



GLOBAL ENVIRONMENT FACILITY  
INVESTING IN OUR PLANET

Naoko Ishii  
CEO and Chairperson

September 17, 2015

Dear Council Member,

The FAO as the Implementing Agency for the project entitled: ***Philippines: Dynamic Conservation and Sustainable use of Agro-Biodiversity in Traditional Agro-ecosystems of the Philippines.*** , has submitted the attached proposed project document for CEO endorsement prior to final Agency approval of the project document in accordance with the FAO procedures.

The Secretariat has reviewed the project document. It is consistent with the project concept approved by the Council in November 2013 and the proposed project remains consistent with the Instrument and GEF policies and procedures. The attached explanation prepared by the FAO satisfactorily details how Council's comments and those of the STAP have been addressed.

We have today posted the proposed project document on the GEF website at [www.TheGEF.org](http://www.TheGEF.org) for your information. We would welcome any comments you may wish to provide by October 15, 2015 before I endorse the project. You may send your comments to [gcoordination@TheGEF.org](mailto:gcoordination@TheGEF.org) .

If you do not have access to the Web, you may request the local field office of UNDP or the World Bank to download the document for you. Alternatively, you may request a copy of the document from the Secretariat. If you make such a request, please confirm for us your current mailing address.

Sincerely,

Naoko Ishii  
Chief Executive Officer and Chairperson

Attachment: GEFSEC Project Review Document  
Copy to: Country Operational Focal Point, GEF Agencies, STAP, Trustee



# REQUEST FOR CEO ENDORSEMENT

PROJECT TYPE: Full-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

## PART I: PROJECT INFORMATION

Project Title:	Dynamic conservation and sustainable use of agro-biodiversity in traditional agro-ecosystems of the Philippines.		
Country:	Philippines	GEF Project ID:	5549
GEF Agency(ies):	FAO	GEF Agency Project ID:	624529
Other Executing Partner(s):	Department of Agriculture	Submission Date:	9 June 2015
		Resubmission date:	28 August 2015
GEF Focal Area (s):	Biodiversity	Project Duration (Months):	48
Name of parent program (if applicable):	N/A	Agency Fee (\$):	207,350

### A. FOCAL AREA STRATEGY FRAMEWORK:

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
BD-2:	Outcome 2.1: Increase in sustainably managed landscapes and seascapes that integrate biodiversity conservation.	Output 1. Policies and regulatory frameworks for production sectors. Output 2. National and subnational land-use plans that incorporate biodiversity and ecosystem services valuation. Output 3. Certified production landscapes and seascapes.	GEFTF	2,078,711	10,970,863
Sub-Total				2,078,711	10,970,863
Project Management			GEFTF	103,920	548,461
Total Project Cost				2,182,631	11,519,324

### B. PROJECT FRAMEWORK:

**Objective:.** To enhance, expand and sustain the dynamic conservation practices that sustain globally significant agro-biodiversity in traditional agroecosystems of the Philippines

**Objective indicator targets:**

- Numbers of traditional varieties (rice, sweet potato, taro and yam) maintained at baseline levels in 17 target barangays (in 300ha of traditional farming systems)
- 5 additional traditional varieties grown in each of the 17 target barangays

Project Component	Grant type	Expected Outcomes	Expected Outputs	Trust Fund	Indicative Grant Amount (\$)	Indicative Co-financing (\$)
1: Mainstreaming agro-biodiversity considerations into policy and legal frameworks, development strategies and institutional structures	TA	<p><b>1.1:</b> Strengthened policy and legal framework defining a national approach to ABD and guiding the design and implementation of corresponding activities at national and local level</p> <p><i>Indicator target:</i> 5 target policy instruments are embedded in programmes with corresponding budget assignment</p> <p><b>1.2:</b> Enhanced institutional coordination and capacity to effectively address cross-sectoral issues of agro-biodiversity</p>	<p><b>1.1.1:</b> Key policy instruments favouring ABD conservation developed at national and local level</p> <p><b>1.1.2:</b> Specific guidelines supporting the piloting of approaches to ABD management and conservation in the target areas</p> <p><b>1.2.1:</b> Strengthened capacities and mechanisms for addressing interdisciplinary aspects of ABD conservation</p>	GEF TF	243,886	139,926

