable***
NBC arrange a meeting with the Nature Recreation and Eco-Tourism Division	Immediately	
Depending on outcome of meeting, perhaps arrange a joint visit to the area IFAD has proposed for agro-ecotourism to discuss a possible joint initiative with NBC and the Nature Recreation and Eco-Tourism Division		
Recommendation # 1: The TET recommends that consultations be undertaken with BioBhutan to discuss specific ways in which low volume/high value international niche markets (especially regarding yak soft cheese) might be pursued. (Section 3.2.1)		
Task	***Time frame***	***Deliverable***
NBC arrange a meeting with BioBhutan to discuss possible development of soft yak cheese product for international niche markets.	Immediately	
Depending on outcome of meeting, determine if it is possible for yak herders in Sephu or elsewhere to benefit from the UNDP GEF/SGP to involve them in this new initiative.		
Recommendation # 5: The TET recommends that consultations be undertaken with the Human/Wildlife Management Section of the Wildlife Conservation Division of MoAF, and with International NGOs with experience in innovative predator management techniques to come up with a viable solution to the depredation problem faced by herders of yak, indigenous horse and sheep. (Section 3.1.4)		
Task	***Time frame***	***Deliverable***
NBC arrange a meeting with HWC Section to discuss possible innovative predator management techniques which could be shared with farmers with indigenous livestock breeds (in particular yak herders, horse herders and sheep herders)	Immediately	
NBC request assistance from HWC and/or UNDP CO to learn lessons from International NGOs with experience in this area.		

Recommendations for UNDP/Bhutan

Recommendation # 6: The TET recommends that the UNDP/GEF SGP in Bhutan ensure that information on the SGP is made available to all DOL and DOA Extension Agents who have worked with farmer beneficiaries of the ILCCP project so that these may apply for support as appropriate.		
Task	***Time Frame***	***Deliverable***
UNDP/GEF SGP Coordinator in Bhutan to prepare flyer to be shared with DOL and DOA Extension Agents informing them about the SGP.	By Feb 2013	
UNDP/GEF SGP to provide a good model proposal to Extension Agents which they can share with farmer/herder groups interested in applying to the SGP.	By Feb 2013	

Recommendations for UNDP/GEF

Recommendation # 7: The TET recommends that as part of project inception workshops, participants review a MTE and a TE report of a GEF project. This will enhance familiarity with the basis on which their own project will eventually be evaluated and should be a simple and practical way of pointing to the importance of defining good indicators and targets.		
Recommendation # 8: The TET recommends that less emphasis be placed on the *presentation* of logframes, and more on their content. Even if this makes them long and messy looking, specificity and clarity is critical. Neat looking logframes that leave too much to interpretation detract from good results. A simple test should be used on each draft Outcome, Output, Indicator and Target – have two people who are *not* familiar with UNDP or GEF terminology but who are experts in the technical field, explain what they understand by each Output, Indicator and Target. If there is common understanding of what is intended, the wording is probably clear and specific enough. If not, more clarity and specificity is required.		
Recommendation # 9: The TET recommends that specific guidance should be provided to PMUs regarding what is to be included in Exit Strategies and that an Exit Strategy should be included as an actual Expected Output in all project logframes.		

ANNEXES

ANNEX I: GEF RATING SCALES

Ratings for Outcomes, Effectiveness, Efficiency, M&E, I&E Execution	*Sustainability ratings:*	*Relevance ratings*
6: Highly Satisfactory (HS): no shortcomings 5: Satisfactory (S): minor shortcomings 4: Moderately Satisfactory (MS) 3. Moderately Unsatisfactory (MU): significant shortcomings 2. Unsatisfactory (U): major problems 1. Highly Unsatisfactory (HU): severe problems	4. Likely (L): negligible risks to sustainability 3. Moderately Likely (ML):moderate risks 2. Moderately Unlikely (MU): significant risks 1. Unlikely (U): severe risks	2. Relevant (R) 1.. Not relevant (NR) ***Impact Ratings:*** 3. Significant (S) 2. Minimal (M) 1. Negligible (N)

RATING SCALE FOR OUTCOMES AND PROGRESS TOWARDS "INTERMEDIATE STATES" USING THE ROTI METHOD

Outcome Rating	Rating on progress toward Intermediate States
D: The project's intended outcomes were not delivered	**D:** No measures taken to move towards intermediate states.
C: The project's intended outcomes were delivered, but were not designed to feed into a continuing process after project funding	**C**: The measures designed to move towards intermediate states have started, but have not produced results.
B: The project's intended outcomes were delivered, and were designed to feed into a continuing process, but with no prior allocation of responsibilities after project funding	**B**: The measures designed to move towards intermediate states have started and have produced results, which give no indication that they can progress towards the intended long term impact.
A: The project's intended outcomes were delivered, and were designed to feed into a continuing process, with specific allocation of responsibilities after project funding.	**A**: The measures designed to move towards intermediate states have started and have produced results, which clearly indicate that they can progress towards the intended long term impact.

NOTE: If the outcomes above scored C or D, there is no need to continue forward to score intermediate stages given that achievement of such is then not possible.

RATING SCALE FOR THE "OVERALL LIKELIHOOD OF IMPACT ACHIEVEMENT" USING THE ROTI METHOD

Highly Likely	Likely	Moderately Likely	Moderately Unlikely	Unlikely	Highly Unlikely
AA AB BA BB+	BB AC+ BC+	AC BC	AD+ BD+	AD BD C	D

ANNEX II: TERMS OF REFERENCE FOR THE TERMINAL EVALUATION

INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP support GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the Integrated Livestock and Crop Conservation Programme (ILCCP) (PIMS # 2911)
The essentials of the project to be evaluated are as follows:

PROJECT SUMMARY TABLE

Project Title:	Integrated Livestock and Crop Conservation Programme (ILCCP)			
GEF Project ID:	2911		*at endorsement (Million US$)*	*at completion (Million US$)*
UNDP Project ID:	48573	GEF financing:	921,985	921,985
Country:	Bhutan	IA/EA own:	400,000	5,000
Region:	Asia-Pacific	Government:	750,000	2,074,500
Focal Area:	Biodiversity	Other:	850,000	690,000
FA Objectives, (OP/SP):	OP 13 – Agro-biodiversity	Total co-financing:	1,600,000	2,769,500
Executing Agency:	National Biodiversity Center (MoAF)	Total Project Cost:	2,897,485	3,691,485
Other Partners involved:	District agriculture & livestock sector (in 8 districts)	ProDoc Signature (date project began):		30 July 2007
		(Operational) Closing Date:	Proposed: 30 June 2011	Actual: 30 June 2012

SCOPE AND OBJECTIVE

The project was designed to contribute to the attainment of food security and self-sufficiency in Bhutan through the maintenance of adequate levels of indigenous agro-biodiversity. Specifically, the project assists in mainstreaming of agro-biodiversity conservation into livestock and crop development in Bhutan.
In order to achieve this objective, the project worked in eight target sites and at the institutional/policy level to overcome the barriers that currently prevent effective mainstreaming of agro-biodiversity conservation in agricultural and livestock development. The project adopted the "Triple Gem" concept of the Ministry of Agriculture and Forests (MoAF) in which value is added to traditional varieties and breeds by improving productivity, developing markets, and facilitating market accessibility.

The goal of the project is to ensure that the attainment of food security and self sufficiency in Bhutan is based on the maintenance of adequate levels of indigenous agro-biodiversity.
The overall objective is to mainstream agro-biodiversity conservation into livestock and crop development policy and practices in Bhutan.
The project initially had seven outcomes and later reduced to three following the MTR recommendations. These are:

Outcome 1: At a systemic level, the capacity of the MoA is adequate to mainstream agro-biodiversity conservation into the attainment of food security and self-sufficiency.
Outcome 2: Capacity of MoAF agencies (NBC, and Stakeholders) strengthened to support farmers in agro biodiversity conservation.
Outcome 3: Farmers benefit from sustainable utilization of traditional varieties and breeds of IGR
The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects. The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

EVALUATION APPROACH AND METHOD

An overall approach and method[11] for conducting project terminal evaluations of UNDP supported GEF financed projects have developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact,** as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR as annex. The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.
The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the GEF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to the project sites, including interviews with the organizations and individuals associated with the project (***location and list of project sites, and stakeholders included in the tentative programme***).

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in annex this Terms of Reference.

EVALUATION CRITERIA AND RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework, which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact.** Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in annex.

Evaluation Ratings:			
1. Monitoring and Evaluation	***rating***	**2. IA& EA Execution**	***rating***
M&E design at entry		Quality of UNDP Implementation	
M&E Plan Implementation		Quality of Execution - Executing Agency	
Overall quality of M&E		Overall quality of Implementation / Execution	
3. Assessment of Outcomes	**Rating**	**4. Sustainability**	**rating**

11 For additional information on methods, see the Handbook on Planning, Monitoring and Evaluating for Development Results, Chapter 7, pg. 163

Relevance		Financial resources:	
Effectiveness		Socio-political:	
Efficiency		Institutional framework and governance:	
Overall Project Outcome Rating		Environmental :	
		Overall likelihood of sustainability:	

PROJECT FINANCE / COFINANCE

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

Co-financing (type/source)	UNDP own financing (mill. US$)		Government (mill. US$)		Partner Agency (mill. US$)		Total (mill. US$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Actual	Actual
Grants	0	5,000						
Loans/Concessions								
In-kind support	400,000		750,000	2,074,500	850,000	690,000	1,600,000	2,764,500
Other								
Totals	**400,000**	**5,000**	**750,000**	**2,074,500**	**850,000**	**690,000**	**1,600,000**	**2,764,500**

MAINSTREAMING

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.
Impact

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.12

CONCLUSIONS, RECOMMENDATIONS & LESSONS

The evaluation report must include a chapter providing a set of **conclusions**, **recommendations** and **lessons**.

IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the UNDP CO in Bhutan. The UNDP CO will contract the evaluators and ensure the timely provision of per diems and travel

12A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: ROTI Handbook 2009

arrangements within the country for the evaluation team. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

EVALUATION TIMEFRAME

The total duration of the evaluation will be 19 days according to the following plan:

Activity	Timing	Completion Date
Preparation (Home based) **Desk review of documents; Inception report**	2 days	*23 November*
Evaluation Mission including de-briefing	11 days	*26 Nov - 06December*
Draft Evaluation Report	5 days	*20 December*
Final Report	1 day	*31December*

EVALUATION DELIVERABLES

The evaluation team is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
Inception Report	Evaluator provides clarifications on timing and method	No later than 2 weeks before the evaluation mission.	Evaluator submits to UNDP CO
Presentation	Initial Findings	End of evaluation mission	To project management, UNDP CO
Draft Final Report	Full report, (per annexed template) with annexes	Within 3 weeks of the evaluation mission	Sent to CO, reviewed by RTA, PCU, GEF OFPs
Final Report*	Revised report	Within 1 week of receiving UNDP comments on draft	Sent to CO for uploading to UNDP ERC.

