United Nations Development Programme

GLOBAL ENVIRONMENT FACILITY

Date: 21 May 2001

To: Mr. Kenneth King
Assistant CEO

Attention: Program Coordination

From: Rafael Asenjo
GEF Executive Coordinator

Subject: ***Submission of Medium Size Project Brief for VIETNAM: In-situ Conservation of Native Landraces and their Wild Relatives in Vietnam.***

Enclosed is a project brief for *Vietnam* submitted to UNDP by *the Institute of Agricultural Genetics (IAG), Ministry of Agriculture and Rural Development.* Please note that the project has been endorsed by the GEF national operational focal point in *Vietnam*.

In accordance with the operational guidance for the preparation and approval of medium-sized projects, we are submitting this to the GEF Secretariat for action by the Chief Executive Office (CEO). We understand that the Secretariat will recommend to the CEO that the project be submitted to the Council for approval, that it be returned for revision or that it not be developed further.

We are simultaneously circulating copies to UNEP/GEF, World Bank/GEF, STAP and the *CBD* Convention Secretariat for comments to the GEF Secretariat. We expect to receive these comments within 15 working days. Therefore, we look forward to receiving the CEO's decision on or before ***28 June 2001*** but understand that the project will not be formally approved, even if the CEO has endorsed it, until the Council has reviewed it [within the following 15-day period, namely by ***20 July 2001*** as part of the next work programme.

Thank you and best regards.

cc: Robin Burgess, UNEP
Ahmed Djoghlaf, UNEP
Kristin Elliott, UNEP
Madhav Gadgil, STAP
Mark Griffith, UNEP
Ramon de Mesa, GEFSEC
Francine Stevens, World Bank
Lars Videus, World Bank
Hamdallah Zedan, CBD

UNDP-GEF 304 East 45th Street, 10th Floor, New York, NY 10017 Tel. (212) 906-5044 Fax. (212) 906-6998.

UNITED NATIONS DEVELOPMENT PROGRAMME
Project of the Government of the Socialist Republic of Vietnam

MEDIUM-SIZED PROJECT DOCUMENT

Project number: VIE/01/GXX
Project title: *In situ* **Conservation of Native Landraces and their Wild Relatives in Vietnam**
Project short title: Agrobiodiversity
Estimated start date: 15/04/2001
Estimated end date: 30/06/2004
Management arrangement: National Execution
Designated institution: Institute of Agricultural Genetics (IAG)
UN implementing agency: UNDP
Project site: Hanoi and selected provinces
Beneficiary countries: Vietnam

Classification information

ACC sector and subsector: Natural Resources/Biological Resources
DCAS sector and subsector:
Government sector and subsector:

Primary areas of focus/sub-focus: Promoting environmental and natural resources sustainability
Secondary areas of focus/sub-focus:

Primary type of intervention: Programme support
Secondary type of intervention:

Primary target beneficiaries: Target places
Secondary target beneficiaries:

Summary of UNDP and cost-sharing inputs [as per attached budgets]

	US$
UNDP:	
TRAC (1 & 2)	-
TRAC (3)	-
STS	-
GEF	904,000
Cost-sharing:	
Government	1,434,230
Third party	1,565,200
Total	3,903,430

Administrative and operational services (where applicable)

SOF 03
Cost-Sharing
Total:

COA Cost

TOTAL

Government inputs

(in kind)	$464,000
(in cash)	$970,230

Programme officer: Craig Leisher

Brief description:
This medium-sized GEF project will target conservation of six important crop groups (rice, taro, tea, litchi-longan, citrus, and rice bean) including native landraces and wild relatives in three local eco-geographical areas: the northern mountains, the northern midlands, and the north-west mountains of Vietnam. These areas are rich in biodiversity of native landraces and their wild relatives. The six crop groups will be protected by mitigating the threats to the agrobiodiversity of the target sites and preserving their genetic diversity, thus improving global food security.

On behalf of:	Signature	Date	Name/Title
Government	_____	_____	_____
Designated Institution	_____	_____	_____
UNDP	_____	_____	_____

List of Acronyms and Abbreviations

ACIAR	Australian Centre for International Agricultural Research
BAP	Biodiversity Action Plan
CBD	Convention on Biological Diversity
CRES	Centre for Natural Resource and Environmental Studies
EU	European Union
FAO	Food Agriculture Organisation
FES	Faculty of Environmental Studies
GEF	Global Environment Facility
GIS	Geographical Information System
GMZ	Gene Management Zone
HAU	Hanoi Agricultural University
HNU	Hanoi National University
HYV	High-Yield Variety
IAP	Institute for Asian and Pacific
IPGRI	International Plant Genetic Resources Institute
MARD	Ministry of Agriculture and Rural Development
NEA	National Environment Agency
NGO	Non-Government Organisation
PA	Protected Area
PGR	Plant Genetic Resources
PRA	Participatory Rural Appraisal
VASI	Vietnam Agricultural Science Institute
UNDP	United Nations Development Programme

1. PROJECT SUMMARY

PROJECT IDENTIFIERS	
1. Project name: ***In situ* Conservation of Native Landraces and their Wild Relatives in Vietnam**	*2. GEF Implementing Agency:* UNDP
3. Country or countries in which the project is being implemented: Vietnam	4. *Country eligibility:* CBD Ratification—16 November 1994.
5. GEF focal area(s): Biodiversity	*6. Operational program/Short-term measure:* O.P. 13: Agrobiodiversity

7. Project linkage to national priorities, action plans, and programs:

a. Conservation of Agrobiodiversity is identified as a national priority in the Vietnam Biodiversity Action Plan (BAP, 1995). The BAP places emphasis on enhancing measures for: protecting agricultural biodiversity, such as "farming conservation"; encouraging farmers to participate in the common protection efforts; and giving special attention to the conservation of popular traditional varieties which have long been adapted to the local geography and climatic conditions in different regions of the country. (From the Resolution of the Prime Minister No. 845-TTg, December 22, 1995, on the ratification of BAP, in Vietnamese).

b. Consistent with the BAP, this project will assist the government in protecting the zones where the biodiversity of native landraces and their wild relatives are abundant and varied.

c. This project is closely related to the duties of the Institute for Agricultural Genetics (within the Ministry for Agriculture and Rural Development), which include the use of wild plants as genetic resources in crop improvement, as well as breeding resistant cultivars not only for agricultural, but also for horticultural, industrial and aesthetic purposes.

8. GEF national operational focal point and date of country endorsement:
Pham Khoi Nguyen, Chairman of GEF-Vietnam Committee and Vice Minister of the Ministry of Science and Technology and Environment, 4 October 1999.

PROJECT OBJECTIVES AND ACTIVITIES	
9. Project rationale and objectives: Rationale: Vietnam, is one of Vavilov's "Centres of Origin" of domesticated plants and animals, and is one of 10 centres of highest biodiversity in the world. However, agrobiodiversity here is under threat due to various factors and its conservation is urgent. Agrobiodiversity is the basis for evolution and adaptation to a changing environment and manipulation of this diversity by farmers and scientists has produced the highly productive and specialised crops and livestock of modern agriculture. Agrobiodiversity hence is the 'backbone' for food security. This project aims to conserve the agrobiodiversity of six globally important crop species. Objective: to conserve globally significant agrobiodiversity of 6 important crop groups (rice, taro, litchi-longan, rice bean, citrus, and tea) including native landraces and wild relatives in 3 local eco-geographical areas: the northern mountain, the northern midlands, and the north-west mountains of Vietnam. Strategy: to promote sustainable community-based Gene Management Zones (GMZ[1]s); and to provide the enabling conditions for preserving agrobiodiversity.	Indicators: (a) agrobiodiversity protected in eight "gene management zones"; (b) participatory conservation in GMZs secured through community-based organizations; (c) legislative, economic and social policies and programs established for sustainable management of native landraces and their wild relatives.
10. Project outcomes: Overall: (a) Native landraces and wild relatives conserved in dynamic agriculture/forest landscapes; (b) Replicable models established of community-based GMZ management; and (c) An enabling environment established to support conservation of agrobiodiversity. Component 1: Establishment of GMZ's through the creation of an appropriate enabling environment	Indicators: (a) Species of agrobiodiversity importance preserved in several gene management areas; (b) Effective community-based management of access to and use of native species; and (c) Effective policies and programs addressing the root causes of agrobiodiversity loss. 1a: Eight GMZs established and management plans implemented. 1b: Official designation of the GMZs secured and enabling legislation for institutional support adopted. 1c: Financial sustainability secured through increased governmental funding, together with mechanisms whereby benefits from the commercialisation of plant genetic resources (including, for example, through improved marketing)

[1] GMZs can be defined as long-term management sites that contain one or more diverse populations of various target species to be conserved *in-situ*.

Component 2: Operationalization of GMZ's through capacity building, training, and removal of barriers	are returned to appropriate conservation-oriented communities and organisations. 1d: For GMZ's in natural ecosystems, special status for GMZ's identified in management plans 2a: Increased knowledge of traditional varieties achieved through on-site training2b: Community based groups in GMZ's (farmers) trained in cultivation of traditional varieties, methods for introducing products to the market, the production cycle, product certifications, etc. 2c. Improved capacity among farmers and others to implement effective in situ conservation within agro-ecosystems. 2d: New market opportunities established and market prices for traditional varieties increase. 2e: For GMZ's in natural ecosystems: protected area staff trained in conservation
Component 3: Targeted research, information management and analysis in support of GMZ establishment and operationalization	3a: Surveys of areas of high agrobiodiversity within the project areas completed. 3b: Quantification of genetic resources in GMZ's undertaken. 3c: Management information system operational. 3d: Market analyses completed. 3e: International information exchange increased.
Component 4: Public awareness, education and information dissemination in support of the replication of the GMZ approach	4a: Publications of traditional knowledge developed for use by community-based organizations with a focus on agrobiodiversity conservation. 4b: Policy makers aware of issues associated with conservation of traditional varieties. 4c: Integration of agrobiodiversity conservation into curricula of universities and schools 4d: Additional GMZ's established in cultivated and natural ecosystems outside project areas.

