



UNDP Project Document

UNDP-GEF Medium-Size Project (MSP)

(NOTE: the project document includes the approved proposal in Section IV)

Royal Government of Bhutan

United Nations Development Programme

Ministry Of Agriculture, Dzongkhag Administration

Integrated Livestock and Crop Conservation Programme (PIMS 2911)

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

In order to achieve this objective, the project will work in four target sites and at the institutional/policy level to overcome the barriers that currently prevent effective mainstreaming of agrobiodiversity conservation in agricultural and livestock development. The project will adopt the “Triple Gem” concept of the MoA in which value is added to traditional varieties and breeds by improving productivity, developing markets, and facilitating market accessibility.

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Abbreviations used in the text

BAFRA	Bhutan Agriculture and Food Regulatory Body
BAP	Biodiversity Action Plan
BUCAP	Biodiversity Use and Conservation in Asia Programme
CBD	Convention on Biological Diversity
CGIAR	Consultative Group on International Agricultural Research
CoRRB	Council on Renewable Natural Resources Research of Bhutan
DAO	District Agriculture Officer
DLO	District Livestock Officer
DoF	Department of Forestry
DYT	District Development Committee
GYT	Sub-district Development Committee
IRRI	International Rice Research Institute
MoA	Ministry of Agriculture
MTI	Ministry of Trade and Industry
NBC	National Biodiversity Centre
RBAP	Regional Bureau for Asia and the Pacific (of UNDP)
RCU	Regional Coordinating Unit (of UNDP/GEF)
RGoB	Royal Government of Bhutan
RNR	Renewable Natural Resources
RNRRC	Renewable Natural Resources Research Centre
SDA	Sustainable Development Agreement (Netherlands-Bhutan)
SEARICE	Southeast Asia Regional Initiative for Community Empowerment
TTF	Technical Task Force (of the preparatory process)
UNDP	United Nations Development Programme
UNDP-CO	United Nations Development Programme Country Office

SECTION I : Elaboration of the Narrative

PART I: Situation Analysis

During the Eighth Five Year Plan, the Royal Government formulated the National Environment Strategy (NES). Finalized in 1998, the NES is a policy document designed to guide environmental conservation in Bhutan. In July 1998 an Environment Sector Programme Support (ESPS) was initiated with a focus on biodiversity conservation, pollution abatement and cleaner technology, environmental management and communication and the development of a policy and regulatory framework for the environment sector. Through this programme, the Environmental Assessment Act, 2000 was drafted and approved by the National Assembly. This Act ensures that environmental assessments will be implemented for all activities that have potentially significant environmental impacts. Formulation of the National Environmental Action Plan and the National Environmental Protection Act is underway. During the Eighth Five Year Plan, the emphasis was on developing a policy and regulatory framework; institutionalization of the environmental assessment process; institutional strengthening of relevant environmental organizations such as the National Environment Commission Secretariat and the Nature Conservation Division; and the establishment of the National Biodiversity Centre (NBC), the proponent for this project.

In the context of agricultural biodiversity, two programmes are currently underway or have recently been completed in Bhutan. The Agro-biodiversity Conservation (ABC) Project, supported by the government of Netherlands, is mainly focusing on ex-situ conservation of Plant Genetic Resources (PGR) by building infrastructure for the conservation/preservation of germplasm, developing human resources, inventory and collection of PGR etc. On the other hand Biodiversity Use and Conservation in Asia Program Bhutan Project (BUCAP), funded by the Norwegian “Development Fund”, is targeted towards participatory breeding of PGR.

A large majority of the people – over 69% of the population – lives in the rural areas and are dependent on agriculture and livestock husbandry for their livelihoods. Most farming is subsistence, involving highly integrated farming systems, with crops, livestock and forest components totally inter-dependent upon one another. Owing to the mountainous terrain, only about 7.7% of Bhutan’s land is agricultural (recent surveys suggest that this may be an over-estimate), with most agricultural land scattered around small settlements located on hill slopes and valley bottoms. These features make agriculture and farming systems complex and labour-intensive. Isolation of production centres from one another and from markets makes the development of a market economy slow.

Located where two global centres of crop origin – the China centre and India centre – virtually abut onto each other, and encompassing an enormous altitudinal range of agricultural systems (150-4600m asl), Bhutan is characterized by high levels of crop and livestock diversity, including large numbers of endemic varieties and breeds. Annex D of the approved MSP proposal describes the global significance of Bhutan’s agrobiodiversity in detail.

Threats to crop and livestock genetic resources in Bhutan:

High levels of agrobiodiversity continue to be found in Bhutan. The strong conservation ethic enshrined in Bhutanese culture has helped to limit genetic erosion of crop and livestock resources. Nevertheless, despite previous and current efforts to promote agrobiodiversity conservation, threats to traditional crop varieties and livestock breeds are having an impact. The main threats are:

FOR CROP GENETIC RESOURCES:

- *Introduction of new varieties:* The national priority to achieve food security and self sufficiency has led to an effort to increase yields, mainly through the introduction of high yielding exotic varieties. This process has proven most successful for rice, due to the availability of well-adapted exotic varieties that are suited to the environments found at lower and middle elevations. Traditional varieties of rice in many localities, especially those with easiest access to markets, have been almost entirely lost from farmers' fields. In more remote locations, and especially at higher elevations, large micro-environmental variation has made it difficult to introduce high-yielding varieties. Consequently, many traditional varieties survive in such areas. Crossing of local varieties with high-yielding varieties has led to some yield improvement in these locations. Maize is another crop for which high yielding varieties have been introduced.
- *Change in food habits:* The extreme topography and environmental conditions of Bhutan previously limited the movement of food products, so farmers were largely dependent only on crops that were available locally. Thus, for instance, communities at higher elevations did not eat rice, as it could not be grown at such elevations. Improving transportation infrastructure has permitted much wider distribution of rice, which has therefore decreased markets for some other cereals. This in turn has resulted in smaller areas being cultivated, and the loss of some varieties.
- *Substitution by other crops.* The spread of a money-based economy has resulted in an increasing focus on income and consequently the substitution of subsistence crops with cash crops. The best example of this is the replacement of buckwheat by potatoes. Horticultural crops also offer high income potential and divert effort from more traditional crops.
- *Market accessibility and associated processing problems.* The long distances from farms to markets, over difficult terrain, impacts some crop plants. For example, the value of vegetables once they reach markets is lower than could be the case due to spoilage during transportation. This, in turn, reduces the attractiveness of such crops.
- *Ban on shifting cultivation and damage by wild animals.* The strong focus of the RGoB on conservation of Bhutan's natural resources is epitomized by a ban on shifting cultivation. This has affected the diversity of crops that were typically grown on such land, especially maize. Healthy populations of wild animals,

especially boar, in the forests that cover 70% of Bhutan also result in high levels of damage to crops. Again, maize is a favoured target for wild animals, as a result of which it is cultivated far less than was previously the case.

FOR LIVESTOCK GENETIC RESOURCES:

- *Introduction of new breeds.* As for crop species, there have been efforts to replace traditional breeds with exotic higher yielding breeds. This is the case especially with cattle. Another factor in the replacement of traditional breeds is an effort to reduce free-range grazing in forests, for which traditional breeds (especially siri) are well adapted, with pen feeding. Introduced breeds are typically unable to thrive on forest grazing.
- *Cross-breeding, inbreeding, and an unsound breeding policy.* Cross breeding with exotic breeds has affected the genetic purity of traditional breeds, especially in the case of cattle, where siri have been cross-bred with mithun. Unsound breeding strategies, in which breeding records have not been maintained have exacerbated the problem, as the pedigree of breeding animals is unknown. Inbreeding is one consequence of such an unsound policy.
- *Reduction of area of grazing land.* As part of the RGoB's focus on conservation of natural resources, there have been policy interventions to reduce the extent of grazing land. This has affected traditional breeds of cattle and horses.
- *Processing problems and market availability.* Problems with distance to markets and difficult terrain have limited market availability in some cases. Constraints on processing have added to this problem. This is especially true for yak products, which are produced at extreme elevations, where the population size is very small, and which therefore have to be transported large distance to markets.
- *Availability of cheap cross-border livestock.* For pigs and, to some extent, poultry, the large production potential in India results in cheap products being available in Bhutanese markets. This, in turn, makes the economics of raising traditional breeds less attractive.