*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

TEAM COMPOSITION

The evaluation team will be composed of *one international and one national evaluator*. The consultants shall have prior experience in evaluating similar projects. Experience with GEF financed projects is an advantage. The international evaluator will lead the evaluation team and will be responsible for finalizing the report. The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.
The Team members must present the following qualifications:

- Professional background in Plant/Animal Genetic Resource Management related fields. A minimum of 8 years of working experience is required;
- Knowledge of UNDP and GEF;
- Previous experience with results-based monitoring and evaluation methodologies;
- Highly knowledgeable of participatory monitoring and evaluation processes, and experience in evaluation of technical assistance projects with major donor agencies;
- Demonstrate ability to assess complex situations, succinctly distills critical issues, and draw forward-looking conclusions and recommendations;

- Ability and experience to lead multi disciplinary and national teams, and deliver quality reports within the given time.
- Writing and communication will be in English, and must be excellent in English and communication skills.

EVALUATOR ETHICS

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluations'

Payment modalities and specifications

%	Milestone
15%	At contract signing
20%	Following submission and approval of the 1ST draft terminal evaluation report
65%	Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report

APPLICATION PROCESS

Applicants are requested to apply online (http://jobs.undp.org) or by email to procurement at procurement.bt@undp.orgby 31st October 2012. Individual consultants are invited to submit applications together with their CV for these positions. The application should contain a current and complete C.V. in English with indication of the e-mail and phone contact. Shortlisted candidates will be requested to submit a price offer indicating the total cost of the assignment (including daily fee, per diem and travel costs).

UNDP applies a fair and transparent selection process that will take into account the competencies/skills of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

Selection Criteria

The consultants who fulfill the above requirements will be assessed based on the following criteria:

- Technical evaluation comprising of 70%, and
- Financial evaluation of 30%.

ANNEX III: TERMINAL EVALUATION MISSION ITINERARY

Dates	Program
26 Nov 2012	Arrival of International Consultant from Bangkok to Bhutan at 9:15 a.m. 9.30 – 10.45 am: Joint planning by the evaluators 11.00 am: Meeting with officials from National Biodiversity Center (NBC)
27 Nov	10.00 am: Meeting with officials from UNDP Country Office Rest of the day: Review of documents and working on field work methodology
28 Nov	10.30 am: Meeting with officials from Department of Agriculture 11.30 am: Meeting with officials from Council of RNR Research of Bhutan 2.00 pm: Meeting with officials from National Dairy Development Centre, Yusupang 5.20 pm: Meeting with DAO, Pemagatshel Dzongkhag at Thimphu
29 Nov	9 am: Meeting with Bio-Bhutan 10.15 am: Meeting with officials from Department of Agricultural Marketing and Cooperatives 2.00 pm: Meeting with the Chief, Policy and Planning Division, MoAF 3.45 pm: Meeting with the Coordinator, National Organic Program
30 Nov	Travel to Bumthang district
01 Dec 2012	09.00 am: Meeting with District Agriculture and Livestock Officers, Extension Officers from Bumthang district administration 10.30 am: Meeting with farmers groups on Buckwheat, Choekhor Gewog 12.00 am: Visit community seed bank 3.00 pm: Meeting with members of yak group at Sangsangma, Bumthang
02 Dec	9.00 am: Meeting with members of Barley Group at Bepsur village Travel further to Tandigang village 1.30 pm: Meeting with members of Tandigang Horse Breeders Group
03 Dec	9.00 am: Meeting with officials from RNR-RDC at Jakar 10.45 am: Meeting with extension officers that availed capacity building supported by ILCCP 2.00 pm: Meeting with officials from National Horse Breeding Program, Bumthang
04 Dec	Travel to Thimphu
05 Dec	9.30 am: Meeting with officials from Department of Livestock and Department of Forest and Park Services (in two split team) 10.45 am: Meeting with Chief Forest Officer, Nature Recreation and Eco-tourism division 12.30 am: Meeting with the project manager, NBC 2.30 pm: Meeting with UNDP Environment section
06 Dec	9.30 am: Teleconference with Mr. Sammer Karka, Regional Technical Advisor, UNDP Asia-Pacific Regional Center in Bangkok Work on preparation of debriefing
7/Dec	• Debriefing on the preliminary findings of the review at MoAF Conference Hall
10 Dec	• Departure of International Consultant
20/Dec	• Submission of the draft report
21-27/Dec	• Feedback and comments from the project IP and UNDP
28/Dec	• Incorporate comments/feedback into the report by the consultants.
31/Dec	• Submission of the final report to NBC/UNDP CO.

ANNEX IV: DOCUMENTS REVIEWED

Project Documents

ILCCP Project Document, 2007, UNDP/RGoB

Baseline Survey of Indigenous Crops and Animal genetic Resources, 2008, National Biodiversity Centre

ILCCP Baseline Survey Format, 2008, NBC

ILCCP Quarterly Progress Reports, 2008, 2009, NBC

Revised Project Log Frame after MTR, 2010, NBC/UNDP

ILCCP Inception Report, 2007, Royal Government of Bhutan

Minutes of the Project Board Meetings, 1st meeting (2009), 2nd meeting (2009), 3rd meeting (2010), 4th meeting (2011), National Biodiversity Centre

Draft ILCCP Project Completion Report, 2012, NBC

Mid-Term Evaluation of ILCCP, 2010, UNDP/NBC

Plant Genetic Resources of Bhutan, 2008, NBC

Animal genetic Resources of Bhutan, 2008, NBC

Filed Monitoring Reports, 2009, 2010, 2011, 2012, NBC

By-laws for the Farmers Groups, ILCCP Sites

Trainings / Study Visit reports, NBC

Market Assessment and Analysis Report, 2009, NBC

Impact assessment of project intervention, 2012, NBC

Documentary on Plant Genetic Resources, NBC

Documentary on Animal Genetic Resources, NBC

Plant Gene Bank Protocol, NBC

UNDP Documents

Common Country Programme Action Plan (cCPAP) 2008 – 2012, UNDP/RGoB

United Nations Development Assistance Framework for the Kingdom of Bhutan 2008-2012, UNDP

UNDP EEG and GEF Annual Performance Report (APR) and Project Implementation Review (PIR), 2009, 2011, 2012, UNDP

Tracking Tool for GEF Biodiversity Focal Area Strategic Priority Two: Mainstreaming Biodiversity in Production Landscapes and Sectors, 2010 and 2011, UNDP

Annual Work Plan, Country Bhutan, 2008, 2009, 2010, 2011, 2012, UNDP Bhutan

Combined Delivery Report with Encumbrance, 2007, 2008, 2009, 2010, 2011, 2012, UNDP

Field monitoring report to ILCCP Sites, 2009, UNDP

ILCCP Success Stories, UNDP

Outcome Evaluation: UNDAF Outcome 5: Environmental Sustainability, Disaster Management Energy and Bio-diversity Conservation, 2012, UNDP

Handbook on Planning, Monitoring and Evaluation for Development Results, 2009, UNDP

Executive Snap Shots: Project Progress Report, 2010, UNDP

Government Documents

Biodiversity Action Plan, 2002 and 2009, Royal Government of Bhutan

National Action Plan Biodiversity Persistence and Climate Change, 2011, RGoB

Access and Benefit Sharing Policy of Bhutan, 2011, RGoB

Food and Nutrition Security Policy of the Kingdom of Bhutan, 2012, RGoB

Livestock Sector Development Policy of the Kingdom of Bhutan, 2012, RGoB

Agriculture Sector Development Policy of the Kingdom of Bhutan, 2012, RGoB

The Biodiversity Act of Bhutan, 2003, RGoB

Bhutan Millennium Development Goals: Needs Assessment and Costing Report (2006-2015) – Planning Commission, Royal Government of Bhutan

10 Five-Year Plan Document of MoA (2008-2013), RGoB

Biodiversity Act of Bhutan, RGoB

UNDP/GEF Evaluation Guidelines / Policy

Guidance for Conducting Terminal Evaluation of UNDP-Supported GEF-Financed Projects, 2012, UNDP

GEF Focal Area Strategy paper 2007

GEF Tracking Tools for Strategic Objective 1 and Strategic Objective 2

ANNEX V: QUESTIONNAIRE FOR FARMERS AND HERDERS

Introduction

We are Independent Consultants here to learn from you about your experience with the ILCCP project.

We would like to have free and open discussion with you and your free and frank opinion will help us to learn what went correctly, effectively and what did not go well.

Whatever you share with us today might be used in a report we are writing but no reference will be made to the people who made the comments. Your input will be confidential.

Our meeting has nothing to do with any future project. We are only consultants who have been hired to evaluate how well this project did. We have no authority to decide if there will be any future project or not, and our report will not include any recommendations about future projects.

Do you know about this project? Is so, how were you involved? When did you first get involved?

1. Before starting the activities supported this project (as explained to you) did the project tell you how you would benefit from it? If yes, could you elaborate how?
2. For each of the activities you mentioned above, why were you interested to undertake it?
3. Where you ever involved in planning or designing of the activities mentioned in the beginning before starting the activities?
4. What differently are you or the community doing today as compared to the before the project?
5. What other changes have occurred (e.g. in land area increase by indigenous crops cultivation or numbers of indigenous livestock reared) owing to the activities that you undertook with project support?
6. Do you think you will continue with the activities?
7. If yes to question 7, explain how you would continue or what differently would you be doing?
8. What factors needs to be in place to enable you to continue with the present activities?
9. If No to question 7, explain why?
10. In relation to the activities undertaken by you what possibly could be the challenges to continue further (availability of inputs, production constraints, predators problems, grazing land problems, products processing and development problems, marketing constraints, economically viable.)? Further discussion to follow based on the constraints mentioned.
11. Have you received any help or support to overcome the problems you just mentioned? Discuss for each of the constraints mentioned.
12. As compared to the past how differently are you marketing indigenous crops and livestock products? How has project helped you to access markets or have new and larger markets for the products? Did any other organisations help you?