11. Project activities to achieve outcomes:	Inputs:
Component 1: Establishment of GMZ's through the creation of an appropriate enabling environment. 1.1 Secure official recognition of the eight GMZs. For GMZ's in natural ecosystems, the establishment of special status within existing protected areas will be secured. 1.2 Implement viable political-juridical modalities to secure intellectual property rights and benefit sharing in relation to crop genetic resources. 1.3 Implement incentives for agrobiodiversity conservation , including modifications to existing policies. 1.4 Implement mechanisms to reinvest benefits from products based on traditional varieties back into GMZs *Component 2: Operationalization of GMZ's through capacity building, training, and removal of barriers* 2.1 Consolidate conservation-oriented organisations within target sites 2.2 Implement on-farm training programmes with extension services and NGOs providing technical advice and support. 2.3 Conduct training workshops to familiarise communities with issues relevant for introducing products into the market. 2.4 Implement a plant inventory monitoring programme. 2.5 Introduce viable technologies for pest and disease reduction where gaps in current practices exist. 2.6 Remove barriers to traditional routes for seed exchange among agricultural communities 2.7 Organize communal seed fairs to promote the exchange of genetic material and the knowledge of cultivating different native varieties. *Component 3: Targeted research, information management and analysis in support of GMZ establishment and operationalization* 3.1 Extend biological surveys undertaken in the target areas with PDF resources, using traditional inventory methods 3.2 Document the taxonomy and polymorphism, environment, ecosystem, and exploitation of target species and their relatives 3.3 Building on the activities of 3.1 and 3.2, create a management information system 3.4 Create map-based inventories with local farmers depicting the wild relatives and local varieties of native crops. 3.5 Conduct a market analysis regarding the potential of different native crop varieties and their products in national and international markets. 3.6 Establish links with regional, national, and international research programs for mutual exchange of information. *Component 4: Public awareness, education and information dissemination in support of the replication of the GMZ approach* 4.1 Create information materials for dissemination to the general public 4.2 Integrate into the curricula of university, primary and secondary schools modules and/or courses 4.3 Undertake awareness building among policy makers 4.4 Promote and undertake education, awareness building, and information dissemination to assist in replication nationally and internationally. 4.5 Increase the participation of national programmes in international and regional fora to address genetic resources conservation issues.	• Environmental and socio-economic expertise • Technical assistance for specific project components from national and international experts, government institutions, NGOs and local organisations • Legal experts to develop an appropriate regulatory framework for plant genetic resources • Training and educational resources • Basic infrastructure and equipment

12. Estimated budget (in US$):	
PDF	$33,000
GEF	$904,000
Co-financing:	
IAG/MARD (Government)	$1,434,230
International Plant Genetic Resource Institute	$100,000
EU project (Vietnam, Belgium and Germany) or bilateral (ABOS-Belgium)	$306,000
McKnight Foundation	$700,000
ACIAR project (2001-2004)	$450,200
TOTAL:	$3,903,430

13. *Information on project proposer:*

Institute of Agricultural Genetics (IAG) is a research and training institute under the Ministry of Agriculture and Rural Development (MARD). The tasks of the IAG are the followings:

- Carrying out scientific and technical research in long-term national and international projects on the conservation of indigenous species and wild plants for use as genetic resources for crop improvement and breeding more resistant cultivars.
- Breeding microbiological strains for post-harvest and food technology.
- Co-operating with domestic and international institutions and universities to train Masters and Ph.D. students in agricultural genetics and biology.
- Providing educational materials for students, local administrators, and farmers on sustainable use of genetic resources and management.

14. Information on executing agency (if different from project proposer): N/A

15. Date of initial submission of project concept: June 1999

INFORMATION TO BE COMPLETED BY IMPLEMENTING AGENCY

16. Project identification number: VIE/00/G41; PIMS 1757

17. Implementing Agency contact person:

Tim Boyle, Regional Coordinator, RBAP, UNDP/GEF, One UN Plaza, New York, NY 10017 USA; Tel: +1-212-906-6511; Fax: +1-212-906-5825; Email: tim.boyle@undp.org

18. *Project linkage to Implementing Agency Program(s):*

Project fits with UNDP assistance strategy for Vietnam's focal areas on Poverty Alleviation and Environmental and National Resource Management (ENRM). UNDP has been helping Vietnam to approach questions on sustainable use of natural resources, support sustainable agriculture, and enhance the multi-function of agriculture. . The proposed project will cooperate with the PA and the ENRM projects in the same three targeted eco-geographical regions focusing on the provinces Ha Tay, Hung Yen, Hai Duong, Ha Giang, Cao Bang, Lang Son, and Tuyen Quang.

2. PROJECT DESCRIPTION

2.1 Project Rationale and Objectives

2.1.1 Rationale

Vietnam, is one of Vavilov's "Centres of Origin" of domesticated plants and animals, and is one of 10 centres of highest biodiversity in the world. The frequent migration and exchanges of people and plants from one region to another within Vietnam have enriched the plant genetic resources (PGR) of Vietnam and diversified the crop species as well as their varieties and forms. Due to the geography and topography of the region, Vietnam combines floral characteristics of east and south Asia. Vietnam's PGR comprise: (a) indigenous species that occur in diverse phytogeographic region; (b) introduced species from south China; and (c) introduced species from south Asia. The country is recognised as a centre of origin and diversity for cultivated rice (*Oryza sativa L.*) and other crops. The total number of native plant species found in Vietnam is estimated at 4,800. Of these, 1,900 are food plants or cultivated plants and their wild relatives. Wild relatives of cultivated plants abound in Vietnam's flora. Many wild relatives are used in phylogenetic studies and crossing. Many species have been introduced to other countries and continents.

Manipulation of this diversity by farmers and scientists has produced the highly productive and specialised crops and livestock of modern agriculture. Further advances in breeding of cultivated varieties will depend on the maintenance of genetic diversity in both traditional varieties and wild relatives. The wide intraspecific diversity of wild rice, citrus spp, etc. is of high value for breeding.

Conservation of agrobiodiversity includes the following four components, of which the first three will be addressed in this project:

- on-farm conservation of traditional varieties;
- *in situ* conservation of wild relatives of crop species;
- preservation and use of traditional knowledge; and
- *ex situ* conservation of genetic resources.

While the first and third components can apply to both native and introduced crops, the second component is only relevant to native species.

2.1.2 Globally Significant Biodiversity

Vietnam with large areas for forest and woodland (9,650 thousand ha or 30 percent) as well as arable land and permanent crop plant (6,985 thousand ha or 21 percent) is recognised as a centre of diversity for many agricultural species. **Because northern Vietnam is both a centre of origin for many crop species, as well as a centre of diversity, this project will address in situ conservation of globally significant wild relatives of selected crops, and simultaneously conserve unique landraces of domesticated crops on-farm.** There are estimated to be 1,900 landraces related wild species in the country, of which 51% are found within the project area.

2.1.3 Target Crop Selection

An initial selection of candidate crop species was based on their degree of endemism, actual or potential importance to long-term global food security, interspecific diversity, extent of genetic erosion, and their social and cultural importance. As part of PDF-A-funded stakeholder consultations, six crop groups were selected from the candidate species. These are shown in Table 1.

Table 1: Target Germplasm of the Project

Crop (Common name)	**O/D***	**Crop** (Scientific Name)	**Wild Relatives** (Scientific and Local Name)
Upland Rice	O	*Oryza sativa* L.	*O. sativa* var. *Khau nua mong* *O. sativa* var. *Khau chamvai* *O. sativa* var. *Mo khao* *O. sativa* var. *Mo ta* *O. sativa* var. *Mum deng* *O. minuta* *O. officinalis* *O. nivara*
Taro	D	*Colocasia antiquorum* Schott *C.esculenta* L. Schott	*C. gigantea* (Blume ex Hassk.) Hook. F.
Tea	O	*Camelia sinensis*	*C. sinensis* var. *assamica* (Mast.) *C. sinensis* var. *viridis* (L.) Pierre sec. Phamh. *C. sinensis* var. *bohea* (L.) Pierre sec. Phamh. & ssp.
Rice bean	O	*Vigna umbellata* (Thumb.) Ohwi & Ohashi	*V. umbellata* var. umbellata & ssp.
Citrus spp.	D	*Citrus sinensis* (L.) Osbeck *Citrus nobilis* Lour *Citrus reticulata* Blanco	varieties of *C. sinensis, C. nobilis* and *C. reticulata* *C. limonia* Osbeck & vars.
Litchi	O	*Litchi chinenesis* Sonn.	varieties of *L. chinenesis* *Nephelium lappaceum* L. *Nephelium cuspidatum* Blume var.
Longan	O	*Dimocarpus longan* Lour.	*Dimocarpus longan* ssp. *Longan* var. *longan* Lour.

**Notes:* *O= species that originated in Vietnam; D= species that diversified in Vietnam*
Litchi and longan are part of the same crop family and will thus be treated as one target crop group under the project.