		<p><u>Indicator target:</u> Improved coordination and capacities result in agencies incorporating interdisciplinary ABD considerations into:</p> <ul style="list-style-type: none"> <li>- Plans of local development councils of 3 MLGUs and 2 PLGUs</li> <li>- 1 PA Area Plan per target region</li> <li>- 1 Ancestral Domain Area Development Plan</li> <li>- Specific support programme of DA to Indigenous Peoples</li> </ul>				
2: Pilot activities to enhance and expand dynamic conservation practices for agro-biodiversity in three pilot communities	TA	<p><b>2.1:</b> Planning and governance mechanisms support the conservation and sustainable use of ABD</p> <p><u>Indicator targets:</u></p> <ul style="list-style-type: none"> <li>- ABD concerns embedded in Comprehensive Development Plans, Executive Legislative Agendas and thematic programmes for agricultural, natural resource management and tourism in 3 MLGUs and 2 PLGUs</li> <li>- Formalized provisions for enforcement in place in 3 MLGUs and 9 communities, specifically addressing threats affecting ABD</li> </ul> <p><b>2.2:</b> Traditional varieties are maintained in community gene banks</p> <p><u>Indicator target</u> All traditional ABD varieties/farmer selections present in the 3 target municipalities are maintained in gene banks, and supported by ex situ collections</p> <p><b>2.3:</b> Enhanced and expanded knowledge among local level decision makers and community members on the application of dynamic ABD conservation practices and their relation to cultural heritage</p> <p><u>Indicator target</u></p> <ul style="list-style-type: none"> <li>- 21 LGU policy makers, planners and extension personnel in the core LGUs aware of the value of ABD specific management options to ensure their conservation and sustainable use</li> <li>- KP surveys show enhanced knowledge among 1,000 farmers in 17 target barangays</li> </ul>	<p><b>2.1.1:</b> Local Government plans and programmes in pilot municipalities providing for ABD conservation</p> <p><b>2.1.2:</b> Community level planning and governance frameworks in pilot communities incorporating ABD considerations</p> <p><b>2.2.1:</b> Community-based gene management systems and networks supported by ex situ collections</p> <p><b>2.3.1:</b> ABD resources, agroecosystems and their management practices mapped, characterized and documented in the pilot areas</p> <p><b>2.3.2:</b> Knowledge sharing on ABD management and conservation practices for farmers in pilot and neighbouring communities</p> <p><b>2.3.3:</b> Inclusion of ABD issues in primary, secondary and tertiary education and IKSP programmes in the pilot provinces</p> <p><b>2.4.1:</b> Access to tools, equipment and facilities for improving productivity and sustainability, and reducing post-harvest losses</p> <p><b>2.4.2:</b> Recognition of</p>	GEF TF	1,447,691	10,737,755

		<p><i>of how to adapt traditional management systems to changing circumstances</i></p> <p><b>2.4:</b> Improved opportunities for local communities to derive economic, livelihood and food security benefits from agro-biodiversity conservation, resulting in increased sustainability of agro-biodiversity and ecosystem conservation practices</p> <p><u>Indicator targets</u></p> <ul style="list-style-type: none"> <li>- 350 farmers (covering 238ha), in all 17 barangays, apply producer labels based on ABD considerations to a total of 55t of rice per year</li> <li>- A total of 350 farmers in 17 barangays have increased their income from sale of traditional varieties by 10%</li> <li>- Farmers maintain the quantities of traditional rice varieties that they consume or use for social obligations, rather than selling, at least baseline levels</li> </ul>	<p>distinctive ABD and cultural importance of target sites and products</p> <p><b>2.4.3:</b> Detailed market analyses conducted to assess the specific marketability of indigenous varieties as a premium market product (building on general analysis under 3.1.1)</p> <p><b>2.4.4:</b> Capacity development for business planning, product development and marketing, to increase farmers' abilities to seize commercial opportunities from target ABD species/varieties</p>			
3: Dissemination of information, awareness raising and preparations for scaling up	TA	<p><b>3.1:</b> Increased knowledge and awareness among policy-makers and practitioners about the full socio-economic value of agro-biodiversity</p> <p><u>Indicator target</u></p> <p>Policy makers and planners aware of the value of ABD and practices that conserve them:</p> <ul style="list-style-type: none"> <li>- 50 from at least 15 national agencies</li> <li>- 50 local officials in 32 LGUs</li> </ul> <p><b>3.2:</b> Conditions created for further replication and scaling up of ABD promotion in other parts of core provinces and regions</p> <p><u>Indicator target</u></p> <p>Commitments and action plans developed by at least 4 regional organizations and at least 12 LGUs and other organizations covering communities in provinces and regions with high ABD where up to 4,000 farmers can be potentially reached</p>	<p><b>3.1.1</b> Information on the full value of ABD and management options compiled and disseminated among policy-makers based on pilot results and existing national level information (including other initiatives)</p> <p><b>3.1.2:</b> Consumer awareness campaign implemented showcasing the nutritional, cultural, ecological value of traditional varieties</p> <p><b>3.2.1:</b> ABD considerations included into knowledge sharing programmes in target areas for upscaling (other parts of core provinces and regions, and elsewhere)</p> <p><b>3.2.2:</b> Partnerships with private sector established to facilitate the introduction of agro-biodiversity products into larger markets</p> <p><b>3.2.3:</b> Arrangements for outreach collaboration with actors in other municipalities, provinces and regions (NGOs/Government)</p>	GEF TF	387,134	93,182
Sub-Total					2,078,711	10,970,863
Project Management Cost				GEF TF	103,920	548,461
<b>Total Project Costs</b>					<b>2,182,631</b>	<b>11,519,324</b>

**C. SOURCES OF CONFIRMED CO-FINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)**

Sources of Co-financing	Name of Co-financier <sup>1</sup>	Type of Co-financing	Amount (\$)
Government	DA-Bureau of Agricultural Research	In kind	2,060,002
Government	DA-Bureau of Agricultural Research	Grant	112,212
Government	DA-Agricultural Training Institute	In kind	34,091
Government	DA-Agricultural Training Institute	Grant	56,819
Government	DA-Bureau of Soil and Water Management	In kind	88,335
Government	DA-Bureau of Plant Industry	In kind	113,636
Government	DA Philippines Rice Research Institute (PhilRice)	Grant	1,136,364
Government	DENR Biodiversity Management Bureau	In kind	27,838
Government	DENR Cordillera Administrative Region	Grant	3,794,369
Government	DENR Region 12	Grant	12,341
Government	DENR Region 12	In kind	3,864
Government	National Commission on Indigenous Peoples	Grant	2,272
NGO	World Agricultural Heritage Foundation	Grant	50,000
NGO	World Agricultural Heritage Foundation	In kind	50,000
Local Government	Hingyon municipal government	In kind	839,772
Local Government	Hingyon municipal government	Grant	279,090
Local Government	Hungduan municipal government	In kind	440,832
Local Government	Hungduan municipal government	Grant	34,848
Local Government	Ifugao provincial government	In kind	23,864
Local Government	Ifugao provincial government	Grant	791,818
Local Government	South Cotabato provincial government	In kind	820,568
Local Government	South Cotabato provincial government	Grant	193,702
Local Government	Lake Sebu municipal government	In kind	28,864
Local Government	Lake Sebu municipal government	Grant	66,023
GEF agency	FAO Philippines	In kind	160,800
GEF agency	FAO Philippines	Grant	127,000
GEF agency	FAO (ITPGRFA)	In kind	50,000
GEF agency	FAO (ITPGRFA)	Grant	120,000
<b>Total Co-financing</b>			<b>11,519,324</b>