ANNEX VI: QUESTIONNAIRE FOR EXTENSION AGENTS

1. WHAT TRAINING WAS GIVEN TO YOU BY THE PROJECT REGARDING TRADITIONAL CROP VARIETIES/LIVESTOCK BREEDS?
2. DID THIS TRAINING CHANGE IN ANY WAY THE INFORMATION YOU SHARE WITH FARMERS? IF SO, WHAT DO YOU DO DIFFERENTLY NOW?
3. ARE FARMERS DOING ANYTHING DIFFERENTLY AS A RESULT OF THIS INFORMATION THAT YOU SHARE WITH THEM ON CONSERVATION? IF SO, WHAT?
4. HAVE ANY NEW PRODUCTS FROM THE TRADITIONAL CROP VARIETIES OR TRADITIONAL LIVESTOCK BREEDS BEEN DEVELOPED AS A RESULT OF THIS PROJECT? IF SO, WHICH ONES?
5. ARE THESE NEW PRODUCTS BEING SUBSIDIZED IN ANY WAY?
6. WHAT IN YOUR OPINION ARE THE REASONS WHY MORE FARMERS DON'T CONSERVE THESE TRADITIONAL CROPS AND LIVESTOCK BREEDS? (2 QUESTIONS – ONE FOR CROPS, ONE FOR LIVESTOCK)
7. DO YOU SHARE ECONOMIC COST/BENEFIT TYPE INFORMATION WITH FARMERS COMPARING THE COSTS AND BENEFITS OF GROWING TRADITIONAL CROPS VS. EXOTIC VARIETIES OR OF RAISING TRADITIONAL LIVESTOCK BREEDS COMPARED TO EXOTIC ONES?
8. HOW DO YOU REFER TO EXOTIC BREEDS? WHAT TERMINOLOGY DO YOU USE?
9. DO YOU THINK THE FARMERS WHO ARE GROWING TRADITIONAL VARIETIES/RAISING TRADITIONAL BREEDS WILL CONTINUE TO DO SO? WHY/WHY NOT?

ANNEX VII: STAKEHOLDERS INTERVIEWED

Sl No.	Institutions / Organisation	Title / Designatin	Name	Date of Interview	Place Interviewed	Individual or Group Meeting
1	National Biodiversity Centre	Program Director	Dr. Tashi YangzomeDorji	26-Nov-12	NBC, Serbithang	Group
2	National Biodiversity Centre	Principle Biodiversity Officer	Ms. Asta tamang	26-Nov-12	NBC, Serbithang	Group
3	National Biodiversity Centre	Chief Biodiversity Officer	Mr. Sonam Tamang	26-Nov-12	NBC, Serbithang	Group
4	National Biodiversity Centre	Senior Biodiversity Officer	Dr.JigmeDorji	26-Nov-12	NBC, Serbithang	Group
5	National Biodiversity Centre	Biodiversity Officer	Mr.Lhab Tshering	26-Nov-12	NBC, Serbithang	Group
6	National Biodiversity Centre	Biodiversity Supervisor	Mr. Tshering Dorji	26-Nov-12	NBC, Serbithang	Individual
7	National Biodiversity Centre	Sr. Biodiversity Supervisor	Tshewang	26-Nov-12	NBC, Serbithang	Individual
8	National Biodiversity Centre	Senior Biodiversity Officer	Mr.UgyenPhuntsho	26-Nov-12	NBC, Serbithang	Individual
9	UNDP Bhutan	Assistant Resident Representative	Mr. Karma Lodey Rapten	27-Nov-12	UN House, Thimphu	Group
10	UNDP Bhutan	Programme Analyst	Mr. Tashi Dorji	27-Nov-12	UN House, Thimphu	Group
11	Department of Agriculture	Specialist	Mr. G. B. Chhetri	28-Nov-12	Department, Thimphu	Individual
12	Council of RNR Research of Bhutan	Director	Dr. Tashi Samdrup	28-Nov-12	Council office, Thimphu	Group
13	Council of RNR Research of Bhutan	Chief Research Officer	Mr.ChenchoDukpa	28-Nov-12	Council office, Thimphu	Group
14	National Dairy Development Centre	Program Director	Dr.Dhan B. Rai	28-Nov-12	NDDC, Yusipang	Group
15	National Dairy Development Centre	Specialist (Livestock Production)	Dr.M.P.Timsina	28-Nov-12	NDDC, Yusipang	Group
16	Regional Pig Development Centre	Farm Manager	Mr.ChoedupGyeltshen	28-Nov-12	NDDC, Yusipang	Group
17	AthangInfotech	Chief Executive Officer	Mr. Karma Dhendup	28-Nov-12	NDDC, Yusipang	Group
18	District Administration, Pemagatshel	District Agriculture Officer	Mr.Kiran Subedi	28-Nov-12	Karma Coffee, Thimphu	Individual
19	Bio-Bhutan	Manager	Mr.Ugyen	29-Nov-12	Bio-Bhutan, Thimphu	Individual
20	Department of Agriculture Marketing and Cooperatives	Specialist	Mr.ChoniDendup	29-Nov-12	DAMC, Thimphu	Group
21	Department of Agriculture Marketing and Cooperatives	Deputy Chief Marketing Officer	Mrs.Phub Dem	29-Nov-12	DAMC, Thimphu	Group
22	Department of Agriculture Marketing and Cooperatives	Chief Marketing Officer	Mrs.Pema Yuden	29-Nov-12	DAMC, Thimphu	Group
23	Department of Agriculture Marketing and Cooperatives	Assistant Marketing Officer	Mr. Tenzin	29-Nov-12	DAMC, Thimphu	Group
24	Department of Agriculture Marketing and Cooperatives	Assistant Marketing Officer	Mr. Sonam Wangdi	29-Nov-12	DAMC, Thimphu	Group
25	Policy and Planning Division	Chief, PPD	Mr. Tenzin Chophyel	29-Nov-12	PPD, Thimphu	Individual
26	National Organic Program	Coordinator	Mrs.KesangTshomo	29-Nov-12	Semtokha	Individual
27	Dzongkhag Administration, Bumthang	District Livestock Officer	Mr. Tshering Penjor	1-Dec-12	Organic Outlet, Chamkhar	Group
28	Dzongkhag Administration, Bumthang	District Agriculture Officer	Mr.Gaylong	1-Dec-12	Organic Outlet, Chamkhar	Group
29	Dzongkhag Administration, Bumthang	Assistant District Agriculture Officer	Mrs. Chandra Rai	1-Dec-12	Organic Outlet, Chamkhar	Group
30	Dzongkhag Administration, Bumthang	Extention Officer	Mrs. Tshering Lhadon	1-Dec-12	Organic Outlet, Chamkhar	Group
31	ChoekorGewog, Bumthang Dzongkhag	Extention Officer	Mr. Luda Wangdi	1-Dec-12	Organic Outlet, Chamkhar	Group
32	Sonam ChigthuenRangzhinTshogpa, Jalikhar	Chaiperson	Mr.Sonam Tobgay	1-Dec-12	Organic Outlet, Chamkhar	Group
33	Sonam ChigthuenRangzhinTshogpa, Jalikhar	Secretary	Mrs.KesangDema	1-Dec-12	Organic Outlet, Chamkhar	Group
34	Sonam ChigthuenRangzhinTshogpa, Jalikhar	Treasurer	Mrs.KunzangDechen	1-Dec-12	Organic Outlet, Chamkhar	Group
35	Sonam ChigthuenRangzhinTshogpa, Jalikhar	Member	Mr.Phurba	1-Dec-12	Organic Outlet, Chamkhar	Group
36	Sonam ChigthuenRangzhinTshogpa, Jalikhar	Member	Mrs. Tshering Dema	1-Dec-12	Organic Outlet, Chamkhar	Group
37	Sonam ChigthuenRangzhinTshogpa, Jalikhar	Member	Mrs. Gem Lhamo	1-Dec-12	Organic Outlet, Chamkhar	Group
38	Sonam ChigthuenRangzhinTshogpa, Jalikhar	Member	Mrs. Tshering Lhamo	1-Dec-12	Organic Outlet, Chamkhar	Group
39	Sonam ChigthuenRangzhinTshogpa, Jalikhar	Member	Mrs.KinleyWangmo	1-Dec-12	Organic Outlet, Chamkhar	Group
40	Sonam ChigthuenRangzhinTshogpa, Jalikhar	Member	Mrs.Nazom	1-Dec-12	Organic Outlet, Chamkhar	Group
41	Khangdrok Yak Group	Chairperson	Mr. Norbu Tshering	1-Dec-12	Sangsangma Village	Group
42	Khangdrok Yak Group	Secretary	Mr.Singey	1-Dec-12	Sangsangma Village	Group