Agricultural and livestock development for food security and self-sufficiency in Bhutan

Most of the underlying causes of the threats described above are related to the *agricultural and livestock development policies* in Bhutan, and *the drive for food security and self-sufficiency*. Other underlying causes are related to *the equally strong policy of nature conservation*, which has led to the ban on shifting cultivation and efforts to reduce forest grazing.

Food security and self-sufficiency has been the most important goal of the Royal Government of Bhutan for several decades. Given the limited area of cultivatable land in Bhutan, increased food security and self-sufficiency can come only through increasing yields. Consequently, the introduction of improved varieties and livestock breeds and, to a lesser extent, improvement of local varieties and breeds, has been the cornerstone of agricultural and livestock development practices. Thus the threats related to *introduction of new varieties and breeds, change in food habits, substitution by other crops*, and

inappropriate breeding strategies, are all directly driven by policies favouring food security and self-sufficiency. The same policies have established strong agricultural and livestock extension services, which emphasize high yields and homogenization of production. This has resulted in the threats related to *market accessibility and associated processing problems*, both for crops and livestock.

The attainment of food security and self-sufficiency has encountered several constraints. These include:

- a) Improved exotic varieties of rice proved to have limited social acceptability initially because of their dwarf habit, which failed to produce adequate fodder for livestock in the integrated agricultural systems of Bhutan. Furthermore, improved rice varieties suffer from limited acceptability in terms of taste;
- b) Notwithstanding these problems, improved exotic varieties can be planted only in very limited areas in Bhutan because they are not adapted to high elevations. Thus, while introduction of improved exotic varieties offers a very rapid and technically simple approach to yield improvement, the overall impact on food security is limited;
- c) With increasing number of rural youth moving to the urban areas for either education or employment opportunities, there is a corresponding decrease in the farm labour availability and is resulting in a reduction of land area cultivated, with extensive areas of previously productive paddy land now lying fallow;
- d) The inhospitable terrain that is characteristic of Bhutan's agricultural land and an inheritance system that results in ever-smaller parcels of land inhibits the potential for mechanization in support of more intensive cultivation practices.

The current situation is that in many locations, improved exotic varieties have largely displaced local varieties for commercial purposes. However, if they have sufficient areas of land to ensure genetic purity, farmers will continue to cultivate small areas of their favoured local varieties for their own consumption. In other cases, farmers may seek assistance from other farmers who are not growing improved varieties (typically at higher elevations) to maintain small stocks of traditional varieties.

The introduction of fruit and nut cash crops also offers opportunities for income enhancement. Having secured as much yield improvement as is possible at low elevations through introduction of improved exotic varieties, the field crops sections of the RNRRC's are now increasing their focus on improvement of local varieties at higher elevation, both through breeding and selection of indigenous genetic resources and through hybridization with improved varieties.

At higher elevations, extreme micro-environmental variation favours high levels of diversity. Varieties from one valley transplanted to the same elevation in a neighbouring valley frequently do not produce acceptable yields because of variability in adaptability to soil or other environmental conditions. For the same reason, yield enhancement through environmental improvement is very difficult because of the cost and complexity of developing improved varieties adapted only to very small areas. A much more significant threat at higher elevations is crop substitution, by which traditional crops are replaced by cash crops for income enhancement purposes. The most common example of this is widespread replacement of buckwheat and maize by potato.

The *ban on shifting cultivation, a reduction in the area of grazing land, and the increasing damage caused by populations of wild animals* as their numbers increase following a ban on hunting are some of the causes of reduction in agrobiodiversity. The MoA is now preparing a policy directive aimed at bringing fallow land back into cultivation. The policy directive would oblige owners of fallow land to resume cultivation or to allow local farmers to bring the land back into cultivation (for example through a leasing agreement). This will result in larger areas of land being cultivated by individual farmers, which will make mechanization much more feasible, thus increasing productivity despite the reduced labour force.

The circumstances are therefore ideal for mainstreaming agrobiodiversity conservation into agricultural and livestock development for food security and self-sufficiency efforts in Bhutan. The conditions which will facilitate successful interventions in support of agrobiodiversity conservation include:

- Traditional varieties and breeds still enjoy high social acceptability in terms of taste, disease resistance and cultural significance (e.g. use in specific festivals or for religious purposes);
- Traditional varieties are well adapted to dryland agriculture and offer food security by distributing risk;
- The livestock policy promotes cross-breeding as the strategy to secure yield improvement – this necessitates conservation of traditional breeds;
- Widespread replacement of traditional varieties by improved varieties in less accessible locations is unlikely because of the complexity of dealing with extreme micro-environmental variation;
- The success of yield improvement in many localities means that both RNRRC's and dzongkhag extension services are increasingly focused on the needs of farmers in more remote locations, especially as the farm road network expands;
- The new policy directive of MoA to bring fallow land back into cultivation reduces the pressure on higher elevation farmland to make up the current shortfall in food security and self-sufficiency.

Despite these positive conditions, mainstreaming of agrobiodiversity conservation still faces several barriers. These are:

1. Despite recent investments in collection and characterization, levels and spatial distribution of diversity of traditional yields and varieties are poorly understood, preventing effective priority setting;
2. Agencies supporting agricultural and livestock development – especially the dzongkhag extension services and RNRRC's - promote yield improvement as the only solution to food security, without considering the value of diversity;
3. 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.
4. As most farmers have only recently become fully integrated in a market economy, their ability to access markets and meet market requirements is limited.
5. Institutional capacity, and policy implementation does not adequately integrate agrobiodiversity conservation into agricultural and livestock development;

- 6 There is currently little understanding or support for the value of the conservation of traditional varieties and breeds as a contribution to food security and self-sufficiency;

PART II : Strategy

Food security and self-sufficiency encompasses not only the production of sufficient quantities of agricultural produce to meet the food requirements of the population, but also resilience to change. A high level of production that is susceptible to changing environmental conditions does not confer security. In contrast, lower levels of production (still exceeding the minimum required to meet food requirements) that are buffered against the effects of changing conditions represent a greater degree of security.

The topography and climate of Bhutan means that farming systems have always had to deal with environmental perturbations to a much greater extent than most other locations. The very high levels of agrobiodiversity that characterize Bhutan's farming systems are a major and very effective element of a strategy to adapt to environmental change. The potential for adaptation that diversity confers is increasingly at risk as high yielding varieties and breeds replace well adapted but lower yielding local varieties and breeds. Thus, in an effort to promote increased food production, the resilience of that production in the face of climate change is reduced.

The RGoB now recognizes that a one-dimensional focus on yield improvement is not adequate, and that the loss of globally significant agrobiodiversity threatens food security and self-sufficiency. However, the barriers described above constrain efforts to modify the focus of agricultural development, such that food security and self-sufficiency is secured through management of diversity.

For example, because little effort has been invested in the past in understanding how much diversity exists, and where it is located, rational priority setting for conservation is currently not possible. Similarly, because there has been little investment in characterization, the potential to develop markets for traditional varieties and breeds is unknown. The NBC has a clear mandate to generate such information, but the same pressures that have governed agricultural development in the past have dictated priorities for NBC. Investments are therefore needed in building the capacity of the NBC to acquire, process and generate information required for effective conservation. While the building of capacity can take some time, several factors favour effective capacity building. Firstly, some capacity already exists, and secondly, the nature of government in Bhutan, which is very "lean" and interconnected, means that even modest gains in capacity can have immediate consequences. Furthermore, some of the highest priorities for conservation are self-evident. While some varieties and breeds will inevitably be lost in the next several years before the capacity building of NBC is complete, substantial progress can nevertheless be made.

Similarly, the barrier related to dzongkhag extension services and RNRRC's needs to be overcome if agrobiodiversity conservation is to be mainstreamed. This is, in fact, a critical barrier, since the dzongkhag extension services and RNRRC's are both the mechanism by which government policy is implemented in the field and the interface between farmer and government.

The two inter-related barriers concerning low monetary value assigned by farmers to traditional varieties and breeds and the problems associated with accessing markets for products of traditional varieties and breeds can be overcome both by seeking ways to increase yields of traditional varieties and by developing new “niche” markets where products of traditional varieties and breeds can command significant prices.

While the RGoB recognizes the value and necessity of conserving traditional varieties and breeds, its own policies and regulations are not necessarily effective in promoting such a vision at present. Thus, there is a need to review and, where necessary, adapt existing policies and regulations to ensure that mainstreaming is effective.