**TRUST FUND RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/Global	Grant Amount (a)	Agency Fee (b)	Total c=a+b
FAO	GEF TF	BD	Philippines	2,182,631	207,350	2,389,981
<b>Total Grant Resources</b>				<b>2,182,631</b>	<b>207,350</b>	<b>2,389,981</b>

**D. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:**

Component	Grant amount (\$)	Co-financing (\$)	Project total (\$)
Local consultants*	435,775	500,000	935,775
International consultants*	80,000	100,000	180,000
<b>Total</b>	<b>515,775</b>	<b>600,000</b>	<b>1,115,775</b>

**G. DOES THE PROJECT INCLUDE A "NON-GRANT" INSTRUMENT? No**

**PART II: PROJECT JUSTIFICATION**

**A. DESCRIBE ANY CHANGES IN ALIGNMENT WITH THE PROJECT DESIGN OF THE ORIGINAL PIF**

**A.1 National Strategies and Plans:**

1. The project remains fully aligned with relative national strategies and plans, as described in the PIF.

<sup>1</sup> The amount represents initial cash contribution for one site (only) for the first year. Also NCIP intends to provide (as yet unquantified) "in kind" co-financing through the services of its field offices. Please also see Section 4.3.3 on Government inputs in the Project Document.

## **A.2 GEF focal area and/or fund(s) strategies, eligibility criteria and priorities:**

2. No change in relation to the PIF.

## **A.3 The GEF agency's comparative advantage:**

3. No change in relation to the PIF.

## **A.4 The baseline project and the problem that it seeks to address**

4. No change in relation to the PIF.

## **A.5 Incremental/additional cost reasoning**

5. There are no significant changes to the overall incremental/additional cost reasoning relative to that presented in the PIF. The following modifications have however been made to the proposed outputs:

- PIF Output 1.1.1 (Social, cultural and economic valuation of traditional food crop varieties) has been eliminated as it duplicated Output 3.1.1.
- Outputs 1.2.1 and 1.2.2 on strengthened coordination and capacities have been combined into a single output.
- A new outcome (2.1) has been added ("Planning and governance mechanisms support the conservation and sustainable use of ABD") with corresponding outputs, in order to reflect the importance of resource management and conservation being backed up by planning and governance frameworks.
- A new output (2.3.3) has been added ("Inclusion of ABD issues in primary, secondary and tertiary education and IKSP programmes in the pilot provinces") in order to ensure inter-generational sustainability through the promotion of ABD issues among future farmers and decision-makers.
- A new outcome (2.2) has been added ("Traditional varieties are maintained in community gene banks") in order to highlight the importance of gene banks as a cornerstone of the ABD conservation strategy promoted by the project.
- A new output (2.4.1) has been added ("Access to tools, equipment and facilities for improving productivity and sustainability, and reducing post-harvest losses") reflecting observations of community members during PPG studies regarding the importance of these issues as barriers to ABD conservation.
- PIF Output 2.2.3 ("National level product certification mechanism") has been eliminated as this barrier has now been addressed.
- PIF outputs 2.2.4 (Business and marketing plans) and 2.2.5 (training for farmers to increase their ability to seize commercial opportunities) have been combined.
- PIF outcomes 3.1 (increased awareness among policy-makers) and 3.2 (increased awareness of consumers) have been combined
- PIF Output 3.3.2 (Cross-regional workshops conducted with additional communities to facilitate replication and scaling up of project activities) has been divided into two: 3.2.1 (ABD considerations included into knowledge sharing programmes in target areas for upscaling) and 3.2.3: Arrangements for outreach collaboration with actors in other municipalities, provinces and regions)

6. The indicators proposed in the PIF have been revised and expanded, and additional indicators have been added at objective and output level. The only significant modifications that have been made in the project's targets in relation to the PIF are as follows:

- It was proposed in the PIF that at least 5,000 farmers would be trained on agro-biodiversity conservation practices: analyses during the PPG phase revealed that it would not be possible for this target to be achieved directly through project resources, given due not least to the fact that it significantly exceeded the numbers of farmers in the target barangays. The target for the number of farmers *directly* trained using GEF resources has therefore been scaled back to 1,000 in the target barangays (under Component 2); the balance of 4,000 farmers will instead be targeted indirectly (under Component 3) through the incorporation of ABD considerations into the knowledge sharing programmes of other entities covering other parts of core provinces and regions and elsewhere.
- In the PIF a target was proposed that 30,000ha would be recognised/certified under NIAHS. A review during the PPG phase of the size of the target municipalities and of their constituent areas of traditional agricultural systems showed that this target was unrealistic. Furthermore, the PPG review of opportunities for market-based incentives for ABD conservation suggested that the models to be promoted should go beyond NIAHS, to include for example Geographic Indication and organic certification as proxies for strictly ABD-based schemes, capable of conferring ABD benefits. The new targets related to Output 2.4.2, are that: 1 target municipality includes NIAHS-recognized sites; 6 target barangays have with community registries of