43	Khangdrok Yak Group	Treasurer	Mr. Tashi Dhendup	1-Dec-12	Sangsangma Village	Group
44	Khangdrok Yak Group	Member	Mr.TshewangDhendup	1-Dec-12	Sangsangma Village	Group
45	Khangdrok Yak Group	Member	Mr.Jamyang	1-Dec-12	Sangsangma Village	Group
46	Khangdrok Yak Group	Member	Mrs.Sangma	1-Dec-12	Sangsangma Village	Group
47	Khangdrok Yak Group	Member	Mr.Jigme	1-Dec-12	Sangsangma Village	Group
48	Khangdrok Yak Group	Member	Mr.PhurbaDiorji	1-Dec-12	Sangsangma Village	Group
49	Khangdrok Yak Group	Member	Mr. Tshering Norbu	1-Dec-12	Sangsangma Village	Group
50	Bepsur Barley Group	Chairperson	Mrs. Tashi Lhamo	2-Dec-12	Bepsur village	Group
51	Bepsur Barley Group	Secretary	Mrs.RinzinLhamo	2-Dec-12	Bepsur village	Group
52	Bepsur Barley Group	Treasurer	Mrs. Tshering Wangmo	2-Dec-12	Bepsur village	Group
53	Bepsur Barley Group	Member	Mrs.DechenZangmo	2-Dec-12	Bepsur village	Group
54	Bepsur Barley Group	Member	Mrs. Sonam Choden	2-Dec-12	Bepsur village	Group
55	Bepsur Barley Group	Member	Mrs. Karma Lhamo	2-Dec-12	Bepsur village	Group
56	Bepsur Barley Group	Member	Mrs. Tshering Choeki	2-Dec-12	Bepsur village	Group
57	Bepsur Barley Group	Member	Mrs.Pema Sheldon	2-Dec-12	Bepsur village	Group
58	Bepsur Barley Group	Member	Mrs.ChoekyBudur	2-Dec-12	Bepsur village	Group
59	Bepsur Barley Group	Member	Mrs. Sonam Lhamo	2-Dec-12	Bepsur village	Group
60	Bepsur Agriculture Extension Centre	Extension Officer, Tang	Mrs.DekiDema	2-Dec-12	Bepsur village	Group
61	TandigangYuta Horse Breeding Group	Chairperson	Mr.RinzinPhuntsho	2-Dec-12	Tandigang village	Group
62	TandigangYuta Horse Breeding Group	Secretary	Mr.SangayChoden	2-Dec-12	Tandigang village	Group
63	TandigangYuta Horse Breeding Group	Member	Mr.YesheyDorji	2-Dec-12	Tandigang village	Group
64	TandigangYuta Horse Breeding Group	Member	Mr.ChokiWangmo	2-Dec-12	Tandigang village	Group
65	TandigangYuta Horse Breeding Group	Member	Mr.SangayWangmo	2-Dec-12	Tandigang village	Group
66	TandigangYuta Horse Breeding Group	Member	Mrs.LekiDema	2-Dec-12	Tandigang village	Group
67	TandigangYuta Horse Breeding Group	Member	Mr. Gem Tshering	2-Dec-12	Tandigang village	Group
68	TandigangYuta Horse Breeding Group	Member	Mrs.RinzinDema	2-Dec-12	Tandigang village	Group
69	TandigangYuta Horse Breeding Group	Member	Mrs.DorjiDema	2-Dec-12	Tandigang village	Group
70	TandigangYuta Horse Breeding Group	Member	Mrs.Rinzin	2-Dec-12	Tandigang village	Group
71	TandigangYuta Horse Breeding Group	Member	Mr. Tenzin	2-Dec-12	Tandigang village	Group
72	RNR Research and Development Centre	Program Director	Mr.JigmeWangchuck	3-Dec-12	RNRRDC, Jakar	Group
73	RNR Research and Development Centre	Reseach Assistant	Mr. Karma	3-Dec-12	RNRRDC, Jakar	Group
74	RNR Research and Development Centre	Principle Livestock Health Officer	Mr.JigmeWangdi	3-Dec-12	RNRRDC, Jakar	Group
75	RNR Research and Development Centre	Research Officer	Mr.Dawa Sherpa	3-Dec-12	RNRRDC, Jakar	Group
76	RNR Research and Development Centre	Animal Health Specialist	Dr. S.B. Chamling	3-Dec-12	RNRRDC, Jakar	Group
77	ChoekhorGewog Livestock Office	Animal Health Supervisor	Mr.PhurpaNamgyel	3-Dec-12	Buckwheat sale counter, Chamkar	Individual
78	National Horse Breeding Program	Livestock Production Supervisor	Mrs. Sonam Zangmo	3-Dec-12	NHBP, Naspel, Bumthang	Individual
79	Department of Livestock	Livestock Breeding Specialist	Dr. N.B. Tamang	5-Dec-12	DoL, Thimphu	Individual
80	Wild Life Conservation Division, DoFPS	Head, HWC Management Section	Mr. Sonam Wangdi	5-Dec-12	DoFPS, Thimphu	Individual
81	Forest Resources Management Division, DoFPS	Focal Person, National Forest Inventory	Mrs.Kesang	5-Dec-12	DoFPS, Thimphu	Individual
82	Nature Recreation and Eco-tourism Division	Chief Forest Officer	Dr. Karma Tshering	5-Dec-12	NRED, Thimphu	Individual
83	UNDP Asia-Pacific Regional Center in Bangkok	Regional Technical Advisor	Mr. Sameer Karka	6-Dec-12	Teleconferenace	Individual
84	District Administration, Haa	District Livestock Officer	Mr.LodenJimba	11-Dec-12	Telephonic conversation	Individual
85	District Administration, Haa	District Agriculture Officer	Mr. M.L. Bhattarai	11-Dec-12	Telephonic conversation	Individual
86	District Administration, Pemagatshel	Assistant District Livestock Officer	Mr.Sangay Tshering	12-Dec-12	Telephonic conversation	Individual
87	District Administration, Trashigang	District Livestock Officer	Mr.Tandin	12-Dec-12	Telephonic conversation	Individual
88	District Administration, Trashigang	District Agriculture Officer	Mr.LhendupDukpa	12-Dec-12	Telephonic conversation	Individual

ANNEX VIII: SUMMARY RESULTS OF INTERVIEWS

1st December 2012

1. Meeting with Buckwheat Farmers Group from Choekor, Bumthang

- Buckwheat cultivation was native to farmers from Bumthang but was not cultivated by farmers from Jalikhar village as they had diversified to potato cultivation.
- The project encouraged some farmers from Jalikhar for Buckwheat cultivation and started initially with formation of farmers groups in the year 2008
- The groups started with seven members and now have grown up to nine members. Looking at the prospects of these buckwheat farmers groups, several farmers are interested to form groups anticipating similar support from the project / government.
- Presently the group members make flour and some cakes. The members feel the need to diversify the products (mainly making dry noodles and also improve the packaging of the flour.
- All members went for exposition at Haa and Paro district, where they prepared their products, and also sold them. During the exposition, the members could generate substantial income.
- No standing orders have been placed for their products yet. Some orders for products are at times placed in advance and most of the buyers buy their products (flour and cakes) from the sale counter located at Chamkhar.
- The members maintain three accounts. One is for membership fees (monthly Nu. 100 from each member). Another account is savings from profit, whereby every year they deposit Nu. 30,000 and the remaining profit are shared amongst the members. Presently the group has a savings of Nu.300000.
- Buckwheat flour was not readily available in the past. Now with the formation of the group the flour is readily available. Presently the group cultivates buckwheat on 15 acres of fallow land. In addition they supply seeds to another 20 additional farmers that cultivate and supply buckwheat grain to the group. The group processes and markets the products.
- Within the same district, farmers from Ura Gewog (another block) have approached district agriculture officer to support them for cultivation of buckwheat on 1000 acres. However, considering the capacity for support from the districts (technical as well financial for trainings and other inputs), the district agriculture office has indicated their support, as a start for cultivation on 400 areas.

2. Meeting with Yak Herders Group at Sangsangma, Bumthang

- The farmers from Sangsangma are traditional yak herders that migrate with yaks. In past, the farmers were producing yak products and marketing individually and they did not have group savings. With initial awareness created by ILCCP and the Dzongkhag, the farmers were aware on the need for conservation of yaks and also for forming a groups saving scheme.
- In the year 2008, the Dzongkhags and the project helped them form a group comprising of 16 members. Each member has about 50 numbers of yak. Following this the constraints facing the groups were discussed and needs for support on dairy equipments, pasture and fodder seeds and fencing materials were discussed.
- ILCCP provided churning equipments (one churner each for 16 members), pasture and fodder seeds and also fencing materials. Some degraded area of community grazing land has been sowed with pasture and fodder and is fenced at the alpine areas. Two numbers of breeding bulls were also procured and supplied to the herders.

- The objective of forming the group is to generate a group saving for investment by the farmers for their group, conserve traditional rearing of yak, generate employment for their children and undertake streamlined marketing.
- From sale of products from the group members, 10% is contributed to the group savings. In last two years, the group savings has grown to Nu. 160000. The products from yak are butter, hard cheese, bags and ropes.
- The challenges facing the farmers were degradation of rangeland, predators killing yaks, marketing problems as mentioned and also difficulty associated with ill health in the highlands, where medical facilities are not available. The main predators are Bear, Chinese Wolves and Leopards. Last year alone about 32 yaks were killed by the predators.
- About 50-60 progenies were reported to have been delivered with breeding bulls supplied by the project.

2nd December 2012

3. Meeting with Barley Farmers Group at Bepsur, Bumthang

- The project and district officials made preliminary discussion on need for conservation of barley as well formation of farmers groups on barley production that would bring about income to the farmers
- The group was formed comprising of 10 members and the group members were trained in making cakes and pasta out of barley.
- In terms of equipments, the group members were provided with a oven and mill but the mill is not working owing to shortage of a part
- Flour, Cakes, pasta and breads are made as new product and are sold at the rate of Nu. 10. The same is also sold on receiving orders from the people. They organize working on rotation basis. The group is participating in upcoming bio-diversity fair at Mongar starting 10th Dec 2012.
- The production as reported by farmers have increased from half acre to one acre and the group has 100% women
- The group plans to further make refined pasta, some new types of cakes, brown bread and multigrain flour porridge as new products
- The variety of barley grown by the members covers three villages within Tang and their variety is slightly yellowish as compared to blackish variety in other areas.

3rd December 2012

4. **Meeting with Horse Farmers Group at Tandigang, Bumthang**

- The National Horse Breeding Programme (NHBP) at Bumthang under Department of Livestock breeds exotic horses and supply as per the demand from the extension in the districts.
- About nine years back, the NHBP started their support to Tandigang farmers to conserve native breed (Yuta) and undertake breeding, to procure and supply breeding stallion from the farmers. To this effect the group on Yuta horse breeding was formed about nine years back.