Finally, as in all such conservation interventions, success is determined in part by the level of support secured among policy makers and the general public. Building support will help to ensure that other interventions are effective and will build sustainability.

Given that conserving agrobiodiversity *in situ* requires the mainstreaming of conservation objectives, policies and practices in the agricultural production landscape and sector, the most appropriate approach for the project is clearly that of Strategic Objective 2 under the GEF Biodiversity Focal Area Strategy.

Thus, the **project goal** is “To ensure that the attainment of food security and self-sufficiency in Bhutan is based on the maintenance of adequate levels of indigenous agrobiodiversity.”

As a contribution to this goal:

The **project objective** is “To mainstream agrobiodiversity conservation into livestock and crop development policy and practices in Bhutan.”

In order to achieve this objective, the project will work in four agro-ecological zones (selected through various criteria including being cultivation centres with globally significant biodiversity as detailed in Annex D) and at the institutional/policy level to overcome the barriers (described above) that currently prevent effective mainstreaming of agrobiodiversity conservation in agricultural and livestock development.

A key aspect of the project objective is that the end-of-project situation does not require that all farmers, or even a majority of farmers in the target sites grow traditional varieties or raise traditional breeds. The project seeks to ensure that the diversity of varieties and breeds currently found in the target sites continue to contribute to a profitable and sustainable agricultural economy. The project will adopt the “Triple Gem” concept of the MoA (Figure 1, above), in which value is added to traditional varieties and breeds by improving productivity (Outcome 3), developing markets (Outcome 4), and facilitating market accessibility (Outcome 5). Progress on all three pillars of the “Triple Gem” will be facilitated by improved delivery of scientific information (Outcome 1) and technical support (Outcome 2). The sustainability of the resulting benefits will be assured through institutional and policy improvements (Outcome 6) and adaptive learning, dissemination and awareness raising (Outcome 7).

Thus, overcoming barriers to mainstreaming will result in the following **project outcomes**:

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.

Indicator 1.1: 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.

Indicator 1.2: 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.

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

Indicator 2.1: 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.

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

Indicator 3.1: 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.

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

Indicator 4.1: 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.

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

Indicator 5.1: 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.

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.

Indicator 6.1: 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.

Outcome 7: Increased sustainability of project impacts through monitoring, learning, adaptive feedback and evaluation, dissemination of lessons learned and awareness generation.

Indicator 7.1: Effective mechanisms for regular monitoring, analysis, documentation, and providing feedback to key stakeholders to ensure adaptive learning as well as for wider dissemination of lessons learned

Indicator 7.2: 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.

Project Outputs

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.

The identification of conservation priorities is based on information concerning location and extent of native varieties and breeds. Without such information, priorities cannot be developed and conservation efforts will be unfocussed and ineffective. Documentation and characterization is necessary in order to generate the information on which focused and effective conservation priorities can be based. Likewise, the identification of opportunities for income generation depends on knowledge concerning native varieties and breeds and their characteristics. Without this knowledge, opportunities for income generation will be random and certainly ineffective. Finally, policy concerning conservation and agricultural development needs to be based on information concerning the status of native varieties and breeds.

- Output 1.1. Existing gaps in capacity, for example, in animal genetics, taxonomy and characterization techniques, are addressed through training of NBC staff (including through support for an MSc in animal genetics).
- Output 1.2. Gaps in existing databases are addressed through collection and characterization of indigenous genetic resources.
- Output 1.3. Spatial databases of indigenous genetic resources, and especially wild relatives, are created.
- Output 1.4. Emergency measures required for conservation of most endangered varieties and breeds are identified and implemented.
- Output 1.5. *Ex situ* collections of livestock genetic resources are established.
- Output 1.6. Measures to ensure conservation of endangered priority wild relatives are identified and implemented.

The outputs contributing to Outcome 1 will be delivered by the NBC. Cooperation with the RNRRC's and Dzongkhag extension services will be required for outputs 1.2, 1.3, and 1.5. Cooperation with the DoF will be required for output 1.6.

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

- Output 2.1. RNRRC and Dzongkhag Extension staff trained in the importance of, and approaches to agrobiodiversity conservation
- Output 2.2. Agrobiodiversity conservation incorporated into research programmes of RNRRC's and activities of Dzongkhag Extension services.
- Output 2.3. Technical constraints are addressed through the work of MoA agencies
- Output 2.4. Problems encountered at specific sites and innovative solutions developed by the farmers are exchanged among project sites.

The outputs contributing to Outcome 2 will mainly be the responsibility of the RNRRC's and Dzongkhag extension services. Training of the staff of these agencies will be by NBC, supported by international agencies, as appropriate and in conformity with GEF requirements.

Outcome 3: Traditional varieties and breeds yield greater financial benefits to farmers.

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

Output 3.2 Farmers trained in participatory breeding.

The yield improvement output (3.1) will also depend on support from the RNRRC's of the CoRRB. The evolution of technical and research priorities of the RNRRC's (for example, an increasing focus on remote areas) are consistent with the goals of the project and will be supported through the project.

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

Output 4.1. Existing marketing capacity in the RGoB (for example, in the Agriculture Marketing Services of MoA, and in the MTI) is mobilized to develop a marketing strategy for products of traditional varieties and breeds.

Output 4.2. Market potential is assessed for new and niche markets – especially in relation to the tourism sector.

Output 4.3. Marketing and purchase agreements are secured with private sector partners and regional marketing agencies.

Output 4.4. Development and implementation of a certification system for products of traditional varieties and livestock breeds

The outputs contributing to Outcome 4, will depend on inter-agency cooperation, especially with the Agriculture Marketing Services (of the MoA) and the Ministry of trade and Industry. Existing initiatives in these agencies, for example, UNDP's Rural Enterprise Development Project, are addressing the existing capacity constraints of business development in remote areas. The project will work with and through these existing initiatives to ensure that markets for traditional varieties and breeds are supported. Output 4.4 will be delivered in collaboration with the Bhutan Food and Agriculture Regulatory Agency (BAFRA).

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

Output 5.1. Farmers' cooperatives formed to facilitate access to markets

Output 5.2. The capacity of Dzongkhag administrations to support agro-enterprise development is developed.

Output 5.3. Farmers are trained in special requirements of new and niche markets, identified on the basis of cost-benefit analyses.

Output 5.4. Processing and packaging facilities are developed.

The outputs contributing to Outcome 5 require coordination with, and support from Dzongkhag administrations for each target site. The Agriculture Marketing Services will also assist with capacity development.

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.

Output 6.1. Policy analysis of sectoral policies identifies gaps and inconsistencies

- Output 6.2. Agriculture and livestock sector policies integrate agrobiodiversity conservation issues
- Output 6.3. Fiscal policies (interest rates, taxation and subsidies) support agrobiodiversity conservation
- Output 6.4. Institutional reform supports increased cooperation among RGoB agencies, government corporations, and the private sector.
- Output 6.5. Coordination mechanism established to support NBC's mandate in coordinating biodiversity conservation

The outputs contributing to Outcome 6 require a high level of inter-agency coordination and cooperation. The Policy and Planning Division of the MoA are responsible for policy assessment and modification. Several existing initiatives addressing priorities in the 9th five-year plan are relevant to project outputs such as 6.2 and 6.3.

Outcome 7: Increased sustainability of project impacts through monitoring, learning, adaptive feedback and evaluation, dissemination of lessons learned and awareness generation.

- Output 7.1 Effective project monitoring and evaluation system established and functioning including mechanisms to ensure regular adaptive feedback, learning and dissemination of lessons learned in accordance with M&E strategy and plan
- Output 7.2 Lessons and experiences from existing efforts to promote agrobiodiversity conservation are shared with farmers in the project's target sites.
- Output 7.3 Progressive farmers, in terms of agrobiodiversity conservation, are supported in efforts to disseminate agrobiodiversity conservation methods.
- Output 7.4 Annual RNR conferences serve to exchange lessons learned in agrobiodiversity conservation.
- Output 7.5 Curricula in schools and especially the Natural Resources Training Institute are strengthened in relation to agrobiodiversity conservation.
- Output 7.6 Public awareness campaigns are supported, especially by the mass media (print and broadcast) and through extension services.

Most of the outputs contributing to Outcome 7 will be delivered with the assistance of the RNRRC's and Dzongkhag extension services (especially outputs 7.2, 7.3, and 7.4). The Information and Communications Services of the MoA will lead in delivering outputs 7.5 and 7.6. In the case of output 7.5, the Ministry of Education will have an important role. Output 7.3 will be delivered by the Project Team with guidance and inputs on best practices from the relevant sections of the Implementing Agency and the GEF, under the overall oversight of the National Project Director and the Project Steering Committee.