The six crop groups represent a range of biological and social uses. For example, rice, taro and rice bean have been included because of their significance as staple foods. Tea has been included because of the extent of its genetic erosion. Citrus spp. (oranges and others), litchi and longan show an adaptability to various ecosystems and hence have good potential for commercial production. Of these six crop groups, rice, litchi-longan and citrus species have both their centres of origin and diversity in Vietnam. For taro and tea there are centres of diversity in Vietnam, and wild relatives are also indigenous. For each crop group between 2 and 450 variations have been identified in Vietnam.

2.1.3.1 Rice

The centre of genetic diversity for cultivated rice (*Oryza sativa L.*) is situated from Nepal to northern Vietnam. Many local varieties have been modified, as more than 100 varieties of rice are known from Vietnam. Most of them still carry local names, such as *O. sativa var. "Khau nua mong", O. sativa var. "Khau chamvai", and O. sativa var. "Mo khao".*

2.1.3.2 Taro

Tuber plants, of the family Araceae, have a tropical origin and high diversity. In Vietnam, there are 30 genera with 100 species. The local name is *khoai mon* or *khoai so*. This was once very popular, grown in the midland, mountain, and delta provinces. Presently taro is grown mainly in small areas of the midlands or in valleys under limestone mountains where other valuable plants cannot grow. It can

be used like a starch as well as a vegetable for both human and animal consumption.

2.1.3.3 Tea

Species used for tea production originate mainly from two genera: *Camellia* and *Ilex*. It is estimated that 40 species of *Camellia* are found in Vietnam, which represents almost half of the total number for the genus. *Ilex* is a much larger genus, with an estimated 800 species, of which about 40 are found in Vietnam. Many landraces of *Camellia sinensis* are found throughout northern Vietnam, such as *C. sinensis* var. Shan, or "yellow tea".

2.1.3.4 Rice Bean

The rice bean (or mung bean) originated in Southeast Asia and is a popular cultivar in East Asia and Southeast Asia. The rice bean has many varieties, varying in seed color and size and time taken for maturity. . The rice bean was selected by ethnic minority people in the northern mountain and western highland regions as a crop of high economic importance. The Tay, Nung minorities call the rice bean *"dau nho nhe"*. The other vernacular names are *dau da, dau dai, dau do, dau Cao Bang.*

2.1.3.5 Citrus sps.

Vietnam is also one of the centres of diversity for citrus, with 15 species and 185 local cultivated varieties and their relatives in the north of Vietnam. Many varieties bear the names of localities where they have grown for a long time, such as *Xa Doai* orange and *Doan Hung* pomelo.

2.1.3.6 Litchi and Longan

The origin and geographical distribution of both litchi and longan occurs in the area between southern China and northern Vietnam. Cultivated varieties of native litchi and longan species have been known from at least 400 years ago in Hai Duong, Hung Yen, Vinh Phu and Ha Tay provinces. Some areas of surviving forest in these provinces are home to species such as Guoc litchi (*Nephelium lappaceum L.*) and forest litchi (*N. cuspidatum* Blume var.).

2.1.4 Project Sites

This project includes sites in seven provinces of Vietnam representing three local eco-geographical areas: the northern mountains, the northern midlands, and the north-western mountains. The selection of project sites proceeded in two steps. The first step was to identify genetically important areas (henceforth, referred to as "genetic management zones"—GMZs) or "hot spots" based on the following criteria:

(a) presence and genetic diversity of target species;
(b) presence of endemic species presence of high numbers of other economic species;
(c) overall floristic species richness ;
(d) presence of high numbers of other economic species ;
(e) containing natural and/or semi-natural ecosystems;
(f) presence of traditional agricultural systems; and
(g) protection status and/or existence of conservation-oriented farmers or communities that manage a number of species and varieties

A GMZ is an *in situ* conservation and long term monitoring site that contains one or more diverse populations of target species to be conserved. Each GMZ will have specific management requirements adapted to different species and environmental conditions to ensure natural evolutionary processes, hence serving as an open laboratory, permitting continued evolution and conservation of the component species. In simple terms, the aim of a GMZ is to maintain the natural evolution of

plants for future generations. A series of GMZs is often required to represent the eco-geographic ranges needed for the selected species and populations in order to support sufficient environmental heterogeneity. The GMZs are easily accessible, relatively isolated from exotic gene flow, include a wide range of biological diversity and of the genetic diversity of the target species. The size of a specified GMZ is not fixed (Anonymous, 1996; Tan, 1996; Tan and Ulubelde, 1998). Important elements for determining the size include:

(a) What are the current threats to the genetic resource, such as forest clearing, fire, over harvesting and planting of non-native species? If there are major threats a larger area may be needed;
(b) How do the species reproduce (wind, insects, birds, bats, etc.)? The area has to be large enough to support species reproduction; and
(c) What is known about the ability of the selected species to maintain its biological sustainability? Some species require specific conditions that have an impact on habitat size.

The second step was to select specific sites and communities within the larger GMZs where socio-economic conditions indicate good feasibility for on-farm agrobiodiversity conservation activities. Several workshops, stakeholder consultations, and numerous meetings between IAG, NGOs working in the GMZs, local institutes, and farmer groups aided this process. Visits were made to each site to assess community receptivity to sharing traditional knowledge and practices that promote *in situ* conservation.

The selected sites also represent both high species and varietal diversity of the target crops. They encompass a range of topographic, climatic and socio-economic conditions (e.g., proximity to markets and community-level associations), species, and varieties. The selected sites range in size from 120 to 600 hectares. Because the project will develop a range of experience to reflect these varying conditions, the opportunities for replication elsewhere will be high.

Eight GMZs have been selected (Table 2). In two of the GMZs (GMZ 3 and 8) there is more than one project site within the larger GMZ – one in a cultivated ecosystem, and an associated site in an adjoining natural ecosystem contained within a protected area. The six remaining GMZ's consist only of cultivated ecosystems.

The stakeholder consultations recommended that, where possible and consistent with the principles of agrobiodiversity conservation, PAs with natural ecosystems containing wild relatives of crop species should be included. Two of the GMZs, numbers 3 and 8, include PAs —Ba Vi National Park and Huu Lien Nature Reserve.

Table 2: Sites of the Project

GMZ	Location	GPS	Area of Project Site (ha)	Crops
1	Hong Nam-Hong Chau (Hung Yen)	N: 20°38.353' E: 106°03.614'	200	Longan, Taro, Citrus spp.
2	Thanh Son-Hoang Hoa Tham (Hai Duong)	N: 20°52.206' E: 106°26.861'	160	Litchi, Taro, Citrus spp.
3 (a)	Ba Vi National Park (Ha Tay)	N: 21°01' E: 105°18'-105°25' Alt: 1000m	120	Tea
3 (b)	Ba Vi National Park (Ha Tay)	N: 21°05.409' E: 105°22.745' Alt: 400m	150	Litchi, Taro
3 (c)	Ba Trai buffer zone of Ba Vi National Park (Ha Tay)	N: 21°06.962' E: 105°22.733' Alt: 40m	145	Taro, Litchi, Longan, Citrus spp.

GMZ	Location	GPS	Area of Project Site (ha)	Crops
4	Thanh Cong-Nguyen Binh (Cao Bang)	N: 22° 35' E: 105° 50' Alt: 654-965m	600	Rice, Litchi, Taro, Citrus spp., Rice Bean
5	Cao Bo (Ha Giang)	N: 22° 44.950' E: 104° 54.703' Alt: 320m	200	Tea
6	Viet Vinh (Ha Giang)	N: 22° 26.331' E: 104° 51.167' Alt: 70m	200	Citrus spp., Rice
7	Ngoc Hoi (Tuyen Quang)	N: 22° 28.316' E: 105° 22.703' Alt: 72m	150	Citrus spp., Rice, Taro
8 (a)	Huu Lien Nature Reserve (Lang Son)	N: 21° 39.809' E: 106° 21.927' Alt: 208m	160	Taro, Rice, Litchi, Longan, Citrus spp., Rice Bean
8 (b)	Yen Thinh buffer zone of Huu Lien Nature Reserve (Lang Son)	N: 21° 39.012' E: 106° 21.622' Alt: 208m		

2.1.5 Objectives

The objective of the project is to conserve globally significant agrobiodiversity of 6 important crop groups (rice, taro, litchi-longan, rice bean, citrus, and tea) including native landraces and wild relatives in 3 local eco-geographical areas: the northern mountain, the northern midlands, and the north-west mountains of Vietnam. These three regions contain a large number of native landraces and wild relatives of the target species and are therefore ideal sites for *in situ* conservation. In order to meet this objective, the project will adopt the strategy of promoting sustainable community-based Gene Management Zones (GMZ[2]s); and providing the enabling conditions for preserving agrobiodiversity.

The project will assist the government in protecting areas that are rich in agrobiodiversity of native landraces and their wild relatives for the six crop groups, by mitigating the threats to agrobiodiversity and preserving their genetic diversity, thus improving global food security. Moreover, this project will preserve the unique genetic richness of adaptable and resistant genes of potential use not only on the national level but also on a global scale. As a pilot project, it will show how complex conservation activities can be managed and will generate new information about agrobiodiversity.

Options for removing barriers to effective marketing of traditional varieties, including the development of niche markets, will be considered as a means to increase the economic attractiveness of traditional varieties.

[2] GMZs can be defined as long-term management sites that contain one or more diverse populations of various target species to be conserved *in-situ*.

2.2 Current Situation

2.2.1 Threats to Agrobiodiversity

The severe threats to cultivated varieties of crops plants in Vietnam is immediately obvious from Table 3, which shows very high rates of losses for local varieties.