traditional varieties under the Plant Variety Protection Act (PVPA) covering around 2,000ha of traditional farming area; 3 traditional varieties are registered with National Seed Industry Council; active heirloom rice production areas, covering 5,000ha in 3 municipalities in Ifugao, are covered by GI certification (which includes requirements for NIAHS designation and traditional varieties), covering around 20 varieties in each province; and 2 farmer groups (1 in each target province) observing internal control systems for organic certification, on around 20ha of traditional agriculture systems. The target for Outcome 2.4 is that 350 farmers (covering 238ha), in all 17 barangays, apply producer labels based on ABD considerations to a total of 55t of rice per year.

**A.6 Risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and measures that address these risks:**

7. Overall the risk analysis presented in the PIF remains valid. PPG analyses have however highlighted a number of issues of emphasis:

Risk	Mitigation Strategy
Government budgetary constraints at national and local level	In addition to the mitigation strategies proposed in the PIF, the project will address this risk by strengthening farmers' capacities for knowledge generation and farmer-to-farmer knowledge transfer, as complements to Government extension programmes that are hampered by budgetary constraints; and by promoting the involvement of the private sector in the development and application of market-based incentives to complement the Government's weak capacities in this regard.
Low level of participation and support from stakeholders	PPG processes have contributed to mitigating this risk in the case of the Local Government Units (LGUs) covering the target areas, representatives of which were fully involved in and consulted on project design and have expressed firm commitment to the project.
Insufficient consumers' "willingness to pay"	<p>Studies carried out during the PPG phase confirmed that:</p> <ul style="list-style-type: none"> <li>- Most consumers are willing to pay for eco-labelled products (around 26% of respondents were willing to pay a price premium of &gt;21% for eco-labelled products) but the willingness varies depending on the level of price premium. These include products certified to conserve agro-biodiversity, indigenous varieties including rice, cultural heritage (e.g. handwoven products from abaca), certified organic rice, etc.</li> <li>- Certification fetches higher price. The majority of respondents are willing to pay price premium for eco-labelled products that range from 10% to 20%.</li> <li>- There is however significant price elasticity: more than 30% of respondents cited high price of organic product as one of the reasons why they don't purchase it.</li> <li>- Modelling results show that gender, age, income and being an organic consumption consumer significant affect the level of price premium.</li> </ul> <p>In recognition of the sensitivity of market behaviour to these factors, the project will support further detailed market valuation analyses of specific traditional varieties, products and "labels", as the basis for the business and marketing plans proposed under Output 2.3.3 below, confirming the types of product and/or certification scheme which are likely to yield highest returns on investment (taking into account market prices in relation to production, marketing and transaction costs), and identifying the specific markets to be targeted (based on factors including accessibility, marketing and transport costs, price levels, and demand volumes, as well as likely trends in these factors) (Output 2.4.3) and will also place emphasis on developing the capacities of producers to interact effectively with markets (Output 2.4.4).</p>
Private sector involvement	Emphasis will in addition be placed on ensuring participation and support of private sector stakeholders, through the provision of technical expertise aimed at raising awareness and developing capacities for taking advantage of market opportunities for ABD and ABD-related products. Market studies to date, including those carried out during the PPG phase, indicate that diverse private sector outlets exist for the ABD products from the target areas. The project will develop partnerships across this wide range of private sector actors, in order to spread the risk of the failure of individual outlets. Under Output 2.4.4, it will also develop

	capacities among the producers themselves to interact with private sector actors and thereby adapt to evolving market conditions.
Coordination between ministries and with local institutions	<p>The project will implement various mechanisms to promote effective coordination between ministries and with local institutions:</p> <ul style="list-style-type: none"> <li>- A multi-institutional Project Steering Committee, including representatives from the Department of Agriculture, the NPD, the Department of Environment and Natural Resources (DENR), PhilRice, NCIP, the Department of Trade and Industry (DTI), and NCCA,</li> <li>- <i>Ad hoc</i> Technical Working Groups involving relevant bureaus of DA, DTI, NCCA, NCIP and the Department of Education.</li> <li>- Provincial Coordination Committees involving Provincial and Municipal LGUs, Provincial Offices for Planning, Agriculture, Environment, IP Affairs and Cultural Affairs, as well as provincial representatives of DENR, DA and NCIP.</li> </ul>

#### **A.7 Coordination with other relevant GEF-financed initiatives:**

8. The project will coordinate all its activities closely with three related, GEF-financed projects:

- a) Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems (GIAHS) implemented by FAO;
- b) Partnerships for Biodiversity Conservation: Mainstreaming in Local Agricultural Landscapes ("Biodiversity Partnerships Project" or BPP) implemented by UNDP; and the
- c) New Conservation in the Philippines Project (NEWCAPP) also implemented by UNDP.

9. None of these projects has its primary focus on agro-biodiversity conservation. However, all of them relate to agricultural systems as well as biodiversity issues and therefore can serve as valuable sources of information and knowledge to inform and improve the proposed GEF project.

10. The significance of the GIAHS initiative as the basis for the national level NIAHS recognition, which in turn will serve as the basis for the certification mechanisms envisioned by the proposed GEF intervention, has already been extensively discussed in the previous sections. Collaboration with GIAHS, learning from its experiences and building on its achievements while avoiding any sort of project activity duplication, will be a central aspect of the proposed project.