The logframe matrix including indicators, baselines, targets, assumptions and risks is provided in Section II, Part I of this document.

PART III : Project Management Arrangements

The project will be implemented over a period of five years beginning in July 2007. The project will be executed under UNDP National Execution (NEX) procedures. The lead executing agency for the project will be the National Biodiversity Center (NBC), a non-departmental agency of the Ministry of

Agriculture, based at Serbithang in Thimphu. NBC will be directly responsible for the timely delivery of inputs and outputs and for coordination with all relevant agencies.

The NBC will also be directly responsible for delivering many outputs of the project. These include Outcome 1 (Documentation and characterization), for which NBC will take the lead, but will rely on staff and facilities of the RNRRC's and the Dzongkhag extension services for field surveys and collections. NBC will also be the lead agency for Outcomes 2 (Technical training) and 5 (Institutional and systemic capacity strengthening).

For outputs contributing to other outcomes, other government agencies will be directly involved, with the NBC coordinating activities. The Agriculture Marketing Services of the MoA will lead on activities under Outcome 3 (Value added), and especially for Outcome 4 (new markets), where close cooperation will be sought with the REDP. In both these Outcomes, there will also be links to the Ministry of Trade and Industry and to BAFRA. The Policy and Planning Division of the MoA, which is responsible for policy assessment and modification will take the lead for achieving outputs under Outcome 6. For certain outputs contributing to Outcome 7 (such as dissemination and awareness generation), the Information and Communications Services, another non-departmental agency of the MOA, will take the lead.

UNDP Bhutan will be responsible for general project oversight, including financial and progress monitoring and reporting in line with UNDP and GEF requirements and as further detailed in Part IV.

The project will receive high level guidance and oversight from a Steering Committee (SC) composed of and with the ToR as given in section IV, part IIA. The Steering Committee will be chaired by the Secretary, Ministry of Agriculture. The SC will be held twice a year and may meet exceptionally as needed.

A Project Management Unit (PMU) will play the key role in project execution. It will be attached to NBC and will be headed by a Project Manager (PM). He/she will be a national professional designated for the five-year duration of the project. The TOR of PM is presented in section IV part IIC. The PM will have a small support staff (secretary/administrative assistant, accountant and driver) that will be provided by NSSC. The PMU will have overall responsibility for project management, administrative, technical and financial reporting and will follow existing Government procedures under NEX modalities. The PMU/NBC/MoA will be responsible for the achievement of all outcomes in collaboration with the relevant stakeholders. The PM will function under the overall guidance of the NPD (section IV, part IIB)

In order to accord proper acknowledgement to GEF for providing funding, a GEF should appear on all relevant GEF project publications, including among others, project hardware and vehicles purchased with GEF funds. Any citation on publications regarding projects funded by GEF should also accord proper acknowledgment to GEF. The UNDP logo should be more prominent -- and separated from the GEF logo if possible, as UN visibility is important for security purposes.

PART IV: Monitoring and Evaluation

Within three months of the project start up a Project Inception Workshop will be conducted with the full project team, relevant government counterparts, co-financing partners, the UNDP-CO and representation from the UNDP-GEF Regional Coordinating Unit. A fundamental objective of this Inception Workshop will be to ensure the project team understands the project's goals and objectives and to finalize preparation of the project's first annual work plan on the basis of the project's logframe matrix. This will include reviewing the logframe (indicators, targets, means of verification, risks and assumptions), imparting additional detail as needed, and on the basis of this exercise, finalizing the Annual Work Plan (AWP) with precise and measurable performance indicators, and in a manner consistent with the expected outcomes for the project.

Additionally, the Inception Workshop (IW) will provide an opportunity for all parties to better understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase, particularly in relation to monitoring and evaluation responsibilities. An early evaluation meeting of project structures such as the Project Management Unit and the Steering Committee will be held at the end of month six of the project to review achievement of the start-up activities and to adjust the project strategy and schedule as may be required.

Monitoring and evaluating implementation progress will be based on the indicators provided in the Logical Framework Matrix in Section II Part 1. It will assess both whether delivery of goods and services is performed in a timely, adequate and cost-effective manner and whether this is achieving the envisaged Outcomes within the expected timeframes. In order to measure the ecological and social impacts of the project, some simple but highly significant indicators have been identified and are provided at the Objective level of the Logical Framework Matrix Section II Part 1. To assess impact of the project, baseline data related to the main indicators will be collected, where it doesn't already exist, during the first six-month period of the project and systematically measured thereafter

Due to the nature of the *in-situ*, on-farm approach to agro-biodiversity conservation, the participation of farmers and local communities in M&E activities is essential. As part of the project monitoring and evaluation activities, a team will be sub- contracted after month six of the project to assist in identifying additional endogenous indicators of project success relevant to indigenous communities.

As part of the project's M&E plan, the project will also establish network linkages with other UNDP/GEF agro-biodiversity conservation projects and other projects related to the protection of plant genetic resources. UNDP/GEF has established a framework partnership agreement with The International Plant Genetic Resources Institute (IPGRI), under which IPGRI can be contracted by individual projects to facilitate such exchanges. The project budget will reflect the costs of such networking activities.

In accordance with GEF requirements, Quarterly Operational Reports will be provided during the course of the project to both UNDP-Bhutan and the UNDP-GEF Regional Coordinating Unit (RCU) in Bangkok. The project team will also be responsible for the preparation and submission of the **Progress Reports** as and when required that would be submitted to the Regional Coordinating Unit (UNDP-GEF, RBAP) and UNDP Bhutan. At least every six months, UNDP Bhutan is in charged of monitoring the project through Risk Management System (RMS) which has been incorporated as a module in Atlas. Any risks reported will be accompanied by a management response and a risk mitigation plan. Regional Coordination Unit will get involved in the supervision and monitoring of the project when alerted by RMS. A project implementation report will be produced every six months by the Project Management Unit, and presented in draft to the Project Steering Committee in their periodic meetings for their review. Once yearly this will be prepared in **Annual Project Report (APR)/ Project Implementation Review (PIR) (AIP/PIR)** prescribed format to inform the yearly Tripartite Project Review (TPR) meetings and report to GEF on project progress. These TPR meetings include the participation of the Project Management Unit, the Royal Government of Bhutan, and the UNDP Country Office. The final APR/PIR will be regarded as the **Project Terminal Report** for consideration at the terminal tripartite meeting. The draft report will be distributed sufficiently in advance to allow in-house review and technical clearance by the GEF prior to the terminal tripartite review. In addition, UNDP will oversee annual administrative and financial audits to be conducted by the Royal Audit Authority (RAA).

In accordance with UNDP/GEF M&E procedures, a **Mid-term Evaluation (MTE)** will be undertaken after 2 years to review progress and effectiveness of implementation. Findings of this review will be incorporated as recommendations and will be instrumental for bringing improvement in the overall project design for the remaining period of the project's term. In addition, one year after completion of project activities an **independent final evaluation** will be conducted to assess project achievement of objectives and impacts and document lessons learned. The costs of both evaluations will be covered by the project budget. A detailed schedule of project reviews and evaluations is included in Annex F.