- With further support coordinated with ILCCP for sustained conservation, breeding and generating income to the farmers, the group was supported for pasture development (supply of pasture seeds and fencing materials), and supply of three numbers of breeding stallion.
- Leopard, tiger and wolves has been the main predators. Mostly the leopards attacked smaller ones and wolves attack bigger ones. Fourteen numbers foals this year and another 11 numbers last year were killed by leopard.
- Thirteen numbers of horses were sold in 2010, 8 numbers were sold in 2011, and only two numbers in 2012.
- In past people owned Yaks and sheep but all has been sold off. The main problem with yaks were GID disease and predators attack and found not economic with sheep as cheaper wool are easily available for weaving (imported)
- The selling price per horse stallion at present is Nu. 12000 (for age of 4 years old)

ANNEX IX: EVALUATION CONSULTANTSCODE OF CONDUCT AND AGREEMENT FORM

ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form[3]

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: Virginia Ravndal

Name of Consultancy Organization (where relevant): _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at *place on date*

Signature: [signature] @ Santa Fe, NM on November 2012

[3] www.unevaluation.org/unegcodeofconduct

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ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

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3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
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7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form[3]

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: Udyog Subedi

Name of Consultancy Organization (where relevant): DrukRudevs Consults

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at *Thimphu* on *6th December, 2012*

Signature: 

[3] www.unevaluation.org/unegcodeofconduct

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ANNEX X: ORIGINAL LOG FRAME OF THE PROJECT

Project Strategy	Objectively verifiable indicators				
Goal	To ensure that the attainment of food security and self-sufficiency in Bhutan is based on the maintenance of adequate levels of indigenous agrobiodiversity.				
	Indicator	**Baseline**	**Target**	**Sources of verification**	**Risks and Assumptions**
Objective of the project : To mainstream agrobiodiversity conservation into livestock and crop development policy and practices in Bhutan	Number of varieties cultivated, breeds raised.	A survey early in year 1 will establish the baseline and identify those varieties/breeds for which ex situ conservation is required.	At the end of the project, all traditional varieties and breeds present in the target sites at the beginning of the project will still be cultivated or, where losses are inevitable, samples will have been conserved ex situ. The areas of cultivation and numbers of livestock will not have decreased (except in those cases where ex situ conservation is essential) At the time of the mid-term evaluation, no declines will be evident, and ex situ measures will have been completed.	Surveys and interviews	RGoB POLICY AND INSTITUTIONAL REFORMS SUPPORT PROJECT OUTCOMES.
	Diversity of wild relatives	A survey early in year 1 will locate target populations.	At the end of the project, all high-value wild relatives in the target sites for which conservation was not previously secured by inclusion in the protected area system will have a secure conservation status, as measured by the number and sizes of populations outside protected areas remaining constant or increasing. At the time of the mid-term evaluation, all such populations will have been identified.	Surveys	HISTORICAL DATA ON DISTRIBUTION OF WILD RELATIVES PROVES SUFFICIENTLY RELIABLE TO LOCATE THE POPULATIONS.

	Contribution of indigenous genetic resources to household income	A survey early in year 1 will establish current contributions.	At the end of the project, the proportion of farmers who report that income derived from indigenous genetic resources is "significant" or "highly significant" in terms of total household income will have increased by 10% compared with figures in year 1. In no site will this figure be less than 5%. At the time of the mid-term evaluation, no farmers will report that their view of the value of indigenous genetic resources to household income has declined in the previous 2 years	Surveys and interviews	NO UNEXPECTED NEGATIVE MACROECONOMIC EFFECTS (E.G. INFLATION, DEVALUATION) WILL IMPEDE THE DEVELOPMENT OF NEW VENTURES RELATED TO AGROBIODIVERSITY

Outcome 1: The documentation and characterization of indigenous genetic resources (including wild relatives) supports conservation and development policy, prioritization of conservation efforts and the identification of opportunities for income generation	Yield improvement linked to scientific knowledge	No information is available to guide yield improvement	By the end of the project, yield improvement for traditional varieties and breeds is based on information generated by NBC's programme of collection and characterization.	Reports of NBC and extension services	Actual levels of indigenous genetic resources can be accurately estimated on the basis of currently available data
	Conservation of wild relatives	Approximately 60% of wild relatives represented in PA's	By the end of the project, all wild relative species that are not already represented in the protected area system have been conserved *in situ*, either through modification/extension of the protected area system or through land use agreements with local authorities.	Reports of NBC	Existing data on locations of wild relatives proves to be sufficiently reliable

Outcome 2: Agricultural and livestock development agencies are able to support farmers in conserving agrobiodiversity through provision of relevant and timely technical information	Technical support for agrobiodiversity conservation	MoA agencies provide no support regarding agrobiodiversity conservation	Survey results indicate that, by the end of the project, at least 80% of farmers in the target sites report that MoA agencies are able to provide technical support in adapting their farming systems to conserve local agrobiodiversity	Surveys and interviews	MoA policy strengthens emphasis on agrobiodiversity conservation in RNRRC's
Outcome 3: Traditional varieties and breeds yield greater financial benefits to farmers	Yield of traditional varieties and breeds	Surveys in year 1 will establish current yields	By the end of the project, in each target site, the productivity of at least 4 traditional varieties or breeds has been increased by at least 15% through breeding, selection, and/or improved cultivation/husbandry, compared with yields in year 0	MoA reports and surveys	Breeding programmes yield prompt results
Outcome 4 Traditional varieties and breeds have access to new and larger markets	Creation of new markets	No markets exist	By the end of the project, at least one crop or livestock species in each target site is being produced for a new diversity-based market created through the project.	MoA reports and surveys	Viable market opportunities are identified
Outcome 5: Farmers have the capacity to access existing and emerging markets	Capacity to access markets	No experience in marketing	By the end of the project, in each target site, farmers cultivating traditional varieties or raising traditional breeds are supplying markets that were not accessible to them at the beginning of the project.	Project reports and surveys	Markets are stable and training of farmers is effective

Outcome 6: At a systemic level, the capacity of the MoA is adequate to mainstream agrobiodiversity conservation into the attainment of food security and self-sufficiency	Institutional and policy constraints	Surveys in year 1 will establish baseline values	A survey of farmers and agricultural and livestock extension officers records that policy, markets, and technical constraints do not limit cultivation of traditional varieties or husbandry of traditional breeds.	Project reports and MoA reports	Institutional mandates do not prevent effective coordination and cooperation
Outcome 7: Farmers, agricultural and livestock sector professionals and the general public are aware of the contribution of agrobiodiversity conservation to food security and self-sufficiency	Levels of public awareness	Surveys in year 1 will establish baseline values	Surveys of farmers, agricultural and livestock sector professionals and the general public reveal that awareness of the importance of agrobiodiversity conservation for food security and self-sufficiency has increased significantly by the end of the project, compared with surveys in year 1 (exact target to be established on the basis of year 1 surveys)	Project reports and surveys	Awareness raising efforts effect long-term, rather than ephemeral improvements

ANNEX XI: REVISED LOG FRAME OF THE PROJECT

Outcomes	Outputs	Indicators	Baselines	Targets	Sources of verification	Risks and Assumptions
Outcome 1: At a systemic level, the capacity of the MoA is adequate to mainstream agro-biodiversity conservation into the attainment of food security and self-sufficiency	Output 1.1. Draft National Policies and guidelines incorporating agro biodiversity conservation.	Number of national policies, plans and guidelines (identified) incorporating biodiversity, and especially agro-biodiversity	No National Biodiversity Policy Framework, No National Food and Nutrition Security Policy	By the end of the project, RNR sector 11th Five Year Plan, National Biodiversity Policy and Food and Nutrition Security Policy include strong elements on conservation of agrobiodiversity	MoAF and project reports	Institutional mandates do not prevent effective coordination and cooperation
	Output 1.2. Policy analysis of sectoral policies identifies gaps and inconsistencies	Number of recommendations to different sectors on implementing the National Biodiversity Policy and National Food and Nutrition Security Policy.	Agro biodiversity Conservation elements are not integrated in Agriculture and Livestock development Sector polices	Practical recommendations for agriculture, livestock and Forest sectors developed to strengthen Sectoral policies, and practices related to agro biodiversity conservation, including wild relatives of agricultural crops	MoAF and project reports	Institutional mandates do not prevent effective coordination and cooperation
Outcome 2: Capacity of MoAF agencies (NBC, and Stakeholders) strengthened to support farmers in agro-biodiversity conservation	Output 2.1. Strengthening of capacity of NBC.	Capacity of NBC in ex-situ management of AnGR and PGR	Lack technical capacity in AnGR cryopreservation, PGR characterization & documentation and equipment maintenance	Staff capacities on processing, cryopreservation, conservation AnGr and PGR characterisation, Gene Bank's equipment and information system upgraded	Project reports	
	Output 2.2. *Ex situ* collections of AnGR are established and gaps in existing	Ex-situ conservation facilities for AnGR.	Only basic equipments in place for AnGR. PGR Gene Bank established.	*Ex situ* collections of AnGR are established. Collections built up to 2,000 samples of PGR and 4000	Reports of NBC	

	PGR databases are addressed through PGR collection.	Number of AnGR doses and PGR samples preserved in the Gene Bank Study on two CWR	No study	doses of AnGR At least two CWR assessed and conserved in-situ		
	Output 2.3. Livestock and agriculture development agencies and Dzongkhag Extension staff trained in the importance of/ and approaches to agro biodiversity conservation	Capacity of Livestock and agriculture development agencies.	Lack technical capacity agro biodiversity management	Technical capacity of agriculture and livestock development agencies built in agro biodiversity management	Reports of NBC	
	Output 2.4. Agriculture and livestock sector policies integrate agrobiodiversity conservation issues	Number of agencies and *Dzonkhags* incorporating agro biodiversity conservation as part of regular program	MoA agencies provide no support regarding agro biodiversity conservation in selected sites	1. NLBP under DoL incorporates breeding and management of traditional livestock varieties (in-situ and ex-situ) 2. DAMC incorporates marketing of agro biodiversity products amongst programs on farmers' cooperatives. 3. At least 4 potentials Gewogs include in-situ agro biodiversity management 4. DoF includes agro biodiversity theme especially wild relatives of crops) in the national	Surveys and interviews	MoAF policy strengthens emphasis on agrobiodiversity conservation in RNRRC's

				forest survey.		
Outcome 3: Farmers benefit from sustainable utilization of traditional varieties and breeds of IGR	Output 3.1. Yield of traditional crop varieties and livestock breeds improved through breeding and cultural improvements	Production of traditional crop varieties and traditional livestock breeds increased	Baseline info on different commodities in different sites	1. One product per site in at least 6 sites for crops increased by 15% over baseline 2. Communities in at least 4 sites in 3 districts undertake actions to conserve traditional breeds of Yak and local cattle (Nublang)	MoAF reports and surveys	Yield improvement programmes yield prompt results
	Output 3.2. Traditional varieties and breeds have access to new and larger markets.	Increased revenue to farmers from traditional crop varieties and traditional livestock breeds/ and their products	No products exist. No experience in marketing	1. Farmers at least 11 sites increase income by15% on average over baseline through better production and marketing of traditional crops and animal breeds and products	MoAF reports and surveys	Viable market opportunities are identified Markets are stable and training of farmers is effective

	Output 3.3. Farmers, agricultural and livestock sector professionals and the general public are aware of the contribution of agro biodiversity conservation to food security and self-sufficiency	Levels of public awareness increased	Baseline info on different commodities in different sites	1. Surveys of farmers, agricultural and livestock sector professionals and the general public reveal that awareness of the importance of agro-biodiversity conservation for food security and self-sufficiency has increased significantly by the end of the project, compared with surveys in year 1	Project reports and surveys	Awareness raising efforts effect long-term, rather than ephemeral improvements

ANNEX XII. EVALUATION CRITERIA MATRIX(MODEL MATRIX ADAPTED TO BHUTAN EVALUATION)