Table 3: Reduction in Area and Loss of Local Varieties for Key Crops since 1970

Crop	Reduction in Area	Loss of Local Varieties
Rice	50%	80%
Maize, Legumes	75%	50%
Roots/tubers	75%	20%
Tea and Jute	20%	90%
Fruit Trees	50%	70%

Source: CRES, IEBR, 1998; Forest Science Institute of Vietnam, 1998

In Vietnam, the immediate threats to agrobiodiversity are broadly classified as: *socio-economic threats* and *biological threats.* The biological threats usually have underlying socio-economic root cause. Cultivated varieties are particularly susceptible to socio-economic threats, while wild relatives are affected by both socio-economic and biological threats.

Socio-economic threats to cultivated varieties include:

- replacement of native landraces by modern varieties as a result of: a lack of incentives for the cultivation and conservation of native landraces; a loss of traditional knowledge about the cultivation of native landraces; and growing urbanisation and reduction of agro-ecosystems.

Socio-economic threats to wild varieties include:

- encroachment of agriculture into natural habitats.

This is associated with the major biological threat, namely:

- genetic erosion as a result of fragmentation and isolation of habitats for the wild relatives of cross-pollinating crops.

These threats are largely common to all of the project sites, but vary in intensity by site and species.

Native landraces may not yield as much as the high-yield varieties (HYV), but usually possess genes that help plants adapt to variations in the climatic conditions, and are resistant to pests and diseases which help the plants to survive and maintain genetic continuity to the next generation. In genetic terms, HYV genotypes have high general combining ability, but low specific combining ability, meaning they perform well over a wide range of sites, but may not be optimally adapted to any one site. In contrast, the high specific combining ability of landrace genotypes means that they are very well adapted to certain sites, but often perform poorly off-site. Native landraces remain the basis of breeding experiments to improve HYV.

The use of HYV is an "easy way out", reducing risk and promoting conformity, which is often sought by post-harvest food industries. Lack of awareness of the specialised potential of landraces, and lack of incentives by the government to promote their use, are some of the reasons leading to the loss of agrobiodiversity from farmlands. In addition to this, rapid urbanisation leading to encroachment into the existing agro-ecosystems augments the loss of agrobiodiversity.

Spread of agriculture or other land uses into natural habitats also reduces the diversity of wild relatives. Lack of personnel for the maintenance of PAs limits the capacity to control encroachment.

While addressing this we must also address the root causes of encroachment (Refer Conceptual model in Annex II)..

The socio-economic threats can be addressed by:

- increasing awareness of the advantages of native landraces among farmers and local communities, and providing incentives to use them;
- promoting marketing of products derived from cultivation of native landraces;
- training workshops bringing together farmers and technicians from local institutions within or serving target sites. (These will act as forums for training, exchanging techniques and experiences, and disseminating traditional knowledge on the cultivation of native landraces);
- reviewing the environment policy on master planning of urban areas and other areas in cooperation with related organisations to make the plans more agrobiodiversity friendly;
- strengthening and developing buffer zones surrounding PAs ;
- developing GMZs based on the agrobiodiversity encompassed by a particular area. Each GMZ will have a scientific and technical team from various government agencies responsible for carrying out the conservation activities on site. Particular attention will be given to native landraces under threat by protecting them *in situ* and by encouraging their cultivation in home gardens; and
- capacity building for sustainable agro-ecosystem management, focusing on increased food production in the local communities using the native landraces, so that the farming community will voluntarily join the conservation force.

Biological threats:

As mentioned previously, the socio economic threats are associated with the major biological threat, namely: genetic erosion which occurs as a result of fragmentation and isolation of habitats for the wild relatives of cross-pollinating crops. From genetics point of view this occurs as a result of alleles (a pair or series of genes that occupy a specific position on a specific chromosome), which can be lost in small populations through genetic drift and increased inbreeding. Habitat fragmentation, resulting in smaller and more isolated populations, can therefore pose a significant threat to genetic diversity. Populations of self-pollinating species are to a large degree reproductively isolated even in continuous habitat, so habitat fragmentation will affect them genetically less than cross-pollinating species. For cross-pollinating species, increasing isolation can increase inbreeding through mating among relatives. Paradoxically, long distance mating may be more frequent following habitat fragmentation, thus contributing to outbreeding depression (breakdown of locally adapted gene complexes).

This biological threat can be addressed by first understanding the causes for fragmentation of habitats harbouring valuable agrobiodiversity. Where necessary, legal and policy measures should be strengthened to intervene and stop the fragmentation activity. Fragmentation might lead to inbreeding depression, but there is also the possibility of hybridisation of landraces with HYV (causing outbreeding depression).

Project activities will target both landraces in farmers' fields and the conservation and management of protected areas where the wild populations are located.

2.2.2 Cultural and Socio-economic Context

The crop evolutionary system of the Vietnam consists not only of domesticated native crops and the non-cultivated relatives of domesticated species, but also the indigenous knowledge systems that sustain them. This integrated system has generated genetic resources in the past and continues to do so today. However, decreased emphasis and interest in the traditional culture and knowledge systems today is an important factor underpinning genetic erosion in Vietnam.

Native crops are generally grown on small farms and family gardens with wild relatives existing in field borders and natural areas. Traditional farming system often involve the cultivation of dozens of different varieties and species in a single field and the tolerance and use of a wide variety of wild species occurring within the field, at field edges, and natural habitats. Although farm production is primarily for subsistence, virtually all households sell some of their production, particular taro, in local or regional markets. The relative isolation of these areas results in a high level of dependency on local markets and complex barter or exchange systems, particularly for foodstuffs. Exchanges between different agro-ecological zones and across the landscape for different products at different times contribute to overall food security and the flow of genetic material.

It is important to preserve the natural populations of wild relatives, which exist in field borders and other natural habitats (in the same general area as the centres of crop diversity). Proper *in situ* management is important in maintaining the local adaptive complexes, but in some cases, must be supplemented by *ex situ* conservation. Breeding experiments and related activities provide both a resource and knowledge base for introduction or rehabilitation of agrobiodiversity.

2.2.3 Legislative Context

Vietnam has made legal commitments towards the conservation and sustainable use of biodiversity both at the international and national levels. In the international context, Vietnam has ratified the Convention on Biological Diversity, adopted Agenda 21, and subscribed to the FAO *Global Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources for Food and Agriculture.*

At the national level, the Biodiversity Action Plan (BAP 1995) gives priority to conserving agrobiodiversity and genetic diversity. In addition, Legislative Decree 286-TTg (25.7.1997) and 07-CP (5.2.1996) directly addresses the issue of conserving genetic stock of crops and native species. Executive Decree 02-NN/KL/TT (1.3.1997) from the Ministry of Agriculture and Rural Development details the rights of plant variety developers, and the National Environment Agency working group for Regulating Access to Plant Resources in Vietnam has helped define the legislation and policy.

While demonstrating Vietnam's commitment to addressing agrobiodiversity conservation needs, the policy and legislative framework falls short of achieving full protection of genetic resources due to ambiguities and gaps. More significantly, the main actors of *in situ* conservation (traditional farmers and communities) have a poor understanding of the scope of rights under the laws or mechanisms contained in national legislation. Public awareness of the laws will need to be enhanced if the legislation is to serve as an effective tool for agrobiodiversity conservation.

Recently, strategic planning for agrobiodiversity conservation and access to plant genetic resources became the responsibility of the National Environment Agency (NEA). While NEA has made significant improvements in capacity building in some areas, its agrobiodiversity unit is under financed. Many activities are neglected due to the lack of funds. Key stakeholders identified the following activities that need additional technical and funding support:

- management training for genetic management zone boards and provincial-level links with NGOs and communities;
- enhancing capacity of local community staff;
- community-based extension services in GMZs;
- information, education and communication;
- buffer zone livelihood development; and
- core and transaction zones protection.

2.2.4 Baseline Course of Action

The last few decades have witnessed an accelerated process of genetic erosion of native landraces and their wild relatives. Plant genetic resources found on-farm, where they have developed their distinctive properties, continue to be lost.

The conventional approach to the conservation of plant genetic resources in Vietnam has been *ex situ* conservation with a significant amount of resources being devoted to this approach over the years. Vietnam has 61,276 accessions of 104 domesticated species, held at different institutions including Institute for Agricultural Genetics (IAG), Vietnam Agriculture Science Institute (VASI), and various universities. The composition of the collections includes wild relatives, traditional varieties, improved varieties, and improved or introduced material. These collections represent different levels of genetic variability—regional, national and global. These collections have been supported by funds from the International Plant Genetic Resource Institute (IPGRI), the National Plant Genetic Resource Programme, resources of national institutions, and funds from international development cooperation.

However, *ex situ* conservation is highly infrastructure dependent and only holds a fraction of existing germplasm. On the other hand, *in situ* conservation not only maintains the genetic diversity of native landraces, but also the evolutionary interactions that allow it to adapt continuously to changing environmental conditions, as well as the traditional knowledge system through which the varieties have evolved. *In situ* and *ex situ* conservation, thus, have been accepted as complementary and necessary strategies for preserving the crop evolutionary system in centres of crop origin such as Vietnam.

Under the baseline course of action, insufficient attention is given to on-farm conservation of agrobiodiversity, despite the fact that this is an essential component of an integrated strategy for agrobiodiversity conservation. At the level of government agencies, IAG is responsible for technological development of the agricultural sector, ensuring its competitiveness and productivity through strategic alliances with public and private-sector entries at national and international levels. They also have a mandate for strengthening *in situ* conservation in different parts of the country and for crop improvement.