11. Similarly, the BPP complements the planned project activities in a mutually beneficial way. The BPP does not primarily address agro-biodiversity itself, but focuses largely on the pressures from agriculture on biodiversity, especially in protected areas where BPP sites are located. The main objective of BPP is to "demonstrate how Local Government Units (LGUs), with enhanced capacities, and working together with local and national partners, can plan and manage economic activities and growth in ways that meet landscape-level biodiversity conservation and sustainable use objectives in critical bio-geographic regions." The proposed project will closely coordinate its activities with the BPP in order to maximize opportunities for synergies and to learn from the BPP's experience. Even though the BPP follows objectives distinct from the proposed project, some of its approaches at the community level are similar to the envisioned activities of this project. Most importantly, BPP is experimenting with certification mechanisms for biodiversity friendly practices, which will be complementary to the certification of traditional varieties conducive to agro-biodiversity conservation planned under component 2 of the proposed project.

12. The proposed project will coordinate its efforts with NEWCAPP, which focuses on the promotion and protection of indigenous peoples' rights, empowering local indigenous communities to actively contribute to the conservation of biodiversity within Indigenous Community Conservation Areas (ICCAs). As indigenous communities play an important role in the few remaining traditional agricultural systems in the Philippines, the proposed project will benefit from a close exchange of information and experiences with NEWCAPP.

#### **B. ADDITIONAL INFORMATION NOT ADDRESSED AT PIF STAGE**

##### **B.1 Describe how the stakeholders will be engaged in project implementation**

13. Extensive consultations with local stakeholders were undertaken during the PPG phase: in particular, LGUs in the target areas were widely consulted and involved, and expressed strong commitment to ABD conservation and to



participation in the project. On the basis of these extensive consultations, it is proposed that Local Government Units (LGUs) will play a lead role in the implementation of the pilot activities proposed under Component 2, given that most of the Government functions relevant to the pilot functions have now been decentralized to LGUs.

14. As explained in Section 4.2 of the Project Document, stakeholder committees (SC) will be established in each of the target sites. In each site SC will be established at both the Municipal and Village levels to provide advice on direction and coordination. At the municipal level the role of SC may be assumed by existing multisectoral bodies, provided that the key sectors relevant to the project are represented (i.e. similar to the sectors cited at the Provincial levels). The SC at the village level will include representatives from barangay councils, local communities, women's associations/networks, public school teachers, farming and livestock associations, municipal governments, and the private sector.

15. Local participation will be particularly important in relation to Output 2.1.1 (ABD resources, agroecosystems and their management practices mapped, characterised and documented): although these activities will be championed by these Government institutions, there will be a strong emphasis on community participation. In line with principles of informed consent, the aims and proposed approach of the mapping will be discussed with the communities, and their approval sought for the activities. Particular attention will be paid to discussing how the information to be generated will be used, including, as required, the joint definition of corresponding protocols, in order to address possible concerns about biopiracy or "theft" of traditional knowledge. Communities will be encouraged wherever possible to assign local counterparts to accompany and work with the mapping teams, and feedback meetings will be held to present and discuss results and how to use them as the basis for the knowledge generation and sharing processes proposed under Output 2.3.2.

16. The knowledge sharing and generation processes proposed under Output 2.3.2 will also be highly participatory, using (as appropriate, and in a flexible manner adapted to local needs and conditions) the participatory model of Farmer Field Schools. There will be an emphasis on viewing the participatory systematization and sharing of traditional knowledge as a starting point, complemented where necessary and appropriate by external technical inputs that will be subject to local validation.

17. Project targets in terms of socioeconomic benefits and numbers of farmers trained are shown in the Results Framework (see in particular indicator targets for Outcomes 2.3 and 2.4).

**B.2 Describe the socioeconomic benefits to be delivered by the project at the national and local levels; gender dimensions, and how these will support the achievement of global environmental benefits**

18. These global benefits will be closely associated with the delivery of significant socioeconomic benefits. As explained in Section 1.1, ABD is of local/national as well as global importance: it has historically formed the basis for resilient agro-ecosystems providing crucial ecosystem services including the provision of food and nutrition, water and soil regulation, as well as performing a cultural role, especially in indigenous communities. These cultural aspects are particularly significant for women, for example in Ifugao women have a role in practically all stages of rice production but are particularly recognized for their skills to select the good quality seeds to be grown for subsequent harvests: likewise, in South Cotabato T'boli women play a crucial role in farming (including seed keeping) and in crafts including abaca weaving..

19. The conservation of ABD will therefore directly contribute to livelihood sustainability, food security and the position of women; as the same time, the generation by the project of net socioeconomic benefits for local communities will serve as an added incentive for their active participation in the project and for their support to the proposed conservation strategies.

20. The socioeconomic benefits to be delivered by the project will include the following:

- Enhanced and expanded knowledge among local level decision makers and community members on the application of dynamic ABD conservation practices and their relation to cultural heritage (Outcome 2.3). End of project targets:
- 1,000 farmers in 17 target barangays with enhanced knowledge of how to adapt traditional management systems to changing circumstances.
- 450 secondary students (50 in each of 3 year levels in 3 municipalities) and 120 tertiary students (30 in 2 classes in 2 colleges/universities) receiving classes on ABD.