TABLE H-1: INDICATIVE MONITORING AND EVALUATION WORK PLAN AND CORRESPONDING BUDGET

Type of M&E activity	Responsible Parties	Budget US\$ Excluding project team Staff time	Time frame
Inception Workshop	<ul style="list-style-type: none"> ▪ Project Coordinator ▪ UNDP CO ▪ UNDP GEF 	2,000	Within first two months of project start up
Inception Report	<ul style="list-style-type: none"> ▪ Project Team ▪ UNDP CO 	None	Immediately following IW
Measurement of Means of Verification for Project Purpose Indicators	<ul style="list-style-type: none"> ▪ Project Coordinator will oversee the hiring of specific studies and institutions, and delegate responsibilities to relevant team members 	To be finalized in Inception Phase and Workshop. Indicative cost - None	Start, mid and end of project
Measurement of Means of Verification for Project Progress and Performance (measured	<ul style="list-style-type: none"> ▪ Oversight by Project GEF Technical Advisor and Project Coordinator ▪ Measurements by regional 	To be determined as part of the Annual Work Plan's preparation. Indicative cost 15,000	Annually prior to APR/PIR and to the definition of annual work plans

on an annual basis)	field officers and local IAs		
APR and PIR	<ul style="list-style-type: none"> ▪ Project Team ▪ UNDP-CO ▪ UNDP-GEF 	None	Annually
TPR and TPR report	<ul style="list-style-type: none"> ▪ Government Counterparts ▪ UNDP CO ▪ Project team ▪ UNDP-GEF Regional Coordinating Unit 	2,000	Every year, upon receipt of APR
Steering Committee Meetings	<ul style="list-style-type: none"> ▪ Project Coordinator ▪ UNDP CO 	2,000	Following Project IW and subsequently at least once a year
Periodic status reports	<ul style="list-style-type: none"> ▪ Project team 	None	To be determined by Project team and UNDP CO
Technical reports	<ul style="list-style-type: none"> ▪ Project team ▪ Hired consultants as needed 	20,000	To be determined by Project Team and UNDP-CO
Mid-term External Evaluation	<ul style="list-style-type: none"> ▪ Project team ▪ UNDP- CO ▪ UNDP-GEF Regional Coordinating Unit ▪ External Consultants (i.e. evaluation team) 	15,000	At the mid-point of project implementation.
Final External Evaluation	<ul style="list-style-type: none"> ▪ Project team, ▪ UNDP-CO ▪ UNDP-GEF Regional Coordinating Unit ▪ External Consultants (i.e. evaluation team) 	15,000	At the end of project implementation
Terminal Report	<ul style="list-style-type: none"> ▪ Project team ▪ UNDP-CO ▪ External Consultant 	None	At least one month before the end of the project
Lessons learned	<ul style="list-style-type: none"> ▪ Project team ▪ UNDP-GEF Regional Coordinating Unit (suggested formats for documenting best practices, etc) 	25,000 (average 5,000 per year) A workshop will be conducted every year bringing stakeholders together to review progress and document lessons	Yearly
Audit	<ul style="list-style-type: none"> ▪ UNDP-CO ▪ Project team 	15,000	Yearly
Visits to field sites (UNDP staff travel costs to be charged to IA fees)	<ul style="list-style-type: none"> ▪ UNDP Country Office ▪ UNDP-GEF Regional Coordinating Unit (as appropriate) ▪ Government representatives 	15,000 (average one visit per year) The costs are for travel of not only the project management but also of participatory evaluations that will be conducted by various teams involved	Yearly
TOTAL INDICATIVE COST		US\$ 126,000 (GEF 46,000 Co-financing 80,000)	
<i>Excluding project team staff time and UNDP staff and travel expenses</i>			

Annex H-2: IMPACT MEASUREMENT TEMPLATE

(These indicators will be drawn from the Logframe Matrix and are related to the measurement of global benefits achieved by the project rather than project implementation progress. They will to be fine tuned and detailed in the Inception Workshop). The table below is an example.

Key Impact Indicator	Target (Year 5)	Means of Verification	Sampling frequency	Location
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.	Surveys and interviews	Start, mid, end	All project sites
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.	Surveys	Start, mid, end	All project sites
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	Surveys and interviews	Start, mid, end	All project sites

Part V: Legal Context

This project document shall be the instrument referred to as such in Article 1, paragraph 1 of the Standard Basic Assistance Agreement between the Royal Government of Bhutan and the United Nations Development Programme, signed by the parties on 14 May 1978. The host country-implementing agency shall, for the purpose of the Standard Basic Assistance Agreement, refer to the Royal Government Co-operation Agency described in the Agreement.

The UNDP Resident Representative in Bhutan is authorized to effect in writing the following types of revision to this Project Document, provided that he/she has verified the agreement thereto by the UNDP-GEF Regional Coordination Unit in Bangkok and is assured that the other signatories to the Project Document have no objection to the proposed changes:

- a) Revision of, or addition to, any of the annexes to the Project Document;
- b) Revisions which do not involve significant changes in the immediate objectives, outputs or activities of the project, but are caused by the rearrangement of the inputs already agreed to or by cost increases due to inflation;
- c) Mandatory annual revisions which re-phase the delivery of agreed project inputs or increased expert or other costs due to inflation or take into account agency expenditure flexibility; and
- d) Inclusion of additional annexes and attachments only as set out here in this Project Document

SECTION II : STRATEGIC RESULTS FRAMEWORK

PART 1 : Logical Framework and Objectively Verifiable Impact Indicators

Objectively verifiable indicators					
Project Strategy	Indicator	Baseline	Target	Sources of verification	Risks and Assumptions
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.				
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	Surveys and interviews	NO UNEXPECTED NEGATIVE MACROECONOMIC EFFECTS (E.G. INFLATION, DEVALUATION) WILL IMPEDE THE DEVELOPMENT OF NEW VENTURES RELATED TO AGROBIODIVERSITY

<p>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.</p>	<p>Yield improvement linked to scientific knowledge</p>	<p>No information is available to guide yield improvement</p>	<p>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.</p>	<p>Reports of NBC and extension services</p>	<p>Actual levels of indigenous genetic resources can be accurately estimated on the basis of currently available data</p>
	<p>Conservation of wild relatives</p>	<p>Approximately 60% of wild relatives represented in PA's</p>	<p>By the end of the project, all wild relative species that are not already represented in the protected area system have been conserved <i>in situ</i>, either through modification/extension of the protected area system or through land use agreements with local authorities.</p>	<p>Reports of NBC</p>	<p>Existing data on locations of wild relatives proves to be sufficiently reliable</p>
<p>Outcome 2: Agricultural and livestock development agencies are able to support farmers in conserving agrobiodiversity through provision of relevant and timely technical information</p>	<p>Technical support for agrobiodiversity conservation</p>	<p>MoA agencies provide no support regarding agrobiodiversity conservation</p>	<p>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</p>	<p>Surveys and interviews</p>	<p>MoA policy strengthens emphasis on agrobiodiversity conservation in RNRRC's</p>

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

SECTION III : Total Budget and Workplan

Award ID:	00048573
Award Title:	PIMS 2911 Bhutan Integrated Livestock & Crop Conservation Programme
Business Unit:	BTN10
Project Title:	PIMS 2911 Bhutan Integrated Livestock & Crop Conservation Programme
Implementing Partner (Executing Agency)	Ministry of Agriculture

GEF Outcome/Atlas Activity	Responsible Party (Implementing Agent)	Source of Funds	ATLAS Budget Description	2007 (USD)	2008 (USD)	2009 (USD)	2010 (USD)	2011 (USD)	Total	
Outcome 1: Doc & characterization of genetic resources	BHU- Ministry of Agriculture	GEF	71200- Int Consultant		6000	6000			12000	
	BHU- Ministry of Agriculture	GEF	71300 - Local Personnel	6000		11000			17000	
	BHU- Ministry of Agriculture	GEF	74500- Miscellaneous	5,000	5,000	5,000	4,000	2,000	21,000	
	BHU- Ministry of Agriculture	GEF	72300 - Materials & Goods	30,000	32,500	8,000			70,500	
	BHU- Ministry of Agriculture	GEF	72100 - Contractual Services	9,500	9,500	10,000	10,000	10,000	49,000	
	BHU- Ministry of Agriculture	GEF	72800 - IT Equipment	13,000		8,000			21,000	
	BHU- Ministry of Agriculture	GEF	71600 - Travel	4,000	3,000	6,000	5,000	4,000	22,000	
	BHU- Ministry of Agriculture	GEF	72500 - Supplies	3,000	3,000	3,000	3,000	3,000	15,000	
				Sub Total Outcome 1	70,500	59,000	57,000	22,000	19,000	227,500.00
		BHU- Ministry of Agriculture	GEF	72100 - Contractual Services	10,000	8,000	8,000	2,000		28,000