In addition, Vietnam has a system of PAs that includes national parks, nature reserves, and cultural and historic sites. Although the designation of these special-use areas may not be motivated by the conservation of wild relatives of domesticated crops, they nevertheless constitute important repositories, affording a level of protection to wild relatives. These protected natural areas secure the conservation of a much wider genetic base than would be possible though on-farm conservation efforts alone. A strategy for on-farm conservation, which includes efforts near PAs , would benefit from synergies between on-farm conservation and the protection of wild relatives within established PAs and their buffer zones.

NGO involvement in the sphere of *in situ* agrobiodiversity conservation is relatively recent. These efforts largely relate to the dissemination of seeds with some assistance being provided in organising seed fairs for the exchange of genetic material.

In the academic arena, some universities have research programmes and resources devoted to *in situ* conservation and *ex situ* conservation programmes such as herbariums, germplasm banks, and the botanical gardens at Hanoi Agriculture Universities No. 1 and No. 2. Hanoi National University includes *in situ* conservation of agrobiodiversity in its professional courses in the Faculty of Environmental Science (FES).

The above-described incipient *in situ* conservation initiatives are weak in several respects; they do not encompass a broad enough set of species and varieties, and are limited in their financial scale and geographic spread to adequately capture varietal diversity. Furthermore, they lack an emphasis on market and non-market incentives to encourage or sustain proactive participation by farmers and

communities in conservation efforts. Without attention to the development of markets for native crop species, varieties, and their products, and enhancing the skill and knowledge to do so, one of the most fundamental factors causing a replacement of native crops and varieties will not be addressed. Farmers can get indirect benefits from the collation and *ex situ* utilisation of genetic resources; however, these are not sufficient in themselves to ensure adequate conservation of biodiversity important to agriculture.

Both government and civil society organisations are demonstrating a growing interest and commitment to *in situ* agrobiodiversity conservation. Baseline activities, however, lack an integrated approach that address the immediate threats and underlying causes at critical sites in order to maintain the diverse portfolio of native species, varietal diversity within species, and traditional knowledge system that sustain these plant genetic resources. In the absence of a GEF-financed intervention, significant genetic erosion will continue to occur, though mitigated to a slight degree by current activities of government institutions and NGOs.

2.2.5 Alternative Strategy

The alternative strategy is to strengthen *in situ* conservation embodied in on-farm activities and in the immediate surrounding natural environment. In this context, the project shall complement existing *ex situ* conservation efforts and conservation of wild relatives secured through PAs. It will concentrate on the conservation of native crops, varieties and process within functioning agro-ecosystems by building on the conservation-oriented aspects of farmers' activities (for example, the cultivation of native varieties under a dynamic process of experimentation), while addressing the adverse influences triggering a move away from these practices. The actives will be situated primarily in areas where native crops and varieties originated. The soil, microclimate and topography in these areas are such that native crops have a competitive advantage over modern, introduced varieties. These traditional systems maintain significantly more intra-specific and inter-specific diversity, as well as landscape heterogeneity than modern agricultural systems based on monoculture.

There is an urgent need to promote an alternative strategy that can mitigate genetic diversity loss. The project strategy is to target the eight GMZs and implement strategic measures for the long-term protection of genetic diversity. Efforts to include universities and NGOs in the implementation of project activities will ensure that these organisations can take the lead in replicating this model in areas where IAG may not have an institutional presence. The strategic measures include:

- providing special status and targeted incentives to agrobiodiversity hotspots as "safe havens" (GMZs);
- increasing the market potential for a broader range of native landraces both within the eight GMZs and outside;
- maintaining gene flows and traditional practices within and between the target areas; and
- developing an information base, monitoring system and mechanism to feed lessons learned, back to the stakeholder organisations and institutions of the eight GMZs.

The project will work in close partnership with communities and farmers to promote on-farm agrobiodiversity conservation. Given the link between cultural diversity and biological diversity important to agriculture, the project will focus on both human cultural resources (i.e., traditional knowledge) and plant genetic resources maintained within traditional agro-ecosystems.

2.3 Expected Project Outcomes, with Underlying Assumptions and Context

The overall outcomes of the project will be:
(a) Native landraces and wild relatives conserved in dynamic agriculture/forest landscapes;
(b) Replicable models established of community-based GMZ management; and
(c) An enabling environment established to support conservation of agrobiodiversity.

These outcomes will be achieved in the context of the baseline situation described in the previous section, through the following project components:

Component 1: Establishment of GMZ's through the creation of an appropriate enabling environment.

An initial requirement is to establish an enabling institutional and policy environment required for the establishment of GMZ's. This enabling environment will not only make possible the designation of GMZ's, but will also establish mechanisms by which such GMZ's will be financially sustainable through, for example, the development of new or increased markets for traditional varieties, processes for benefit sharing from commercialization of agrobiodiversity, etc. Empowerment of local communities to manage and conserve agrobiodiversity resources will help to counteract the threat posed by unplanned and irrational development policies which result in, for example, poorly planned urbanization.

Economic policies and programmes, agricultural input subsidies, agricultural pricing and other issues have a direct impact on the cropping decisions of farmers and communities. These government programmes are driven by the need to enhance food production and availability and, as such, reflect national priorities. The result is an increasing emphasis on subsidising cultivation in fertile, well-irrigated land areas (through subsidised inputs and secure markets), with local varieties being relegated to marginal fields on steep slope with poorer soils. In order for these "islands of agrobiodiversity" not to disappear completely, it is important that the areas where the "biodiversity pay-off" is much higher, also receive economic support through targeted programmes. IAG, the executing agency of the project, is part of the Ministry of Agriculture and Rural Development, and it is the latter which will take the lead in supporting decisions relating to agricultural policies that provide incentives for the cultivation of native landraces.

The communities in the eight GMZs need to be recognised as the "curators" of genetic diversity, with incentives and programmes designed in concordance with this role. For those GMZ's in natural ecosystems, the designation process will involve incorporation of the special status and management protocols into the protected area management plans within which the GMZ's are located.

Indicators of success:

- Eight GMZs established and management plans implemented.
- Official designation of the GMZs secured and enabling legislation for institutional support adopted.
- Financial sustainability secured through increased governmental funding, together with mechanisms whereby benefits from the commercialisation of plant genetic resources (including, for example, through improved marketing) are returned to appropriate conservation-oriented communities and organisations.
- For GMZ's in natural ecosystems, special status for GMZ's identified in management plans

Component 2: Operationalization of GMZ's through capacity building, training, and removal of barriers

One of the criteria for selecting the target sites within the eight GMZs was the presence of conservation-oriented farmers, as they can become leading actors and partners in consolidating and disseminating this knowledge base. Traditional practices of agrobiodiversity conservation will be identified and documented and the exchange and dissemination of this information will be encouraged, initially through a series of workshops involving exchanges among project sites, and over the longer term, through incorporation of the information into Ministry of Agriculture training programs and university curricula. Particular attention will be given to women in consolidating and documenting traditional knowledge as they play an important role in the management, selection and propagation of native crops and varieties, especially in family gardens.

To ensure the heterogeneity of the agro-ecosystem is taken into account, activities under this component will focus on threats affecting traditional on-farm management of agrobiodiversity and on enhancing farmers' access to genetic resources of native crops. Due to increased food demands and low productivity, farmers are faced with the need to expand production onto uncleared lands. Grazing pressure is steadily increasing with a serious effect on habitats of different landraces and wild relatives. By working with local government to improve land use and pasture management in ways that maintain species and genetic diversity, this component will empower farmers to adapt their management strategy to the growing food demand. These activities are not aimed at improving the productivity of farms and pasture but are specifically targeted at alleviating pressures on agrobiodiversity.

Indicators of success:
- Increased knowledge of traditional varieties achieved through on-site training.
- Community based groups in GMZ's (farmers) trained in cultivation of traditional varieties, methods for introducing products to the market, the production cycle, product certifications, etc.
- Improved capacity among farmers and others to implement effective *in situ* conservation within agro-ecosystems.
- New market opportunities established and market prices for traditional varieties increase.
- For GMZ's in natural ecosystems: protected area staff trained in conservation.

Component 3: Targeted research, information management and analysis in support of GMZ establishment and operationalization

More detailed biological surveys in the target areas are required than was possible with the limited funding available under the PDF-A, in order to refine the borders of designated GMZ's. The project team will work closely with the local authorities, particularly provincial and district level government to ensure that activities leading to this outcome are effectively implemented. All information cvollected in biological, genetic and socio-economic surveys will be entered into a managmeent information system, which will enable future decisions on additional GMZ's to be reached more easily.

Socio-economic analyses undertaken in this component with the support of academic partners specialising in such analyses, such as HAU, will provide a clear understanding of different incentives necessary to maintain local varieties, the specific modifications to economic programmes, and the benefits to be derived from their application. This understanding can be converted into required actions through the Ministry of Agriculture.

In an *in situ* conservation programme in agriculture, one of the major techniques used is agrobiodiversity indexing. Biodiversity indexing is the process of unambiguously identifying biota starting at the level of genotypes and mapping their distributions to understand the process of evolution and speciation, integrating this information into internationally accessible databases, and archiving and vouchering the characterised biota. Indexing organisms sets the stage for investigating their relationships to other organisms and for organising knowledge into classification systems. These systems, in turn, are powerful tools that help us understand, maintain and effectively utilise the great agrobiological wealth that we have inherited. Further, they are the basis by which systems for recognising and rewarding farmers and breeders for their intellectual contributions can be developed.

Indicators of success:
- Surveys of areas of high agrobiodiversity within the project area completed.
- Quantification of genetic resources in GMZ's undertaken.
- Management information system operational.
- Market analyses completed.
- International information exchange increased.