- Increased opportunities for target communities to derive economic, livelihood and food security benefits from agro-biodiversity conservation, resulting in increased sustainability of agro-biodiversity and ecosystem conservation practices (Outcome 2.4). End of project targets:
- 350 farmers (covering 238ha), in all 17 barangays, applying producer labels based on ABD considerations to a total of 55t of rice per year, and as a result will have increased their income from sale of traditional varieties by 10%.

21. At the same time, the project will take steps to ensure the maintenance of the food security and nutrition benefits associated with traditional varieties, specifically the risk of increased market opportunities leading farmers to sell more of their production of traditional varieties rather than consuming them. The target (Outcome 2.4) will be that farmers maintain the quantities of traditional rice varieties that they consume or use for social obligations, rather than selling, at least baseline levels.

22. The maintenance of traditional agroecosystems featuring a wide diversity of crop varieties and conserving the equilibria of ecological interactions between crops, pests and control agents also has high potential to assist farmers to withstand and adapt to the impacts of climate change. This adaptive capacity will be furthered through the project's use of non-vertical approaches to knowledge generation, focused on strengthening farmers' abilities to develop solutions to their needs based on farmer-led analysis and experimentation

### **B.3 Explain how cost-effectiveness is reflected in the project design**

23. One approach could have been to pay farmers to maintain crop diversity on their farms, with a focus solely on conservation. This would have been expensive and not replicable. Instead, the project is focused on developing sustainable incentives, both market-based and non-market.

24. Another alternative would have been to focus exclusively on further strengthening the ex situ conservation of genetic material in gene banks managed by research and academic institutions. A number of institutions in the Philippines do indeed maintain large ex situ collections of traditional varieties of agricultural crops. This constitutes a vital mainstay of gene conservation programmes, and an important safeguard against the risk of on farm populations being lost due to the threats described in Section 1.7. However, resource limitations for field prospecting mean that ex situ conservation on its own cannot be relied upon to capture the full diversity of ABD resources; neither does it permit populations to evolve, or new varieties to emerge, as they would normally do in on-farm conditions as a result of natural crossing or breeding and selection by farmers, and would therefore risk the eventual loss of inter- and intra-population diversity due to processes of viability loss in storage. The project approach therefore seeks sustainability and cost-effectiveness by recognising in situ and ex situ conservation as complementary and mutually interdependent strategies.

25. Cost-effectiveness will also be furthered by a "layered" approach to targeting farmers for capacity development. A "core" population of 1,000 farmers will be targeted directly by the project in the 17 target barangays (Output 2.3.2); while a further 4,000 farmers will be targeted indirectly by the project's support to the inclusion of ABD considerations included into the knowledge sharing programmes of partners in target areas for upscaling (other parts of core provinces and regions, and elsewhere) (Output 3.2.1), resulting in impacts on their knowledge, attitudes and practices with a lower level of investment per farmer..

### **C. DESCRIBE THE BUDGETED M&E PLAN**

26. The monitoring and evaluation plan will serve two functions: first, periodic assessment of project implementation and performance of activities and, second, evaluation of their outcomes in terms of relevance and effectiveness. Both will contribute to improved decision making and management, by keeping the project on track towards achieving the human development and global environmental goals/objectives and by feeding knowledge from experiences and lessons learnt into planned activities.

27. Monitoring will take place at two levels: project execution and project performance.

28. Project Execution: Monitoring at project execution level will involve collection of information on actual implementation of project activities compared to those scheduled in the work plan, including the delivery of quality outputs in a timely manner, identify problems and constraints (technical, human resource and financial), make clear recommendations for corrective actions, identify lessons learned and best practices.

29. Day-to-day monitoring of implementation progress will be the responsibility of the Project Coordinator, who reports directly to the Project Steering Committee and FAO. It is envisaged that the Project Coordinator will utilize an

M&E system that will be designed and agreed in PY1. The system will allow the Project Coordinator to identify key milestones and outputs from each of the main components of the project as defined in the work plan. Each activity will have allocated a percentage score based on an evaluation of its contribution to the completion of each component.

30. **Project Performance:** Performance evaluation will assess the project's success in achieving its outcomes. Project performance will be monitored closely by FAO and by the Project Steering Committee through semi-annual project progress reports (PPRs), annual project implementation reviews (PIRs), technical reports, and technical supervision missions. The overall achievement of the project's outcomes will be evaluated at the end of the project through an independent terminal evaluation (see section 4.6).

31. The table below provides a summary of the main M&E reports, responsible parties and timeframe

Type of M&E Activity	Responsible Parties	Time-frame	Indicative budget
Inception Workshop	PMCU, supported by the FAO LTU, BH, and the FAO GEF Coordination Unit	Within two months of project start up	17,045
Project Inception Report	PMCU, cleared by FAO LTU, BH, and the FAO GEF Coordination Unit	Immediately after workshop	
Field-based impact monitoring	PMCU, participating executing partners and other relevant institutions.	Continually	
Supervision visits and rating of progress in PPRs and PIRs	PMCU, FAO Philippines, FAO LTU and FAO GEF Coordination Unit	Annual or as required	14,018 <sup>2</sup>
Project Progress Reports	PMCU and Project Coordinator (supported by the Project Bilingual Assistant) with inputs from other partners	Six-monthly	
Project Implementation Review report	Inputs provided by the Project Coordinator, assisted by the Project Bilingual Assistant.  FAO Philippines and LTUs supported by the PMCU. PIRs cleared and submitted by the FAO GEF Coordination Unit to the GEF Secretariat	Annual	
Co-financing Reports	PMCU	Annual	
Technical reports	PMCU, /LTU	As appropriate	
Mid-term Review	External Consultant, in consultation with the project team including the FAO GEF Coordination Unit, the LTU, and other partners	At mid-point of project implementation	40,000
Final evaluation	External Consultant, FAO independent Evaluation Office in consultation with the project team including the FAO GEF Coordination Unit, the LTU, and other partners	At the end of project implementation	40,000
Terminal Report	PMCU, FAO Philippines, LTUs, TSCR report Unit	At least two months before the end date of the GCP Agreement	
Total			111,063

### **PART III: ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT AND GEF AGENCY**

A. **RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT ON BEHALF OF THE GOVERNMENT:** (Please attach the Operational Focal Point endorsement letter(s) with this template).