GEF Outcome/Atlas Activity	Responsible Party (Implementing Agent)	Source of Funds	ATLAS Budget Description	2007 (USD)	2008 (USD)	2009 (USD)	2010 (USD)	2011 (USD)	Total
conserving agrobiodiversity	BHU- Ministry of Agriculture	GEF	72200 - Equipment & Furniture	6,000					6,000
	BHU- Ministry of Agriculture	GEF	71600 - Travel	30,000	25,000	20,000	6,000	4,000	85,000
	BHU- Ministry of Agriculture	GEF	74500 - Miscellaneous	5,000	3,000	5,000	2,000	2,000	17,000
	BHU- Ministry of Agriculture	GEF	74200 - AV & Printing prod cost	2,000		2,000			4,000
	BHU- Ministry of Agriculture	GEF	71200 - International Personnel					4,000	4,000
	BHU- Ministry of Agriculture	GEF	71300 - Local Personnel					4,000	4,000
	BHU- Ministry of Agriculture	GEF	72300 - Materials & Goods	45,500	36,000	11,000			92,500
				98,500	72,000	46,000	10,000	14,000	240,500
				9,500	9,000	2,500	9,000	7,000	37,000
				2,500	22,500	16,000	3,500	2,000	46,500
Outcome 3: Increase value of traditional varieties & breeds	BHU- Ministry of Agriculture	GEF	71600 - Travel						
	BHU- Ministry of Agriculture	GEF	72100 - Contractual Services						
	BHU- Ministry of Agriculture	GEF	72200 - Equipment & Furniture	6,000	10,500	9,000	5,000	2,000	32,500
	BHU- Ministry of Agriculture	GEF	72300 - Materials & Goods	5,000	3,000	4,500	2,000	2,000	16,500
	BHU- Ministry of Agriculture	GEF	73400 - Rental & maintenance of equip		2,000				2,000
	BHU- Ministry of Agriculture	GEF	74500 - Miscellaneous	2,000	5,000	4,000	2,000	2,000	15,000

GEF Outcome/Atlas Activity	Responsible Party (Implementing Agent)	Source of Funds	ATLAS Budget Description	2007 (USD)	2008 (USD)	2009 (USD)	2010 (USD)	2011 (USD)	Total
	BHU- Ministry of Agriculture	GEF	74200 - AV & Printing prod cost		5,000				5,000
			Sub Total Outcome 3	25,000	57,000	36,000	21,500	15,000	154,500
Outcome 4: Productshave access to markets	BHU- Ministry of Agriculture	GEF	71600 - Travel	5,300	4,000	3,500	4,500	2,500	19,800
	BHU- Ministry of Agriculture	GEF	72100 - Contractual Services	6,000	18,000	8,000	5,000	4,000	41,000
	BHU- Ministry of Agriculture	GEF	72200 - Equipment & Furniture	3,000	10,000	3,000	2,000	2,000	20,000
	BHU- Ministry of Agriculture	GEF	74500 - Miscellaneous	2,000	5,000	2,000	2,500	1,000	12,500
			Sub Total Outcome 4	16,300	37,000	16,500	14,000	9,500	93,300
Outcome 5: Farmers have capacity to access markets	BHU- Ministry of Agriculture	GEF	74500 - Miscellaneous		4,000	3,000	3,000		10,000
	BHU- Ministry of Agriculture	GEF	71600 - Travel		2,500	10,000	7,000	3,437	22,937
	BHU- Ministry of Agriculture	GEF	74200 - AV & Printing prod cost		2,500	3,000	5,000	1,748	12,248
	BHU- Ministry of Agriculture	GEF	72100 - Contractual Services			10,000	12,000	7,000	29,000
	BHU- Ministry of Agriculture	GEF	72300 - Materials & Goods			10,000		2,000	12,000
	BHU- Ministry of Agriculture	GEF	72500 - Supplies		2,000		3,000		5,000
			Sub Total Outcome 5		11,000	36,000	30,000	14,185	91,185

GEF Outcome/Atlas Activity	Responsible Party (Implementing Agent)	Source of Funds	ATLAS Budget Description	2007 (USD)	2008 (USD)	2009 (USD)	2010 (USD)	2011 (USD)	Total
Outcome 6: Capacity of MoA is adequate to mainstream agrobiodiversity conservation	BHU- Ministry of Agriculture	GEF	74500 - Miscellaneous			2,000	2,500		4,500
	BHU- Ministry of Agriculture	GEF	72100 - Contractual Services			3,500	3,000		6,500
	BHU- Ministry of Agriculture	GEF	71600 - Travel			1,500	1,000		2,500
	BHU- Ministry of Agriculture	GEF	72300 - Materials & Goods			1,000	1,000		2,000
				Sub Total Outcome 6			8,000	7,500	-
Outcome 7: Increased sustainability of project impacts through monitoring, adaptive learning, feedback and evaluation, dissemination of lessons learned and awareness raising	BHU- Ministry of Agriculture	GEF	71200 - International Personnel			15,000		15,000	30,000
	BHU- Ministry of Agriculture	GEF	71300 - Local Personnel			5,000		5,000	10,000
	BHU- Ministry of Agriculture	GEF	71600 - Travel			4,000			4,000
	BHU- Ministry of Agriculture	GEF	74500 - Miscellaneous			2,000			2,000
				Sub Total Outcome 7			26,000	-	20,000
Project Management Cost	BHU- Ministry of Agriculture	GEF	71600 - Travel	1000	1000	1000	1000	1000	5000
	BHU- Ministry of Agriculture	GEF	72400 - Communications	1000	1000	1000	1000	1000	5000

GEF Outcome/Atlas Activity	Responsible Party (Implementing Agent)	Source of Funds	ATLAS Budget Description	2007 (USD)	2008 (USD)	2009 (USD)	2010 (USD)	2011 (USD)	Total
	BHU- Ministry of Agriculture	GEF	72200 - Equipment & Furniture	3000	3000	3000	3000	3000	15000
	BHU- Ministry of Agriculture	GEF	72800 - Information Technology Equipmt	4000					4000
	GRAND TOTAL		Sub Total	9000	5000	5000	5000	5000	29000
				219,300.00	241,000.00	230,500.00	110,000.00	96,685.00	897,485.00

Summary of Funds:

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
GEF	219,300	241,000	230,500	110,000	96,685	897,485
UNDP (cash)	100,000	108,000	100,000	52,000	40,000	400,000
RGOB (in-kind)	187,500	202,500	187,500	97,500	75,000	750,000
BUCAP - bilateral (cash)	85,000	91,800	85,000	44,200	34,000	340,000
BUCAP - NGO (in-kind)	25,000	27,000	25,000	13,000	10,000	100,000
SDA (cash)	17,500	18,900	17,500	9,100	7,000	70,000
Netherlands Type III (cash)	70,000	75,600	70,000	36,400	28,000	280,000
Companies (in-kind)	15,000	16,200	15,000	7,800	6,000	60,000
TOTAL	719,300	781,000	730,500	370,000	296,685	2,897,485

Budget and Workplan by Outputs

Output	GEF request	Co-financing	Total
Output 1.1. Existing gaps in capacity (for example, in taxonomy and characterization techniques) are addressed through training of NBC staff.	76,425.00	63,000.00	139,425.00
Output 1.2. Gaps in existing databases are addressed through collection and characterization of indigenous genetic resources.	42,030.00	63,000.00	105,030.00
Output 1.3. Spatial databases of indigenous genetic resources, and especially wild relatives, are created.	20,000.00	42,000.00	62,000.00
Output 1.4. Emergency measures required for conservation of most endangered varieties and breeds are identified and implemented.	41,015.00	68,000.00	109,015.00
Output 1.5. <i>Ex situ</i> collections of livestock genetic resources are established.	6,000.00	78,000.00	84,000.00
Output 1.6. Measures to ensure conservation of endangered priority wild relatives are identified and implemented.	42,030.00	51,000.00	93,030.00
Outcome 1 total budget	227,500.00	365,000.00	592,500.00
Output 2.1. RNRRC and Dzongkhag Extension staff trained in the importance of, and approaches to agrobiodiversity conservation	87,520.00	67,000.00	154,520.00
Output 2.2. Agrobiodiversity conservation incorporated into research programmes of RNRRC's and activities of Dzongkhag Extension services.	-	99,000.00	99,000.00
Output 2.3. Technical constraints are addressed through the work of MoA agencies	65,310.00	52,000.00	117,310.00
Output 2.4. Problems encountered at specific sites and innovative solutions developed by the farmers are exchanged among project sites.	87,670.00	103,000.00	190,670.00
Outcome 2 total budget	240,500.00	321,000.00	561,500.00
Output 3.1. Yield of traditional crop varieties and livestock breeds improved through breeding and cultural improvements	81,577.50	64,000.00	145,577.50
Output 3.2. Farmers trained in participatory breeding	72,922.50	69,000.00	141,922.50
Outcome 3 total budget	154,500.00	133,000.00	287,500.00