Component 4: Public awareness, education and information dissemination in support of the replication of the GMZ approach.

One of the primary reasons for the declining abundance and variety of native landraces is a loss of traditional knowledge among farmers for growing these crops. A lack of information, and effecitive information management results in a rising perception among farmers and consumers that native crops are somehow inferior. These factors contribute to a low market demand for native crops, thus creating an added disincentive to cultivate them. Evidence indicates that local varieties disappearing from farms are those that have lower market demand. There is therefore a pressing need to redress current perceptions, which militate against native crops and varieties. This outcome will ensure that information about traditional varieties and traditional knowledge is managed and disseminated effectively, and is crucial for ensuring that agrobiodiversity conservation activities outlive the life span of the project.

Indicators of success:

- Publications of traditional knowledge developed for use by community-based organizations with a focus on agrobiodiversity conservation.
- Policy makers aware of issues associated with conservation of traditional varieties.
- Agrobiodiversity conservation integrated into curricula of universities and schools.
- Additional GMZ's established in cultivated and natural ecosystems outside project areas

2.4 Activities and Financial Inputs Needed to Enable Changes

***Component 1:* Establishment of GMZ's through the creation of an appropriate enabling environment (GEF: $283,000; 18% of budget)**

***Activities*:**

1.1 Secure official recognition of the eight GMZs for agrobiodiversity conservation (similar to the status of irrigation or soil conservation districts as Special Management Areas). Designation of GMZs as Special Management Areas will provide a strategic framework for planning, conservation and resource allocation at national and local levels. For GMZ's in natural ecosystems, the establishment of special status within existing protected areas will be secured.

1.2 Implement the most viable political-juridical modalities for securing intellectual property rights and benefit sharing in relation to crop genetic conservation. This will entail assessing the manner in which current laws affect stakeholders; as well as an assessment of the positive and negative impacts of potential intellectual property alternatives on crop genetic conservation. This component is aimed at securing farmers' intellectual interests and modifying or creating legal instruments to realize their access to benefits accruing from crop genetic resources..

1.3 Implement incentives for agrobiodiversity conservation by implementing viable modifications to existing policies. For example, current programs for credit to farmers—part of the national rural development strategy—could be modified to introduce added incentives for growing native varieties in those areas particularly suited to their cultivation. Special consideration will be given to issues affecting ethnic minorities and migrants.

1.4 Implement mechanisms whereby benefits generated from introducing products based on traditional varieties into markets are reinvested into GMZs and participating communities and organisations. This will include the development of new, or expansion of existing markets.

Component 2: **Operationalization of GMZ's through capacity building, training, and removal of barriers (GEF: $246,000; 33.5% of budget)**

Activities:

2.1 Consolidate conservation-oriented organisations within communities in target sites whose strengths and needs were analysed during project preparation. These organisations will be the project's primary implementing agents. Strengthened organisational structures are particularly important to facilitate decision-making regarding the establishment of norms for regulating agrobiodiversity conservation.

2.2 Implement on-farm training programmes with extension services and NGOs providing technical advice and support. Training programmes will include workshops for sharing traditional knowledge, including the exchange of experiences between GMZ's. This is particularly important as the target sites reflect a range of socio-economic, climatic, and topographical features, and therefore are likely to generate different experiences that would be useful to share.

2.3 Conduct training workshops to familiarise communities with issues relevant for introducing products into the market such as joint ventures, production cycles, product certification, and so on. Topics will include reduction of transaction costs associated with joint ventures between private sector entities and communities for product processing and certification. GEF resources will go towards brokering an initial set of these agreements and training stakeholders.

2.4 Implement a plant inventory monitoring programme. This component will be participatory, involving both national staff and representative of local communities.

2.5 Introduce viable technologies for pest and disease reduction where gaps in current practices have been identified. The combination of modern, simple and economic techniques with traditional technology will result in healthy good-quality seeds for further propagation.

2.6 Remove barriers to traditional seed routes, based on an assessment of the status of their current use. The primary traditional method for exchanging genetic material is through the use of seed routes connecting different regions, thus maintaining diversity and building resistance to diseases. Disruption in these routes restricts farmers' access to genetic material.

2.7 Organize a series of communal seed fairs to promote the exchange of genetic material and the knowledge of cultivating different native varieties.

Component 3: **Targeted research, information management and analysis in support of GMZ establishment and operationalization (GEF: 193,000; 19% of budget)**

Activities:

3.1 Extend biological surveys undertaken in the target areas with PDF resources, using traditional inventory methods linked to geographical information systems and from this data formalise the boundaries of the gene management zones (GMZs).

3.2 Document the phytotaxonomy, taxonomy and polymorphism, biotic environment, ecosystem, and exploitation of the target species and their relatives in each GMZ. Quantification of agrobiodiversity will be undertaken at two hierarchical levels:

- diversity of the taxa (species diversity) within each project site; and
- within taxon, diversity for important regional traits using quantitative morphological traits (morphological markers).

3.3 Building on the activities of 3.1 and 3.2, create a management information system containing the

following information:

- status of genetic resources in the target areas (e.g., landrace characteristics and seed availability);
- degree of genetic erosion;
- experiences with marketing native varieties and their products;
- lessons learned and experience with land use and range land management practices (develop a set of "good" practices);
- agrobiodiversity conservation and agricultural development programs and projects;
- centres of excellence, NGOs and expertise in formal and non-formal education on rural development and conservation; and
- agricultural and environmental research related to crop genetic resources (at national, regional and international levels).

3.4 Create map-based inventories with local farmers depicting the wild relatives and local varieties of native crops. This activity will provide basic information and baseline data required to monitor project impacts over time. Farmers will be trained in assessment and monitoring techniques.

3.5 Conduct a market analysis regarding the potential of different native crop varieties and their products in national and international markets. This activity will be undertaken in support of activities 1.4 and 2.3.

3.6 Establish links with regional, national, and international research programs for mutual exchange of information, lessons and expertise to strengthen existing agricultural research and extension programs aimed at improving the performance of native crops and varieties and to ensure the participation of indigenous communities in planning and implementation of research programs addressing the performance of native crops and varieties.

Component 4: **Public awareness, education and information dissemination in support of the replication of the GMZ approach. (GEF: 182,000; 29.5% of budget)**

Activities:

4.1 Create information materials for dissemination to the general public on traditional varieties, their uses and their benefits. This will facilitate awareness raising and appreciation among the general public about the benefits from conservation and use of native varieties.

4.2 Integrate into the curricula of university, primary and secondary schools modules and/or courses on the value of Vietnam's agrobiodiversity and *in situ* conservation of native varieties and wild relatives.

4.3 Undertake awareness building among policy makers to build support for increasing budgets allocated to genetic resources management and conservation of local varieties and wild relatives.

4.4 Promote education, awareness building, and information dissemination to assist in replication of approaches to agrobiodiversity conservation in other parts of the country and internationally.

4.5 Increase the participation of national programmes in international and regional flora to address genetic resources conservation issues.

3. SUSTAINABILITY ANALYSIS AND RISK ASSESSMENT

3.1 Institutional and Financial Sustainability

The primary means by which sustainability of *in situ* agrobiodiversity conservation activities under the project will be ensured is by involving and improving local communities. The long-term financial viability of project objectives will be secured by means that may include: (a) progressive incorporation of native varieties and products into local, national and international markets; and (b) mechanisms to ensure the equitable distribution of benefits resulting from these new commercial ventures. By involving the primary government body responsible for the conservation of plant genetic resources, IAG, the project will strengthen relevant in-country human and institutional capacity. The involvement of NGOs active in this field and agrarian universities will also ensure institutional sustainability.

The following activities are designed to ensure long-term sustainability of forest (for wild relatives) and agrobiodiversity conservation management: (a) establishment of project executing arrangements that are community based and conform to existing governance structures (e.g., co-ordination with local governments, recognition of traditional leaders, etc.); (b) linking project initiatives with national government programs to ensure consistency as well as continuity of operations beyond the project's life (e.g., making sure that counterpart government contributions are forthcoming for community activities); (c) design of local resource mobilisation strategies, including receipts from livelihood initiatives such as ecotourism, and generating funds from off-funding agencies; and (d) training of people in leadership and management skills.

3.2 Project Risks

Project risks include failure to receive adequate government commitment, especially from local governments. The project will facilitate discussions with local, state, and national government agencies and promote joint implementation such as biodiversity inventories and monitoring. Another risk is that despite the understandings secured through stakeholder consultations during the preparatory phase of the project, there may be a conflict between community management with existing government protection efforts. However, because this project is aimed at supplementing the work of PA officials, attempts will be made to ensure that there is close co-ordination and cooperation. This will be done through joint committees in decision making and sharing of resources.

An associated risk is that populations of visible and charismatic species around which agricultural systems such as traditional cultivated areas can be built, and which can contribute to engagement of local communities, have already reached such levels, or have had their life cycles disrupted to such an extent, that detectable recovery of populations is not obtainable within the project period, resulting in a loss of commitment. A recent biological survey by IAG and the Institute for Ecology and Biological Resources (IEBR), combined with interviews conducted in local communities, suggest that populations of these species remain at levels that should be sufficient to attract conservation and maintain commitment.

4. STAKEHOLDER INVOLVEMENT AND SOCIAL ASSESSMENT

Project stakeholders include traditional farming communities and co-operatives, local institutions, agrarian universities, national agencies, and non-government institutions involved in, or responsible for, agricultural development and agrobiodiversity conservation in the target sites.