Evaluative Criteria	Questions	Indicators	Sources	Methodology
Relevance: How does the project relate to the main objectives of the UNCBD and to the GEF Biodiversity focal area, and to the environment and development priorities at the local, regional and national levels for indigenous crop and livestock diversity conservation in Bhutan?				
Is the project relevant to the UNCBD objectives?	• How does the project support the objectives of the UNCBD?	• UNCBD priorities and areas of work incorporated in project design • Extent to which the project is implemented in line with incremental cost argument	• Project documents • National policies and strategies to implement the UNCBD, other international conventions, or related to environment more generally • UNCBD and other international convention web sites	• Documents analyses • Interviews with project team, UNDP and other partners
Is the project relevant the GEF biodiversity focal area?	• How does the project support the GEF biodiversity focal area and strategic priorities related to agro-biodiversity conservation	• Existence of a clear relationship between the project objectives and GEF biodiversity focal area	• Project documents • GEF focal areas strategies and documents	• Documents analyses • GEF website • Interviews with UNDP and project team
Is the project relevant to Bhutan's environment and sustainable development objectives?	• How does the project support the environment and sustainable development objectives of Bhutan? • Is the project country-driven? • What was the level of stakeholder participation in project design? • What was the level of stakeholder ownership in implementation? • Does the project adequately take into account the national realities, both in terms of institutional and policy framework in its design and its implementation?	• Degree to which the project supports national environmental objectives • Degree of coherence between the project and nationals priorities, policies and strategies • Appreciation from national stakeholders with respect to adequacy of project design and implementation to national realities and existing capacities • Level of involvement of government officials and other partners in the project design process • Coherence between needs expressed by national stakeholders and UNDP-GEF criteria	• Project documents • National policies and strategies • Key project partners	• Documents analyses • Interviews with UNDP and project partners
Is the project addressing the needs of target beneficiaries at the local and regional levels?	• How does the project support the needs of relevant stakeholders? • Has the implementation of the project been inclusive of all relevant stakeholders? • Were local beneficiaries and stakeholders adequately involved in project design and implementation?	• Strength of the link between expected results from the project and the needs of relevant stakeholders • Degree of involvement and inclusiveness of stakeholders in project design and implementation	• Project partners and stakeholders • Needs assessment studies • Project documents	• Document analysis • Interviews with relevant stakeholders
Is the project	• Are there logical linkages between expected results of the	• Level of coherence between project expected	• Program and project	• Document

internally coherent in its design?	project (log frame) and the project design (in terms of project components, choice of partners, structure, delivery mechanism, scope, budget, use of resources etc)? • Is the length of the project sufficient to achieve project outcomes?	results and project design internal logic • Level of coherence between project design and project implementation approach	documents • Key project stakeholders	analysis • Key interviews
How is the project relevant with respect to other donor-supported activities?	• Does the GEF funding support activities and objectives not addressed by other donors? • How do GEF-funds help to fill gaps (or give additional stimulus) that are necessary but are not covered by other donors? • Is there coordination and complementarily between donors?	• Degree to which program was coherent and complementary to other donor programming nationally and regionally	• Documents from other donor supported activities • Other donor representatives • Project documents	• Documents analyses • Interviews with project partners and relevant stakeholders
Does the project provide relevant lessons and experiences for other similar projects in the future?	• Has the experience of the project provided relevant lessons for other future projects targeted at similar objectives?		• Data collected throughout evaluation	• Data analysis
Effectiveness: To what extent have the expected outcomes and objectives of the project been/be achieved?				
Has the project been effective in achieving the expected outcomes and objectives?	• Has the project been effective in achieving its expected outcomes?	• See indicators in project document results framework and logframe	• Project documents • Project team and relevant stakeholders • Data reported in project annual and quarterly reports	• Documents analysis • Interviews with project team • Interviews with relevant stakeholders
How is risk and risk mitigation being managed?	• How well are risks, assumptions and impact drivers being managed? • What was the quality of risk mitigation strategies developed? Were these sufficient? • Are there clear strategies for risk mitigation related with long-term sustainability of the project?	• Completeness of risk identification and assumptions during project planning and design • Quality of existing information systems in place to identify emerging risks and other issues • Quality of risk mitigations strategies developed and followed	• Project documents • UNDP, project team, and relevant stakeholders	• Document analysis • Interviews
What lessons can be drawn regarding effectiveness for other similar projects in the future?	• What lessons have been learned from the project regarding achievement of outcomes? • What changes could have been made (if any) to the design of the project in order to improve the achievement of the project's expected results?		• Data collected throughout evaluation	• Data analysis
Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?				

Was project support provided in an efficient way?	• Was adaptive management used or needed to ensure efficient resource use? • Did the project logical framework and work plans and any changes made to them use as management tools during implementation? • Were the accounting and financial systems in place adequate for project management and producing accurate and timely financial information? • Were progress reports produced accurately, timely and responded to reporting requirements including adaptive management changes? • Was project implementation as cost effective as originally proposed (planned vs. actual) • Did the leveraging of funds (co-financing) happen as planned? • Were financial resources utilized efficiently? Could financial resources have been used more efficiently? • Was procurement carried out in a manner making efficient use of project resources? • How was results-based management used during project implementation?	• Availability and quality of financial and progress reports • Timeliness and adequacy of reporting provided • Level of discrepancy between planned and utilized financial expenditures • Planned vs. actual funds leveraged • Cost in view of results achieved compared to costs of similar projects from other organizations • Adequacy of project choices in view of existing context, infrastructure and cost • Quality of results-based management reporting (progress reporting, monitoring and evaluation) • Occurrence of change in project design/ implementation approach (i.e. restructuring) when needed to improve project efficiency • Cost associated with delivery mechanism and management structure compare to alternatives	• Project documents and evaluations • UNDP • Project team	• Document analysis • Key interviews
How efficient are partnership arrangements for the project?	• To what extent partnerships/linkages between institutions/ organizations were encouraged and supported? • Which partnerships/linkages were facilitated? • What was the level of efficiency of cooperation and collaboration arrangements? • Which methods were successful or not and why?	• Specific activities conducted to support the development of cooperative arrangements between partners, • Examples of supported partnerships • Evidence that particular partnerships/linkages will be sustained • Types/quality of partnership cooperation methods utilized	• Project documents and evaluations • Project partners and relevant stakeholders	• Document analysis • Interviews
Did the project efficiently utilize local capacity in implementation?	• Was an appropriate balance struck between utilization of international expertise as well as local capacity? • Did the project take into account local capacity in design and implementation of the project? • Was there an effective collaboration between institutions responsible for implementing the project?	• Proportion of expertise utilized from international experts compared to national experts • Number/quality of analyses done to assess local capacity potential and absorptive capacity	• Project documents and evaluations • UNDP • Beneficiaries	• Document analysis • Interviews
What lessons can be drawn regarding efficiency for other similar projects in the future?	• What lessons can be learnt from the project regarding efficiency? • How could the project have more efficiently carried out implementation (in terms of management structures and procedures, partnerships arrangements etc…)? • What changes could have been made (if any) to the project in order to improve its efficiency?		• Data collected throughout evaluation	• Data analysis
Results: What are the current actual, and potential long-term, results of activities supported by the project?				
How is the project	• Will the project achieve its overall objective ?	• Change in capacity:	• Project documents	• Documents

effective in achieving its long-term objectives?	• Is the globally significant biodiversity of the target area likely to be conserved? • What barriers remain to achieving long-term objectives, or what necessary steps remain to be taken by stakeholders to achieve sustained impacts and Global Environmental Benefits? • Are there unanticipated results achieved or contributed to by the project?	○ To pool/mobilize resources ○ For related policy making and strategic planning ○ For implementation of related laws and strategies through adequate institutional frameworks and their maintenance • Change in use and implementation of sustainable livelihoods • Change in the number and strength of barriers such as: ○ Knowledge about biodiversity conservation and sustainable use of biodiversity resources, and economic incentives in these areas ○ Cross-institutional coordination and inter-sectoral dialogue ○ Knowledge of biodiversity conservation and sustainable use practices by end users ○ Coordination of policy and legal instruments incorporating biodiversity conservation and agro-environmental strategies ○ Agro-environmental economic incentives for stakeholders	• Key stakeholders • Monitoring data	analysis • Meetings with UNDP, project team and project partners • Interviews with project beneficiaries and other stakeholders
How is the project effective in achieving the objectives of the UNCBD?	• What are the impacts or likely impacts of the project? ○ On the local environment; ○ On economic well-being; ○ On other socio-economic issues.	• Provide specific examples of impacts at species, ecosystem or genetic levels, as relevant	• Project documents • UNCDB documents • Key Stakeholders • Monitoring data	• Data analysis • Interviews with key stakeholders
Future directions for results	• How can the project build on its successes and learn from its weaknesses in order to enhance the potential for impact of ongoing and future initiatives?		• Data collected throughout evaluation	• Data analysis
Sustainability: Are the conditions in place for project-related benefits and results to be sustained?				
Are sustainability issues adequately integrated in project design?	• Were sustainability issues integrated into the design and implementation of the project?	• Evidence / quality of sustainability strategy • Evidence / quality of steps taken to ensure sustainability	• Project documents and evaluations • UNDP and project personnel and project partners • Beneficiaries	• Document analysis • Interviews
Financial sustainability	• Did the project adequately address financial and economic sustainability issues? • Are the recurrent costs after project completion sustainable? • What are the main institutions/organizations in country that will take the project efforts forward after project end and what is the budget they have assigned to this?	• Level and source of future financial support to be provided to relevant sectors and activities after project ends • Evidence of commitments from international partners, governments or other stakeholders to financially support relevant sectors of	• Project documents and evaluations • UNDP and project personnel and project partners • Beneficiaries	• Document analysis • Interviews