Output	GEF request	Co-financing	Total
Output 4.1. Existing marketing capacity in the RGoB (for example, in the Agriculture Marketing Services of MoA, and in the MTI) is mobilized in support of market development for agrobiodiversity products and, where necessary, supplemented.	31,002.50	92,000.00	123,002.50
Output 4.2. Market potential is assessed for new and niche markets – especially in relation to the tourism sector.	8,655.00	47,000.00	55,655.00
Output 4.3. Marketing agreements are secured with private sector partners.	33,642.50	77,000.00	110,642.50
Output 4.4. Development and implementation of a certification system for products of traditional varieties and livestock breeds	20,000.00	77,000.00	97,000.00
Outcome 4 total budget	93,300.00	293,000.00	386,300.00
Output 5.1. Farmers' cooperatives formed to facilitate actions in support of agrobiodiversity conservation	20,050.00	97,000.00	117,050.00
Output 5.2. The capacity of Dzongkhag administrations to support agro-enterprise development is developed.	33,035.00	91,000.00	124,035.00
Output 5.3. Farmers are trained in special requirements of new and niche markets.	19,050.00	87,000.00	106,050.00
Output 5.4. Processing and packaging facilities are developed.	19,050.00	67,000.00	86,050.00
Outcome 5 total budget	91,185.00	342,000.00	433,185.00
Output 6.1. Policy analysis of sectoral policies identifies gaps and inconsistencies	2,500.00	57,600.00	60,100.00
Output 6.2. Agriculture sector policies integrate agrobiodiversity conservation issues	1,000.00	69,600.00	70,600.00
Output 6.3. Fiscal policies (interest rates, taxation and subsidies) support agrobiodiversity conservation	1,000.00	86,600.00	87,600.00
Output 6.4. Institutional reform supports increased cooperation among RGoB agencies, government corporations, and the private sector.	6,000.00	90,600.00	96,600.00
Output 6.5. Coordination mechanism established to support NBC's mandate in coordinating biodiversity conservation	5,000.00	104,600.00	109,600.00
Outcome 6 total budget	15,500.00	409,000.00	424,500.00
Output 7.1. Effective project monitoring and evaluation system established and functioning including mechanisms to ensure regular adaptive feedback, learning and dissemination of lessons learned in accordance with M&E strategy and plan	36,000	14,000	50,000

Output	GEF request	Co-financing	Total
Output 7.2. Lessons and experiences from existing efforts to promote agrobiodiversity conservation are shared with farmers in the project's target sites.	10,000.00	16,000.00	26,000.00
Output 7.3. Progressive farmers, in terms of agrobiodiversity conservation, are supported in efforts to disseminate agrobiodiversity conservation methods	-	16,000.00	16,000.00
Output 7.4. Annual RNR conferences serve to exchange lessons learned in agrobiodiversity conservation.	-	10,000.00	10,000.00
Output 7.5. Curricula in schools and especially the Natural Resources Training Institute are strengthened in relation to agrobiodiversity conservation.	-	14,000.00	14,000.00
Output 7.6. Public awareness campaigns are supported, especially by the mass media (print and broadcast) and through extension services.	-	10,000	10,000.00
Outcome 7 total budget	46,000.00	80,000.00	126,000.00
Project Management Budget/Cost	29,000.00	57,000.00	86,000.00
GRAND TOTAL	897,485.00	2,000,000	2,897,485

SECTION IV : ADDITIONAL INFORMATION

PART I :

1. **Approved MSP proposal and Annexes (See separate file)**
2. **Other agreements:**
 - a) **RAF-Compliant Country Endorsement Letter**

FORM : DADDM No. DADDM

FAX NO. : 326778

Sep. 16 2006 05:39:01 P1



དངུལ་རྒྱུ་ལྷན་ཁག།
ཕྱོགས་རམ་དང་རྒྱུ་འབྲུལ་འཛིན་སྐྱོང་ལས་ཁུངས།
DEPARTMENT OF AID & DEBT MANAGEMENT
MINISTRY OF FINANCE
ROYAL GOVERNMENT OF BHUTAN

DADM/GEF-OP/ 950

September 15, 2006

The Resident Representative
UNDP Country Office
Thimphu.

Subject: Re-endorsement letter for Bhutan Medium Size Project "Integrated Livestock and Crop Conservation Programme" (ILCCP).

Sir,

On behalf of the Royal Government of Bhutan, and in my capacity as the GEF Operational Focal Point, I hereby re-endorse the project entitled "Integrated Livestock and Crop Conservation Programme", to be presented through the UNDP to the GEF for funding. This project is of highest priority for the Royal Government of Bhutan, and is part of the current Ninth Five Year Plan. The proposal was developed and submitted during GEF3. It was technically approved by the GEF Secretariat in November 2005. We have been awaiting final clearance since then.

We are now given to understand that this proposal comes under GEF4 and may, therefore, be subject to the RAF. This is extremely worrying to the Royal Government of Bhutan as the allocation under the RAF for Bhutan is already very limited. If the RAF is applied to this project, Bhutan is left with very few resources to programme for the rest of GEF4. In this regard, we had sent numerous communications directly and through the South Asia Constituency Member to the GEF Secretariat and the former GEF CEO to expedite the processing of this project in GEF3 itself.

The ILCCP proposal remains RGOB's highest priority for financing through GEF and we therefore agree to allocate \$897,485 of the GEF Biodiversity funds available to Bhutan under the RAF to this project if this is the only option. However, given that this project was technically cleared almost a year ago without any request for further changes by the GEF Secretariat, we would very much appreciate if the RAF is not applied to this particular project. We would be grateful if you could convey our views on this matter to the GEF Secretariat and the new GEF CEO.

Please forward this re-endorsement letter to the GEF Secretariat on our behalf. We look forward to an early and positive response.

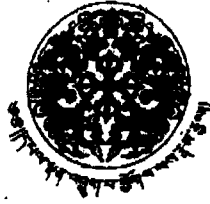
Yours Sincerely

Sonam Wangchuk
GEF Operational Focal Point

THIMPHU: BHUTAN, Post Box No. 1032, Phone: (00975) 2-326777/333230/333231/333232/333234
Fax : (00975) 2-326779

b) Cofinancing commitment letters.

དཔལ་ལྷན་འབྲུག་གཞུང་
སྲིད་མ་ལུན་ལག་
བསྟུན་ཤིང་སྲོལ་
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ཐིམ་ཕུ།



ROYAL GOVERNMENT OF BHUTAN
MINISTRY OF AGRICULTURE
POST BOX NO. 252
THIMPHU

"Walking the Extra Mile"

NBC/BUCAP/-/04-05/ 3 92

16 November 2004

To
Ms. Seeta Giri
Environmental Specialist
UNDP
Thimphu

Sub: Co-funding of ILCCP in Bhutan

Madam,

I am glad that ILCCP has been developed and submitted for possible financial support from GEF. Activities of ILCCP seems very complementary to Agro-biodiversity Conservation project and Biodiversity Use and Conservation in Asia Programme (BUCAP) project financially supported by the government of the Netherlands and Development Fund of Norway respectively. Therefore BUCAP project would also be one potential co-funding programme for ILCCP activities. Further the donor has in principle committed approximately US\$ 250,000 for the phase II of the project for 2006-2009. Phase II of BUCAP project is in the process of development.

Yours sincerely

Asta M. Tamang
BUCAP National Coordinator
Biodiversity Use and Conservation in Asia Programme (BUCAP) Project
National Biodiversity Centre, MoA
Serbithang

Copy to
Programme Director, National Biodiversity Centre, MoA, Serbithang

National Biodiversity Center PABX:00 975 2 351417/351218 Fax: 00 975 2 351219; E-mail

PHONE NO. : 00975 2 351219
NBC@btinternet ht
NOV. 29 2004 03:33PM P4

FROM : NBC THIMPHU



དངུལ་རྒྱུ་ལྷན་ཁག།

གྲོགས་རམ་དང་རྒྱུ་ལྷན་ཁག་འཛིན་སྐྱོང་ལས་ཁུངས།
DEPARTMENT OF AID & DEBT MANAGEMENT
MINISTRY OF FINANCE
ROYAL GOVERNMENT OF BHUTAN

DADM/GEF-OPP/ 2257
10 December 2004

The Resident Representative,
United Nations Development Programme,
Thimphu

Subject: Endorsement of Integrated Livestock and Crop Conservation Project Proposal

Madam,

The GEF Operational Focal Point is pleased to endorse the Integrated Livestock and Crop Conservation Project. The project is inline with the Ninth Plan. By this same letter, we also commit to the government contribution (in-kind) as reflected in the project proposal.