This project was designed in collaboration with the stakeholder groups in each of the eight GMZs, as well as representatives of agricultural development institutions, NGOs (both at the local and national levels), academic institutions, and leading authority in agrobiodiversity conservation. Preparation funding from GEF (Block A grant of US$21,000) and IAG/MARD (US$12,000) have been used to identify the eight GMZs and project sites, conduct consultative workshops, and village meetings and

preparation of the project brief. These were conducted to identify threats to agrobiodiversity conservation with communities playing an active role.

An initial social assessment was completed using participatory rural appraisal (PRA) techniques. Findings from the appraisal indicate the importance of integrating into the project's activities those issues related to: gender (women's groups); property rights of indigenous groups; cultural diversity associated with ethnicity; and the dependence on agricultural farming and traditional crop cultivation for livelihoods.

5. INCREMENTAL COST ASSESSMENT

The government is currently implementing the national Biodiversity Action Plan (BAP), which consists of a multi-pronged approach to protected area management, including funding for park officials and site management. The BAP contains provisions for addressing some of the root causes of biodiversity loss, and there are studies currently underway to review policies and programs in the forest sector. Full-scale implementation of the national biodiversity program is critical, but it needs to be supported by national and sectional schemes, especially in logging and land clearing. The existing rural development programs that are aimed at reducing poverty in the agriculture and forest sectors provide positive inputs to managing national agrobiodiversity.

However, despite these ongoing baseline activities, fragmentation and conversion of natural habitats continue to increase at scales that are difficult to control without timely and significant interventions. It is also necessary to provide local, provincial and national governments with additional funds to engage in activities that go beyond conventional PA policing and maintenance. These include activities such as scientific assessments and monitoring as well as execution of alternative or supplemental community-based management approaches.

Under the GEF alternative, an expanded program would be implemented, focusing on those activities that generate global benefits. These include initiatives for agrobiodiversity resource assessments and on-the-ground inventories in eight demonstration sites within areas of high global significance; promotion of alternative livelihood options in globally important and threatened agrobiodiversity areas as models that may be replicable at other sites; development of community-based support for sustainable forest management in PA's; and co-ordination of efforts with the various levels of government in addressing the root causes of agrobiodiversity loss.

The total cost of the baseline activities is estimated at US$1,201,940. The cost of the GEF alternative is US$5,105,370 million, giving an incremental cost of US$3,903,430—about 23 percent of which (or US$904,000) will come from the GEF and the remainder contributed by the Government (NEA, MARD and IAG) and other co-financing (ACIAR, IPGRI, EU, McKnight Foundation and NGOs). Government counterpart funds are targeted for implementation of some of the baseline activities, including provisions by the government for family planning and health services in some of the proposed project sites.

5.1 Incremental Cost Matrix

	Baseline	GEF Alternative	Increment
Domestic Benefits	Critical resources, including native landraces and their wild relatives harvested from cultivated and wild land progressively lost.	New, regulatory framework and financial incentives result in more diversified and efficient cultivation of traditional varieties, and increased supplementary income, thus increasing food security	Effective conservation of natural resources and improved social and economic conditions
Global Benefits	Progressive loss of	Globally significant biodiversity	Conservation of

	Baseline	GEF Alternative	Increment
	populations of native and endangered species, resulting in local extirpation and/or extinction	conserved through sustainable elimination of threats	ecosystems contributes to food security, and survival of traditional varieties and wild relatives provides diversified and increased future agricultural opportunities
Component 1: Establishment of GMZ's through the creation of an appropriate enabling environment.	Management of traditional varieties not supported by legal and policy-based enabling environment $271,300	Legal and policy basis for management of traditional varieties support conservation and mechanisms to accrue benefits to local communities $920,470	$649,170, of which: GEF: $283,000 Gov.: $176,000 Others: $190,170
Component 2: Operationalization of GMZ's through capacity building, training, and removal of barriers	Capacity to manage and market traditional varieties lacking $363,600	Communities empowered to promote use and marketing of traditional varieties $1,714,100	$1,350,500, of which: GEF: $246,000 Gov.: $586,000 Others: $518,500
Component 3: Targeted research, information management and analysis in support of GMZ establishment and operationalization	Lack of inventory data and information on characteristics of traditional varieties limits opportunities to promote use $193,500	Detailed information and viable information management system ensure informed decision making and benefits of traditional varieties are clear $955,800	$762,300, of which: GEF: $193,000 Gov.: $279,800 Others: $289,500
Component 4: Public awareness, education and information dissemination in support of the replication of the GMZ approach	Widespread ignorance of benefits on native crops and wild relatives contributes to active or passive agro-ecosystem degradation Information dissemination is limited $373,540	Environmental education and public awareness campaign, linked to ecological restoration, monitoring, etc., leads to community commitment to environmental conservation $1,515,000	$1,141,460, of which: GEF: $182,000 Gov.: $392430 Others: $567,030
Total	**$1,201,940**	**$5,105,370**	**$3,903,430 of which: GEF: $904,000 Gov.: $1,434,230 Others: $1,565,200**

6. BUDGET

Table 4: Estimated Breakdown of Costs by Budgetary Component (US$'000)

Items	This Funding Request	Funds Already Available	Funds Committed But Not Available	Total
	GEF	Government Counterpart	Others	
Preparation PDF A	21	12	—	33
Personnel [1,2]	120	63	—	183
Subcontracts [3]	390	240	—	630
Training	43	189	438	670
Equipment [4]	140	783 [5]	410	1,333
Travel	44	115 [6]	667	826
Evaluation Mission	56	9	35	100
Project Support	111 [7]	35 [8]	15	161

Total	904	1,434	1,565	3,903

[1] Project personnel include part-time project co-ordinator from IAG; one international consultant; two local consultants; and one locally-hired resident community organiser or facilitator from each within the country.
[2] Government counterpart and non-GEF personnel costs are already existing and represent in-kind contribution and monetized by percent of time allotted to the project.
[3] Subcontracts will be given as follows: (a) study for integrating national biodiversity strategy and programs addressing root causes into community-based approaches; (b) outreach activities to one local NGO from each region: and (c) science contracts to academic institutions.
[4] Standard office equipment, one computer, and bicycle/horses will be purchased for each site.
[5] Represents currently use equipment and coverage for maintenance of project-purchased equipment.
[6] Represents in-kind counterpart contribution for use of vehicles, etc.
[7] Represents project administration and support costs of UNDP as the implementing agency.
[8] Represents in-kind use of headquarters and field offices, etc.

7. PROJECT IMPLEMENTATION PLAN

The project will be executed by IAG's Agrobiodiversity and Conservation Biology Department. A part-time co-ordinator will be assigned to coordinate project activities across regions.

To implement the project, a Steering Committee, a Consultative Committee, and a Project Implementation Unit will be formed. The *Steering Committee* will consist of representatives from the following bodies:

- National Commission for Biodiversity chaired by NEA;
- IAG/MARD, in its capacity as the executing agency;
- National network of NGOs active in agrobiodiversity and agroforestry activities;
- Representatives of conservation-oriented communities and organisations;
- UNDP; and
- eight local co-ordinators (each co-ordinator being responsible for one GMZ) based on a competitive selection process.

Special emphasis will be placed on ensuring that the Steering Committee includes representatives of those stakeholders identified through the social assessments undertaken during the PDF-A, as being of special concern, including women, ethnic minorities, and migrants.

Decision-making regarding strategies and approaches for design and implementation of project activities will be made by the Steering Committee, but these will be based upon a compilation and assessment of feedback from local community groups. The Steering Committee will also review and approve annual work plans, terms of references for contracts and sub-contracts, and oversee monitoring and evaluation of project activities, including commissioning of independent evaluations.

The *Consultative Committee* will include national and regional agrarian universities, communal and local authorities, conservation groups, NGOs, private agrobusiness representatives, and governmental institutions. The Consultative Committee's role is mainly advisory in nature. The CC will comprise:

- Hanoi Agriculture University (HAU)/MARD;
- Hanoi National University (HNU);
- Institute of Ecology and Biological Resources (IEBR);
- Vietnam Agricultural Science Institute (VASI)/MARD;
- Institute of Asian-Pacific (IAP/NGO);
- Vietnam Society for Protection of Natural Resources and Environment;
- Helvetas - Switzerland (NGO); and
- Tea Companies (NGOs) at Ha Giang province.

The *Project Implementation Unit* (PIU), consisting of a project managing board, the eight local co-ordinators (at the GMZs) and support staff, will be accountable for project implementation. The PIU will consist of:

- Project Managing Board (IAG):
  - -National Project Director: Prof. Dr. Tran Duy Quy
  - -Project Manager: Dr. Tran Thi Hoa
  - -Members: Mr. Dam Van Khanh, Mr. Nguyen Van Son, Mrs. Pham Thi Viet and Mrs. Tran Thi Van
- Eight site co-ordinators;
- Departments of Agriculture and Rural Development (DARD) at the provincial level; and
- HAU and VASI/MARD.

At the local or site level, each community will design its own project structure and decide on the composition of membership of the local site management committees. Consensus building among communities will be facilitated through the work of full-time community organisers (or facilitators) who will be hired by the project. The same procedure of selection will be used in setting up the monitoring and evaluation team for each project site.