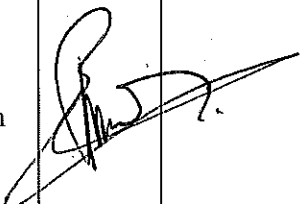
NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Ms. Analiza Rebuelta- Teh	GEF OFF	Department of Environment and	13/08/2013

<sup>2</sup> Proportion of the salary and travel costs of the National Project Coordinator and Programme Officer for design and implementation of the M&E system, and for carrying out periodic supervision and monitoring visits to field sites. Does not include salary or travel costs of FAO staff.

**PART III: ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT AND GEF AGENCY****A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT ON BEHALF OF THE GOVERNMENT:** (Please attach the Operational Focal Point endorsement letter(s) with this template).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Ms. Analiza Rebuelta- Teh	GEF OFP	Department of Environment and Natural Resources	13/08/2013

**B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for project identification and preparation.					
Agency Coordinator, Agency name	Signature	Date	Project Contact Person	Telephone	Email Address
Mr Guy Evers, Deputy Director Officer-in-Charge Investment Centre Division Technical Cooperation Department FAO – Rome, Italy <a href="mailto:TCI-Director@fao.org">TCI-Director@fao.org</a>		28 August 2015	Sameer Karki, Technical Officer GEF Unit  Aristeo Portugal, Assistant, FAO Representation in the Philippines	+39.06.570523 86	<a href="mailto:Sameer.Karki@fao.org">Sameer.Karki@fao.org</a>  <a href="mailto:Aristeo.Portugal@fao.org">Aristeo.Portugal@fao.org</a>
Jeffrey Griffin, Senior Coordinator, GEF Unit Investment Centre Division Technical Cooperation Department FAO – Rome, Italy <a href="mailto:Jeffrey.griffin@fao.org">Jeffrey.griffin@fao.org</a>					

## ANNEX A: PROJECT RESULTS FRAMEWORK

### SECTION II: STRATEGIC RESULTS FRAMEWORK AND GEF INCREMENT

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
<b>Project Objective/Impact</b> To enhance, expand and sustain the dynamic conservation practices that sustain globally significant agro-biodiversity in traditional agroecosystems of the Philippines	Numbers of traditional varieties grown in target barangays (as a measure of their conservation status)	Traditional ABD varieties in target municipalities <sup>3</sup> : - <b>Hungduan</b> : 24 rice, 1 sweet potato, 3 taro, 1 yam - <b>Hingyon</b> : 17 rice, 5 taro, 5 sweet potato, 0 yam - <b>Lake Sebu</b> : 20 rice, 9 taro, 1 sweet potato, 5 yam	Numbers per barangay maintained at baseline levels over 300ha of traditional agroecosystems in 17 target barangays	- Rice production data of the LGU MAO - Participatory monitoring by community - LGU	Continued commitment in Government institutions at national, provincial and municipal levels and in local communities to the conservation of ABD  Adverse climatic events do not damage in situ gene resources or lead to undermining by emergency introduction of other varieties
<b>Outcome 1.1:</b> Strengthened policy and legal framework defining a national approach to ABD and guiding the design and implementation of corresponding activities at national and local level	Numbers of target policy instruments (see Output 1.1.1) embedded in programmes with corresponding budget assignment	N/A	An average of 5 additional traditional varieties grown in each of the 17 target barangays	- Rice production data of the LGU MAO - Participatory monitoring by community - LGU	Continued policy commitment of key Government actors
<b>Output 1.1.1: Key</b> policy instruments favouring ABD conservation developed at national and local level	Numbers of policy instruments developed favouring ABD conservation	At least 5 policy provisions that potentially promote ABD conservation exist but lack instruments to permit their implementation	4 target policy instruments (see Output 1.1.1) are embedded in programmes with corresponding budget assignment	- Agency Plans as stated in the next Mid Term Devt Plan (2017 – 2022) - Policy and Institutions Specialist - Agencies responsible for development of each policy instrument	Continued policy commitment of key Government actors
			Policy instruments (e.g. administrative orders, joint memorandum circulars) developed for: - 1 key agriculture sector policy - 1 key environment sector	- Draft policy instruments - Technical reports of studies and consultations Policy and Institutions Specialist	

<sup>3</sup> Baseline for numbers of varieties per barangay to be determined at project start

<sup>4</sup> Due to exchange of varieties between barangays

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
			<p>policy</p> <ul style="list-style-type: none"> <li>- 1 key culture-related policy<sup>5</sup></li> <li>- 1 key indigenous people related policy</li> </ul>	<ul style="list-style-type: none"> <li>- Agency responsible for development of each policy instrument</li> </ul>	
	Numbers and nature of recommend-actions generated to guide policy development		<p>Recommendations generated through studies to guide policy development for:</p> <ul style="list-style-type: none"> <li>- Customized crop loans and insurance for ABD production</li> <li>- Facilitating organic agriculture certification in remote upland areas</li> <li>- Incorporating ABD and biodiversity friendly agriculture into protocols for agricultural land use as envisioned by the NBSAP</li> <li>- Integrating the role of ABD-in and enhancing benefits from eco agri. based tourism development at the local levels</li> </ul>	<ul style="list-style-type: none"> <li>- Technical Reports on concerned topics</li> <li>- Results of consultations</li> <li>- Agencies concerned (DA, DENR, DOT)</li> </ul>	