We would therefore appreciate if the UNDP could kindly submit the proposal to GEF. A copy of the proposal is enclosed.

With warm regards,

Yours sincerely,


Nima Wangdi
GEF Operational Focal Point

✓	10/12/04
	Seeta ✓
	GEF



30 November 2004

Dear Frank,

Subject: Co-financing commitment from UNDP

I am pleased to submit you the project brief "Integrated Livestock and Crop Conservation Project" on behalf of the Royal Government of Bhutan. The project is very timely and falls within the priorities of the Royal Government.

Supporting the project objectives and outcomes, UNDP Bhutan commits US\$400,000 as co-financing to the project.

Look forward to your continued support to Bhutan.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Renata', is positioned above the printed name.

Renata Lok Dessallien
Resident Representative

Mr. Frank Pinto
Executive Coordinator
UNDP/GEF
New York



ཡུན་འདྲུན་གོང་བསེལ་ཡིག་ཚང་།
SUSTAINABLE DEVELOPMENT SECRETARIAT (SDS)

SDS/Type-III/002/755

26th November 2004

Program Director
National Biodiversity Center
Serbithang

Subject: Co-Financing for ILCCP

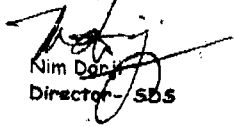
Sir,

This has reference to your letter no. NBC/ILCCP/04-05/407 dated 22nd November 2004 regarding the above-mentioned subject.

In this context, I would like to inform you that under the ongoing Agro-Biodiversity Conservation project, there is a budget balance of Nu. 1.9 million for implementation during the remaining project period. Further, the Type III project on Collaboration between NBC and CGN on Animal Genetic Resources has been approved on condition with a total budget of Euro 202,400. Upon fulfillment of the conditions which was conveyed to you, the project can begin implementation with the signing of an agreement.

I hope the above information fulfils your requirement.

Yours sincerely,


Nim Dorji
Director - SDS

ཡུན་འདྲུན་གོང་བསེལ་ཡིག་ཚང་།
རྒྱལ་སྤྱི་འཕུལ་ཁུངས་།
ཨིཀ་ཨྲིའུ་ལའང་།

Tele (direct Line) (975)-2-321425/321426
EPABX (975)-2-326641/322604/322951
FAX (975)-2-325853
Post Box No. 596
E-mail: sds@drnknet.bt

NDU: 29 2004 03:22PM 03

PHONE NO. : 00975 2 351219

FROM : NBC THIMPHU

PART II : Terms of References for key project personnel, Project Committees and main sub-contracts

A: Terms of Reference for Project Steering Committee (PSC)

The Project Steering Committee (PSC) will comprise of the following members. The Secretary, Ministry of Agriculture, will chair the PSC. The PSC is expected to meet twice a year and more, if need arises.

Secretary, MOA (Chairperson)
Director, Department of Livestock, MOA
Director, Department of Agriculture, MOA
Director, Council of RNR Research of Bhutan, MOA
Director, Department of Forests, MOA
Chief Planning Officer, Planning and Policy Division, MoA
Programme Director, National Biodiversity Center, MOA (member secretary)
Director General, DADM
Deputy Resident Representative, UNDP

The primary task of the PSC will be to set up policies and provide guidance and direction for the Project. Specific responsibilities of the PSC are the following:

- Policy and institutional coordination at the national level. It will provide overall policy guidance to the implementation of the project and facilitate an effective communication and decision-making between the Executing Agency and other actors.
- Monitor project implementation to ensure that it remains in-line with the approved project document, goals and objectives of the Global Environment Facility, financial rules and regulations of UNDP.
- Participate in Tripartite Review and to review Annual Progress Reports (APR/PIR).
- Ensure establishment of Project Management Unit for effective and successful coordination and implementation of the project activities.
- Review and approve annual work plan and budget drafted by Project Management Unit.

B: Terms of Reference for National Project Director

The Government shall appoint a National Project Director (NPD) to be responsible, on behalf of the government, for the project. It is likely that the NPD will be a senior official from the executing agency. The NPD will head the Project Management Unit, and will be supported by a National Project Manager, and local and international experts. The NPD will be responsible for:

- Ensuring Government inputs to the project are forthcoming in a timely and effective manner
- Ensuring project stays in line with national programs, strategies, and objectives
- Overseeing project implementation and ensuring that the project goal and objectives are achieved

C: Project Manager

Background: The Project Manager (PM) will be responsible for the implementation of the project, including the mobilization of all project inputs, supervision over project staff, consultants and sub-contractors. The PM will be fully accountable to the Director of NBC and to the Steering Committee for satisfactory execution of the entire project in accordance with the NEX modality and will be responsible for meeting the government obligations. The Project Manager (s) will be the head of the Project Management Unit. The PM shall perform a liaison role with government, UNDP, and all stakeholders involved with the project.

Duties and Responsibilities

1. Overall management of the project.
2. Supervise and coordinate the production of project outputs as per the project document;
3. Ensure the technical coordination of the project;
4. Mobilize all project inputs in accordance with NEX procedures;
5. Finalize the ToR for the consultants and subcontractors;
6. Coordinate the recruitment and selection of project personnel;
7. Supervise and coordinate the work of all project staff, consultants and sub-contractors;
8. Work closely with project partners to closely coordinate all the actors involved with achieving Project Outcomes, Outputs and Activities ;
9. Supervise the work of all PMU staff.
10. Prepare and revise project work and financial plans, as required Government and UNDP;
11. Manage procurement of goods and services under UNDP guidelines and oversight of contracts;
12. Ensure proper management of funds consistent with UNDP requirements, and budget planning and control;
13. Establish project monitoring and reporting;
14. Arrange for audit of all project accounts for each fiscal year;
15. Prepare and ensure timely submission of quarterly financial consolidated reports, quarterly consolidated progress reports, mid-term reports, and other reports as may be required by UNDP.
16. Disseminate project reports to and respond to queries from concerned stakeholders;
17. Report progress of project to the Steering Committee.
18. Oversee the exchange and sharing of experiences and lessons learned with relevant conservation and development projects nationally and internationally.
19. Preparing a detailed annual work plan for the project
20. Undertaking any other activities that may be assigned by the Steering Committee.

D: Terms of Reference for Project Accountant / Assistant

The NBC will appoint one personnel from the Administration and Finance Section as the Project Assistant. The Project Assistant will be primarily responsible for managing the

administrative work of the project.

Specifically, s/he will be responsible for the following tasks:

1. Maintain up-to-date records of project finances and expenditures;
2. Review financial expenditures and ensure such expenditures are in compliance with rules and procedures established by the Ministry of Finance and UNDP/GEF;
3. Ensure all project expenditures are authorized by the NPD and verified by the PM;
4. Ensure timeliness in receipt and disbursement of project funds;
5. Prepare reports of financial expenditures as per the requirements of RGoB and UNDP.
6. Assist the Project Manager in project related administrative works

SIGNATURE PAGE

Country: Bhutan

UNDAF Outcome(s)/Indicator(s):

(Link to UNDAF outcome., If no UNDAF, leave blank)

Expected Outcome(s)/Indicator (s): Contribution of biodiversity and ecosystem services to food security, health, livelihoods and reduced vulnerability to natural disasters factored into national planning for the achievement of development goals, including safeguards to protect these resources

Implementing partner:

Ministry Of Agriculture

Other Partners:

Dzongkhag Administration

Private sector

Programme Period: July 2006 – June 2011 (5 years)

Programme

Component: SO-2: Mainstreaming Biodiversity Conservation in Production Landscapes and Sectors

Project Title: PIMS 2911 Integrated Livestock and Crop Conservation Project

Project ID: 00048573

Project Duration: 5 years

Management Arrangement: NEX

Total budget:	2,897,485
GEF Project	897,485
GEF PDF A	24,500
Sub Total GEF	921,985
• UNDP	400,000
• Government (in-kind)	750,000
• Bilateral	690,000
• NGO	100,000
• Other (Private Sector)	60,000
Sub-total co-financing	2,000,000

Agreed by (Government) :

Mr. Sonam Wangchuk

Director General

DADM, Ministry of Finance

Agreed by (Executing agency):

Dasho Sangay Thinley

Secretary

Ministry of Agriculture

Agreed by (UNDP):

Nicholas Rosellini

Resident Representative

UNDP, Bhutan