Table 5: Project Implementation Plan

	0 6 12 18 24 30 36
Establishment of GMZ's through the creation of an appropriate enabling environment	XXXX
Operationalization of GMZ's through capacity building, training, and removal of barriers	XXXXXXXXXXXXXXXXXXXXX
Targeted research, information management and analysis in support of GMZ establishment and operationalization	XXXXXXXXXXX
Public awareness, education and information dissemination in support of the replication of the GMZ approach	XXXXXXXXXXXXXXXXXX

8. PUBLIC INVOLVEMENT PLAN

8.1 Stakeholder Identification

Aside from GEF and UNDP, and the other co-financing agencies, the key stakeholder in the project are: (a) the local, state, and national governments who have a stake in ensuring sustainable natural resources management and reducing biodiversity and forest loss; (b) project executing agencies, including local and national governments, local and international NGOs who have a special interest in the project's performance and impact; (c) community beneficiaries who have a lot to gain from engaging in sustainable livelihoods by preserving resources for future use while addressing current concerns; and (d) sub-populations of vulnerable groups, such as women indigenous communities, and poor households who are expected to benefit from special interventions affecting their access to, and use of, agrobiodiversity resources.

8.2 Information Dissemination and Consultation

A regional workshop was held with representation from government, NGOs, and local groups. Village meetings, using focus groups and participatory rural appraisals (PRAs), were conducted in

each project area.

The project structure allows for continuous consultation with local group. In addition, there will be six local workshops organised (at the start and end of the project). Feedback from affected groups will be done through the community facilitators who will provide quarterly reports to the Project Steering Committee regarding findings from PRAs, village meetings, etc.

8.3 Social and Participation Issues

Based upon initial results of the consultations and social assessments, the anticipated social issues are:
(a) gender concerns, specifically the role of women in fuelwood collection;
(b) needs of indigenous communities, in particular, recognition of the property rights over ancestral lands and integration of indigenous technical knowledge into assessments;
(c) cultural diversity arising from a stratified and diverse population due to migrant encroachments from various regions, including transboundary migrants; and
(d) common property resource rights governing access to, and use of, forest resource, and in particular, diversified tenurial arrangements over land, trees and tree products.

These issues are addressed in several ways in the project design. Gender issues are explicitly recognized, especially in activities associated with operationalization of GMZ's under Outcome 2. The underlying causes of problems faced by ethnic minorities and migrants are largely related to policy, and activities under Outcome 1 will address these concerns. Finally, the Steering Committee will include representation either of the susceptible stakeholder groups themselves, or of organizations authorized to represent their interests.

9. MONITORING AND EVALUATION PLAN

The standard M&E procedures required for all UNDP/ GEF projects will be followed. These include:

Annual Programme/Project Report (APR)
The APR is designed to obtain the independent views of the main stakeholders of a project on its relevance, performance and the likelihood of its success. The APR aims to:

- provide a rating and textual assessment of the progress of a project in achieving its objectives;
- present stakeholders' insights into issues affecting the implementation of a project and their proposals for addressing those issues; and
- serve as a source of inputs to the Tripartite Review (TPR) and to the preparation of country office reports as well as the annual and triennial reviews of the country cooperation framework.

Tripartite review
A tripartite review is a policy-level meeting of the parties directly involved in a programme or project. It aims: to assess the progress of a programme or project based on the APR; and to take decisions on recommendations to improve the design and implementation of that programme or project in order to achieve the expected results. A tripartite review must be held once a year. In exceptional circumstances, there may be more than one TPR during a year. A terminal tripartite review must be held towards the end of programme or project implementation. The following parties participate in the TPR :
(a) The Government: the national coordinating authority and other concerned departments;
(b) UNDP;
(c) The designated institution, whether the Government, a United Nations agency or any other agency;
(d) Other main stakeholders, including other United Nations agencies and other donors, as deemed appropriate.

Project Implementation Review (PIR)
The PIR has become an essential management and monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. Mandated by the GEF Secretariat to all

Implementing Agencies, the PIR is a key element within GEF's Monitoring Strategy and is a primary source of information about the performance of GEF projects. The data and information gathered through the PIR are the basis for analyzing the portfolio and reporting to the GEF Council. The PIR, which is carried out between June and September, contains sections on basic project data, financial status, procurement data, impact achievement and progress in implementation.

However, in addition to these required activities, UNDP is intent on developing a more active and supportive approach to monitoring GEF projects, so that the monitoring process becomes an effective support tool to the project implementation team, allowing them to incorporate new scientific knowledge, and the results of lessons learned in similar projects elsewhere. This approach is particularly important for a project with a theme like agrobiodiversity, which represents a new operational programme for the GEF.

While the GEF may be a new player in the conservation of agrobiodiversity, there are numerous other international organizations which have a comparative advantage in this area, especially the international research centres of the CGIAR, among which IPGRI provides a coordinating role. IPGRI's mission is to encourage, support and engage in activities to strengthen the conservation and use of agrobiodiversity in developing countries. A major challenge for *in situ* conservation is the development of the knowledge needed to determine where, when and how *in situ* conservation will be effective. In response to this challenge, IPGRI, together with partners in nine countries, formulated the global project to strengthen the scientific basis of in situ conservation of agricultural biodiversity mentioned earlier in the brief.

Both IPGRI itself, its CGIAR partner institutes and its national partners can draw on both the state-of-the-art scientific knowledge, and experience gained in conserving agrobiodiversity in many environmental and socio-cultural conditions. Consequently, IPGRI will be invited to formulate a project monitoring team to provide support to the project team in implementing the project – in particular in relation to substantive issues or performance and impacts. The composition of this team will be finalised prior to signature of the project document, but could consist of a small number of IPGRI scientists, together with representatives from the Ministry of Agriculture and Rural Development and representatives from agencies involved in similar projects in other countries. This monitoring team will meet with the project implementation team twice a year and will also be available for advice at any time. As appropriate, the project monitoring team will also identify opportunities for members of the project team to visit other project locations in order to learn first-hand from experiences gained that may be applicable in this project.

In addition to this on-going monitoring of project implementation, there will be two independent evaluations of the project – one after 18 months of implementation, and the other at the end of the project. The independent evaluators will not include personnel from, or associated with, the project monitoring team.

The Ministry of Agriculture and Rural Development together with UNDP/Vietnam will undertake regular financial and administrative monitoring of the project, following standard UNDP procedures.

10. LEGAL CONTEXT

10.1 Project Revisions

This project document shall be the instrument referred to as such in Article I of the Standard Basic Assistance Agreement between the Socialist Republic of Viet Nam and the United Nations Development Program signed by the Parties on March 21, 1978. The host country executing agency shall, for the purpose of the Standard Basic Assistance Agreement, be referred to as the Government Co-operating Agency described in that Agreement.

The following types of revision of this project document may be made with the signature of the UNDP Resident Representative only, provided she or he is assured that the other signatories of the project document have no objections to the proposed changes:

(a) revisions in, or addition to, any of the Annexes of 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 rearrangements of inputs already agreed to, or by cost increases due to inflation; and

(c) mandatory annual revisions which re-profile delivery of agreed project inputs, reflect increased expert or other costs due to inflation, or take into account agency expenditure flexibility.

10.2 National Professional Project Personnel

The Government agrees to recruit national project professional personnel (NPPP), who are required for the implementation of this project, in accordance with UNDP policies and procedures established within the United Nations system. These services constitute an addition to the regular personnel resources to be provided by the Government and will be available for the duration of UNDP's participation in the project.

The remuneration of NPPP will be determined on a case-by-case basis in accordance with the policies and procedures of UNDP. Remuneration should exceed neither the prevailing compensation for comparable functions in the host country, nor remuneration levels applicable within the United Nations system.

11. PROJECT CHECKLIST

PROJECT ACTIVITY CATEGORIES				
Biodiversity		**Climate Change**	**International Waters**	**Ozone Depletion**
Protected Area zoning/mgmt:	Yes	Efficient prods. & distrib.:	Water body:	Monitoring:
Buffer zone development:	Yes	Efficient consumption:	Integrated land and water:	Country program:
Inventory/monitoring:	Yes	Solar:	Contaminant:	ODS phaseout:
Eco-tourism:	No	Biomass:	Other:	Production:
Agro-biodiversity:	Yes	Wind:		Other:
Trust fund(s):	No	Hydro:		
Benefit-sharing:	Yes	Geothermal:		
Other:		Fuel cells:		
		Other:		
TECHNICAL CATEGORIES				
Institution building:	Yes			
Investments:	Yes			
Policy advice:	Yes			
Targeted research:	Yes			
Technical/management advice:	Yes			
Technology transfer:	Yes			
Awareness/information/training:	Yes			
Other: Land Tenure	Yes			

GEF VIET NAM OFFICE
...U STR., HA NOI, VIETNAM
...2 4422- Fax: 84 4 8223 189

DATE: 4 October 1999

From: GEF- Vietnam

To:	The GEF/UNDP GEF Secretary GEF Council	Mr. Tim Boyle GEF Regional Coordinator RBAP/UNDP, New York Attn. [illegible]	Fax No. 212. 906. 582[illegible] Account: UNDP

Ref: GEF- Vietnam Focal Point endorsement letter for the GEF project concept: In situ Conservation of Native Land Races and their Wild Relatives

Dear Sirs,

As the representative for the Global Environment Facility Focal Point for the Government of the Socialist Republist of Vietnam (GEF- Vietnam), I would wish to confirm our strong endorsement of the project concept: In situ Conservation of Native Land Races and their Wild Relatives, which has been developed by Institute of Agricultural Genetics (IAG), Ministry of Agriculture and Rural Development of Vietnam.

The GEF- Vietnam hope very much that the PDF A application will be accepted and can be processed as early as convenient to speedily develop this concept.

Thank you very much for your kind cooperation.

Yours sincerely,

[illegible signature]

Pham Khoi Nguyen
Chairman of GEF- Vietnam Committee
Vice Minister of Science, Technology and Environment

CC: IAG. MARD
UNDP Hanoi ✓