		activities after project end • Level of recurrent costs after completion of project and funding sources for those recurrent costs		
Institutional and governance sustainability	• Were the results of efforts made during the project implementation period well assimilated by organizations and their internal systems and procedures? • Is there evidence that project partners will continue their activities beyond project support? • What degree is there of local ownership of initiatives and results? • Were laws, policies and frameworks addressed through the project, in order to address sustainability of key initiatives and reforms? • What is the level of political commitment to build on the results of the project? • Are there policies or practices in place that create perverse incentives that would negatively affect long-term benefits?	• Degree to which project activities and results have been taken over by local counterparts or institutions/organizations • Level of financial support to be provided to relevant sectors and activities by in-country actors after project end • Efforts to support the development of relevant laws and policies • State of enforcement and law making capacity • Evidences of commitment by government enactment of laws and resource allocation to priorities	• Project documents and evaluations • UNDP and project personnel and project partners • Beneficiaries	• Document analysis • Interviews
Social-economic sustainability	• Are there adequate incentives to ensure sustained benefits achieved through the project?		• Project documents and evaluations • UNDP, project personnel and project partners • Beneficiaries	• Interviews • Documentation review
Environmental sustainability	• Are there risks to the environmental benefits that were created or that are expected to occur? • Are there long-term environmental threats that have not been addressed by the project? • Have any new environmental threats emerged in the project's lifetime?	• Evidence of potential threats such as infrastructure development • Assessment of unaddressed or emerging threats	• Project documents and evaluations • Threat assessments • Government documents or other external published information • UNDP, project personnel and project partners • Beneficiaries	• Interviews • Documentation review
Individual, institutional and systemic capacity development	• Is the capacity in place at the regional, national and local levels adequate to ensure sustainability of the results achieved to date?	• Elements in place in those different management functions, at the appropriate levels (regional, national and local) in terms of adequate structures, strategies, systems, skills, incentives and interrelationships with other key actors	• Project documents • UNDP, project personnel and project partners • Beneficiaries • Capacity assessments available, if any	• Interviews • Documentation review
Replication	• Is there potential to scale up or replicate project activities? • Did the project's Exit Strategy actively promote replication?	• Number/quality of replicated initiatives • Number/quality of replicated innovative initiatives • Scale of additional investment leveraged	• Project Exit Strategy • UNDP, project personnel and project partners	• Document analysis • Interviews
Challenges to sustainability of the	• What are the main challenges that may hinder sustainability of efforts?	• Challenges in view of building blocks of sustainability as presented above	• Project documents and evaluations	• Document analysis

project	• Have any of these been addressed through project management? • What could be the possible measures to further contribute to the sustainability of efforts achieved with the project?	• Recent changes which may present new challenges to the project • Education strategy and partnership with school, education institutions etc.	• Beneficiaries • UNDP, project personnel and project partners	• Interviews
Future directions for sustainability and catalytic role	• Which areas/arrangements under the project show the strongest potential for lasting long-term results? • What are the key challenges and obstacles to the sustainability of results of the project initiatives that must be directly and quickly addressed?		• Data collected throughout evaluation	• Data analysis

Sustainability

- Is a policy framework now in place that will enhance sustainability?
- Has the awareness level increased, thereby enhancing prospects for sustainability?
- Has capacity of institutions been enhanced leading to enhanced prospects for sustainability?
- Are there economic incentives in place now which will enhance sustainability (products, markets, competititive prices, etc…)?
- Do Government requested and approved budgets (DOL, DOA, NBC) enhance or detract from prospects for sustainability?
- Are organizational structures in place that will promote sustainability (functioning cooperatives, organized groups)?
- Are there follow-on initiatives that will take up specific results of this project and build on them?
- Are there significant threats to sustainability? (development mandate, commodity approach, rupee crisis)

Assumptions & Risks

- Have these been accurately portrayed?
- Have these been comprehensively described, i.e., are there any significant risks that were omitted?

Lessons from Relevant Initiatives

- Was there an exercise to identify relevant GEF and other initiatives to learn from in designing the project?
- If so, is there a concrete product that can be examined? Ask to see this.
- Was there an attempt to learn from those initiatives? If so, how? Did the project designers identify the most relevant initiatives and contact key people involved in those projects? Was there a summary of lessons to incorporate in the design of this project? If so, ask to see this. Was there a workshop to discuss the relevant initiatives?
- Were IFAD and FAO consulted to learn from their projects having to do with agrobiodiversity conservation?

- Who was consulted to learn about best practices related to the conservation of wild relatives?
- Were the various international centers/institutions dealing with specific commodities consulted (IRRI, etc…)?

Planned Stakeholder Participation in Project Design and Formulation

- See prodoc and project inception report
- How were farmers/herders involved at this stage?
- Was the project preparation budget adequate to allow for true participation from all 8 districts at the project design stage?

Replicability

- Was it best to include all 8 districts in the project or should project have focused on 1 or 2 districts and then sought to replicate after project end?
- Has the project experience been documented well enough to allow for replication?

Linkages between the project and other relevant interventions in the country

- Was an exercise undertaken to identify other relevant initiatives in country and discuss how if at all they might be linked? If so, ask to see the product of this exercise.

Project Objective

- Was it well formulated/written?
- Is it realistic given the project budget, time frame, and key players involved?

Project Scope

Was it appropriate given the budget, time frame, institutional partners, country realities?

ANNEX XIII: TRACKING TOOL FOR GEF BIODIVERSITY FOCAL AREA STRATEGY PRIORITY TWO: MAINSTREAMING BIODIVERSITY IN PRODUCTION LANDSCAPES AND SECTORS

I. Project General Information

1. Project Name: Integrated Livestock and Crop Conservation Project (ILCCP)
2. Project ID (GEF): 2911
3. Country(ies): Bhutan

Name of reviewers completing tracking tool and completion dates

	Name	Title	Agency
Work Program Inclusion	Dr. Tashi Y. Dorji Asta Tamang	Programme Director/Project Director - ILCCP Project Manager – ILCCP/ Sr. Biodiversity Officer	National Biodiversity Centre National Biodiversity Officer
Project Mid-term	Dr. Tashi Y. Dorji Asta Tamang	Programme Director/Project Director - ILCCP Project Manager – ILCCP/ Sr. Biodiversity Officer	National Biodiversity Centre National Biodiversity Officer
Final Evaluation/project completion			

4. Funding information

GEF support: USD 897,485
Co-financing: USD 2,000,000
Total Funding: USD 2,897,485

5. Project duration:***Planned***___5____ years ***Actual*** ___5____ years

6. a. GEF Agency: UNDP

6. b. Lead Project Executing Agency (ies): National Biodiversity Center/ Ministry of Agriculture & Forests

7. GEF Operational Program:
agro-biodiversity (OP 13)

8. Project Summary (one paragraph):

The project will contribute to the attainment of food security and self-sufficiency in Bhutan through the maintenance of adequate levels of indigenous agro-biodiversity. Specifically, the project will support and assist mainstreaming of agro-biodiversity conservation into livestock and crop development in Bhutan.

9. Project Development Objective:
To ensure that the attainment of food security and self-sufficiency in Bhutan is based on the maintenance

of adequate levels of indigenous agro-biodiversity.

10. Project Purpose/Immediate Objective:

To mainstream agrobiodiversity conservation into livestock and crop development in Bhutan.

11. Expected Outcomes (GEF-related):

Outcome 1: The documentation and characterization of indigenous genetic resources (including wild relatives) supports conservation and development policy, prioritization of conservation efforts and the identification of opportunities for income generation.

Outcome 2: Agricultural and livestock development agencies are able to support farmers in conserving agrobiodiversity through provision of relevant and timely technical information.

Outcome 3: The value of traditional varieties and breeds to farmers is increased through yield enhancement

Outcome 4: Traditional varieties and breeds have access to new and larger markets.

Outcome 5: Farmers have the capacity to access existing and emerging markets.

Outcome 6: At a systemic level, the capacity of the MoA is adequate to mainstream agrobiodiversity conservation into the attainment of food security and self-sufficiency.

Outcome 7: Farmers, agricultural and livestock sector professionals and the general public are aware of the contribution of agrobiodiversity conservation to food security and self-sufficiency.

12. Production sectors and/or ecosystem services directly targeted by project:

12. a. Please identify the main production sectors involved in the project. Please put "**P**" for sectors that are primarily and directly targeted by the project, and "**S**" for those that are secondary or incidentally affected by the project.

Agriculture___"P"
Fisheries_____
Forestry_____"S"
Tourism_____"S"
Mining_____
Oil_____
Transportation_____
Other (please specify)_Livestock "P"

12. b. For projects that are targeting the conservation or sustainable use of ecosystems goods and services, please specify the goods or services that are being targeted, for example, water, genetic resources, recreational, etc

1. genetic resources

II. Project Landscape/Seascape Coverage

13. a. What is the extent (in hectares) of the landscape or seascape where the project will directly or indirectly contribute to biodiversity conservation or sustainable use of its components? An example is provided in the table below.

Targets and Timeframe Project Coverage	**Foreseen at project start**	**Achievement at Mid-term Evaluation of Project**	**Achievement at Final Evaluation of Project**
Landscape area directly[13] covered by the project (ha)	373 hectares	373 hectares	
Landscape area indirectly[14] covered by the project (ha)	3,733 hectares	3,733 hectares	

Explanation for indirect coverage numbers:
Total land area under agriculture use in the selected Gewogs (source: Gewog level Ninth Five Year Plan, 2002; Gewog Profile Information System, Department of Planning, 2005)

13. b. Are there Protected Areas within the landscape covered by the project? If so, names these PAs, their IUCN or national PA category, and their extent in hectares.

	Name of Protected Areas	**IUCN and/or national category of PA**	**Extent in hectares of PA**
1.	JigmeSingyeWangchuck National Park	National Park	173,000 Hectares
2.	Sakten Wildlife Sanctuary	Wildlife Sanctuary	74,060 Hectares

III. Management Practices Applied

14.a. Within the scope and objectives of the project, please identify in the table below the management practices employed by project beneficiaries that integrate biodiversity considerations and the area of coverage of these management practices? Note: this could range from farmers applying organic agricultural practices, forest management agencies managing forests per Forest Stewardship Council (FSC) guidelines or other forest certification schemes, artisanal fisher folk practicing sustainable fisheries management, or industries satisfying other similar agreed international standards, etc. An example is provided in the table below.

Targets and Timeframe **Specific management practices that integrate BD**	**Area of coverage foreseen at start of project**	**Achievement at Mid-term Evaluation of Project**	**Achievement at Final Evaluation of Project**
1. integrated farming system where both local crops farming and local breed of livestock rearing are integrated.	373 hectares	373hectares	
2. organic farming	373 hectares	373 hectares	

13 Direct coverage refers to the area that is targeted by the project's site intervention. For example, a project may be mainstreaming biodiversity into floodplain management in a pilot area of 1,000 hectares that is part of a much larger floodplain of 10,000 hectares.

14 Using the example in footnote 5 above, the same project may, for example, "indirectly" cover or influence the remaining 9,000 hectares of the floodplain through promoting learning exchanges and training at the project site as part of an awareness raising and capacity building strategy for the rest of the floodplain. Please explain the basis for extrapolation of indirect coverage when completing this part of the table.

14. b. Is the project promoting the conservation and sustainable use of wild species or landraces?
Yes

If yes, please list the wild species (WS) or landraces (L):

Common name	*Latin name of domesticated species*	*Approximate number of Landraces estimated*	*Wild relatives that are predicted to occur but yet confirm their distribution*
Rice	*Oryza sativa*	Mendelgang (8), Semjong (7), Trong (14), Ozrong (4)	*Oryzarufipogon, Oryzanivara* Yet to confirm and map their distribution
Maize	*Zea mays*	Mendelgang (3), Semjong (7), Trong (5), Ozrong (1)	
Millet	*Eleusinecorocana*	Semjong (8), Trong (3), Ozrong (3)	*Eleucineindic, Panicum sp., Setariasp.Paspalum sp.*
Buckwheat	*Fagopyrumesculentum*	Semjong (2), Trong (2), Katso (2)Ozrong (2)	*Fagopyrumdebotrys*
Barley	*Hordiumvulgare*	Trong (2), Ozrong (1)	
Legumes	*Phaseolus&Vigna, Glycine*	Semjong (21), Oozorong (4)	*Cajanus sp.*
Oil seeds	*Brassica sp.*	Semjong (2), Trong (3), Ozrong (1)	

Landraces & Wild species for Livestock

Common name	*Latin name of domesticated species*	*Approximate number of breeds*	*Wild relatives that are predicted to occur but yet confirm their distribution*
Yak	*Bovine (BosGaurus)*	2	Semi-Wild Yak
Cattle (Siri &Mithun)	*Bovine (BosIndicus&BosFrontalis)*	4	Relative for Siri.
Sheep (Black Sheep)	*Ovine*	2	*Blue Sheep*
Pig (Local Pig)	*Swine*	4	*Wild pigs*
Poultry (Local Chicken)	*Avian*	3	*Jungle Fowl*
Horse	*Equine*	4	-

14. c. For the species identified above, ***or other target species of the project not included in the list above (E.g., domesticated species)***, please list the species, check the boxes as appropriate regarding the application of a certification system, and identify the certification system being used in the project, if any. An example is provided in the table below.

Certification Species	A certification system is being used	A certification system will be used	Name of certification system if being used	A certification system will not be used

N/A				

14. d. Is carbon sequestration an objective of the project?
No

IV. Market Transformation and Mainstreaming Biodiversity

15. a. **For those projects that have identified market transformation as a project objective**,pleasedescribe the project's ability to integrate biodiversity considerations into the mainstream economy by measuring the market changes to which the project contributed.
The sectors and subsectors and measures of impact in the table below **are illustrative examples, only**. Please complete per the objectives and specifics of the project.

Name of the market that the project seeks to affect (sector and sub-sector)	Unit of measure of market impact	Market condition at the start of the project	Market condition at midterm evaluation of project	Market condition at final evaluation of the project
Private sector	Quantity of local races of crop/livestock produce sold locally as well as exported	N/A	1. 19,000 kgs. of 'Choti' rice sold in the local market in 2009; 2. Around 15,000 eggs sold in the local market in 2009; 3. Farmers of Bji, in Haa sold around 2,600 kgs of cheese; 1,600 kgs. of butter & 3,100 kgs. of yak meat in the local market in 2009. 4. Around 2000 kgs of buckwheat flour sold by the group of 15 farmers in Bumthang.	
Tourism sector	Number of hotels serving Bhutanese cuisine prepared from local races of crop and livestock	N/A	1. Few of the high end hotels in Thimphu serve Bhutanese cuisines prepared from millet, choti rice and buckwheat flour. 2. Buckwheat flour products (cake, cookies, noodles etc.) served in most of the hotels in Bumthang.	

15. b. Please also note which (if any) market changes were directly caused by the project.

_____
_____
_____

V. Improved Livelihoods

16. For those projects that have identified improving the livelihoods of a beneficiary population based on sustainable use /harvesting as a project objective, please list the targets identified in the logframe and record progress at the mid-term and final evaluation. An example is provided in the table below

Improved Livelihood Measure	**Number of targeted beneficiaries (if known)**	**Please identify local or indigenous communities project is working with**	**Improvement Foreseen at project start**	**Achievement at Mid-term Evaluation of Project**	**Achievement at Final Evaluation of Project**
Percentage of households for which traditional varieties and/or breeds contribute "significant" or "highly significant" proportions of household income	Communities of 18 sites.	Local communities of 18 sites in 8 districts.	N/A	The achievement could not be assessed during MTR due to non-availability of baseline data. However a survey to assess the contribution of the project to the increase in the household income will be undertaken by the end of 2010.	10 % increase

VI. Project Replication Strategy

17. a . Does the project specify budget, activities, and outputs for implementing the replication strategy?
Yes

17. b. Is the replication strategy promoting incentive measures & instruments (e.g. trust funds, payments for environmental services, certification) within and beyond project boundaries?
No

VII. Enabling Environment

For those projects that have identified addressing policy, legislation, regulations, and their implementation as project objectives, please complete the following series of questions*:* 18a, 18b, 18c.

18. a. Please complete this table at **work program inclusion for each sector** that is a primary or a secondary focus of the project.
Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector **Statement: Please answer YES or NO for each sector that is a focus of the project.**	**Agriculture**	**Fisheries**	**Forestry**	**Tourism**	**Other (please specify)**	**Other (please specify)**
Biodiversity considerations are mentioned in sector policy	YES		YES	YES		
Biodiversity considerations are mentioned in sector policy through specific legislation	YES		YES			
Regulations are in place to implement the legislation	YES		YES			
The regulations are under implementation	YES		YES			
The implementation of regulations is enforced	NO		YES			
Enforcement of regulations is monitored	NO		YES			

18. b . Please complete this table at **the project mid-term for each sector** that is a primary or a secondary focus of the project.
Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector **Statement: Please answer YES or NO for each sector that is a focus of the project.**	**Agriculture**	**Fisheries**	**Forestry**	**Tourism**	**Other (please specify)**	**Other (please specify)**
Biodiversity considerations are mentioned in sector policy	YES		YES			
Biodiversity considerations are mentioned in sector policy through specific legislation	YES		YES			
Regulations are in place to implement the legislation	YES		YES			
The regulations are under	YES		YES			

implementation						
The implementation of regulations is enforced	NO		YES			
Enforcement of regulations is monitored	NO		YES			

18. c. Please complete this table at **project closure for each sector** that is a primary or a secondary focus of the project.
Please answer YES or NO to each statement under the sectors that are a focus of the project.

Sector **Statement: Please answer YES or NO for each sector that is a focus of the project.**	**Agriculture**	**Fisheries**	**Forestry**	**Tourism**	**Other (please specify)**	**Other (please specify)**
Biodiversity considerations are mentioned in sector policy						
Biodiversity considerations are mentioned in sector policy through specific legislation						
Regulations are in place to implement the legislation						
The regulations are under implementation						
The implementation of regulations is enforced						
Enforcement of regulations is monitored						

All projects please complete this question at the project mid-term evaluation and at the final evaluation, if relevant:

18. d. Within the scope and objectives of the project, has the private sector undertaken voluntary **measures to incorporate biodiversity considerations in production? If yes, please provide brief explanation and specifically mention the sectors involved.**

An *example* of this could be a mining company minimizing the impacts on biodiversity by using low-impact exploration techniques and by developing plans for restoration of biodiversity after exploration as part of the site management plan.

N/A

VIII. Mainstreaming biodiversity into the GEF Implementing Agencies' Programs

19. At each time juncture of the project (work program inclusion, mid-term evaluation, and final evaluation), please check the box that depicts the status of mainstreaming biodiversity through the implementation of this project with on-going GEF Implementing Agencies' development assistance, sector, lending, or other technical assistance programs.

Time Frame Status of Mainstreaming	Work Program Inclusion	Mid-Term Evaluation	Final Evaluation
The project is not linked to IA development assistance, sector, lending programs, or other technical assistance programs.			
The project is indirectly linked to IAs development assistance, sector, lending programs or other technical assistance programs.	YES	YES	
The project has direct links to IAs development assistance, sector, lending programs or other technical assistance programs.	YES	YES	
The project is demonstrating strong and sustained complementarities with on-going planned programs.	YES	YES	

IX. Other Impacts

20. Please briefly summarize other impacts that the project has had on mainstreaming biodiversity that have not been recorded above.

The identification of crop wild relatives in the protected areas and outside will further enhance conservation of wild relative species by mainstreaming into the agro-biodiversity programs.

ANNEX XIV: PROJECT SITES AND FOCAL CROPS& LIVESTOCK BREEDS

Dzongkhag	Gewog	Village	AnGR Commodities	PGR commodities
Haa	Sangbay	Sombekha	Nublang	
		Nakekha	Piggery Poultry	
		Nakekha, Trashigang		Buckwheat (Sweet & Bitter)
	Gakiling	Rangtse		Buckwheat (Sweet & Bitter)
		Thangdokha	Nublang Piggery Poultry	
		Talung Nubri	Yak(2)	
Chukha	Getena	Trashigang	Daga	Buckwheat(1) Maize
		Daga, Tsebji&Pompay	Piggery	
	Metekha	Metekha		Buckwheat and foxtail millet
Samtse	Dungtoe	ThuloDungtoe Gairigaun		Finger millet (kalo &Payli millet
		ThuloDungtoe	Nublang piggery	
		Gairigaun	Poultry	
	Ugyentse	BotayKharka	Sheep	
		Raigaun	Chicken	
Tsirang	Mendelgang	Zomlingzor	Poultry	Rice
	Semjong	Daragang	Poultry	Legumes Maize
Zhemgang	Bardo	Digala	Poultry Piggery	
	Nangkhor	Tsaidang Goling		Upland rice
Bumthang	Tang	Tandigang	Horse	
		Bebzor		Barley
Chhoekhor	Choekhor	Jalikar		Buckwheat
		Dhotong, zhyabjithang, Sangsangma, damphel, nasphel, samdhang	Yak	
		Wabu	Sheep	
Trashigang	Uzrong	Bepam	Poultry	
		Monka	Piggery	
	Shongphu	Yubinag		Soya Beans, Barley Mustard
		Chaling	Siri	
	Merak	Merak	Yak	
Pemagatshel	Decheling	Dungchilu	Pig, Poultry (Yebja)	
		Dungchilu and Kholamri		Millet
	Chimung	Pangthang and Chimung	Piggery Poultry Nublang	