<sup>5</sup> NCCA/DA/DENR/NCIP: Accelerated adoption of NLAHS as a category in current guidelines for Cultural Heritage conservation

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
<b>Output 1.1.2:</b> Specific guidelines supporting the piloting of approaches to ABD management and conservation in the target areas	Coverage of special orders and MOAs to guide the piloting of approaches to ABD management in the target areas	No instruments have been formulated yet	Special orders (SOs) and memoranda of agreement (MOA) exist to guide the piloting of approaches to ABD management and conservation in the target areas	Review of SOs and MOA	
<b>Outcome 1.2:</b> Enhanced institutional coordination and capacity to effectively address cross-sectoral issues of agro-biodiversity.	Number and type of instruments into which inter-disciplinary ABD considerations are incorporated	Recognition of the value of ABD is limited only to certain special research programs of government; DA recognizes importance of ABD and is proposing to consolidate programmes on the issue	Interdisciplinary integration and coordination regarding ABD reflected in: -Plans of local multisectoral <sup>6</sup> councils of 3 MLGUs and 2 PLGUs -At least 1 PA Area Plan per target region (DENR) - At least 1 Ancestral Domain Area Development Plan (NCIP) Specific support programme of DA to Indigenous Peoples (IP)	-Review of plans of local development councils, PA area plans, Ancestral Domain Area Plan and IP support programme -Lead Agency	Willingness to coordinate and assign corresponding staff resources on the part of relevant institutions
<b>Output 1.2.1:</b> Strengthened capacities and mechanisms for addressing interdisciplinary aspects of ABD conservation	Number of existing inter-institutional coordination mechanisms in the agendas of which ABD issues and good management practices and needs are taken up	Ecosystems management including general BD conservation is considered in inter-institutional coordination mechanisms (e.g. PDC RDCs, regional NCI) but ABD is not yet included in the discourse	Inter-institutional coordination regarding ABD included in agendas of existing coordination mechanisms: -5 LDCs/AFCs (3 MLGU and 2 PLGU) -3 Municipal Development Councils (MDCs) -2 Provincial Development Councils (PDCs) -2 Regional Development Councils (RDCs) -National Convergence Initiative (NCI)	-Review of agenda and proceedings of meetings of mechanisms -Lead Agency	

<sup>6</sup> Local Development Councils (LDCs) and/or local Agriculture and Fisheries Councils (AFCs)

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions																					
			Bilateral agreements between DA/DENR, and DANCIP incorporate ABD concerns																							
	Numbers of staff trained in inter-disciplinary issues related to on-farm ABD conservation and related ecosystem management:	Forestry/conservation professionals are principally focused on BD conservation in PAs  Agricultural professionals are principally focused on ex situ conservation of ABD rather than on-farm approaches	Numbers of staff: <table><tr><th>Institution</th><th>Natio</th><th>Target</th></tr><tr><td>DENR</td><td>5</td><td>16</td></tr><tr><td>DA</td><td>5</td><td>16</td></tr><tr><td>P/MLG</td><td>0</td><td>21</td></tr><tr><td>Us</td><td></td><td></td></tr><tr><td>Others</td><td>9</td><td>29</td></tr><tr><td></td><td>19</td><td>82</td></tr></table>	Institution	Natio	Target	DENR	5	16	DA	5	16	P/MLG	0	21	Us			Others	9	29		19	82	Training reports/workshop reports	
Institution	Natio	Target																								
DENR	5	16																								
DA	5	16																								
P/MLG	0	21																								
Us																										
Others	9	29																								
	19	82																								
<b>Outcome 2.1:</b> Conservation <sup>8</sup> and sustainable use of ABD is supported by planning and governance mechanisms	Numbers of types of plans and programmes into which ABD concerns are embedded	Planning frameworks are currently inadequate for supporting ABD conservation	ABD concerns embedded in Comprehensive Development Plans (CDPs), Executive Legislative Agendas (ELAs) and thematic programmes for agricultural, natural resource management and tourism in 3 MLGUs and 2 PLGUs	Review of CDPs, ELAs, thematic programme documents and enforcement plans/norms	Commitment by national and local government units (provincial and municipal levels), and members of local communities																					
	Numbers of MLGUs and communities in which formalized provisions for enforcement are in place	Governance frameworks are currently inadequate for supporting ABD conservation	Formalized provisions for enforcement in place in 3 MLGUs and 9 communities (as models for the 17 target barangays), specifically addressing threats affecting ABD	Review of CDPs, ELAs, thematic programme documents and enforcement plans/norms																						
<b>Output 2.1.1:</b> Local Government (LGU) plans and programmes in pilot municipalities providing for ABD conservation	Numbers of target MLGUs in which agriculture development plans, ordinances and programmes are included	Current LGU strategic plans in Ifugao are concerned with the rice terraces (location of ABD) but silent on ABD conservation itself.  Ifugao Agriculture staff	- ABD conservation and sustainable use are included in agriculture development plans, ordinances and programmes in all three target MLGUs. - ABD conservation and	- Review of CDPs, ELAs, thematic programme documents and enforcement plans/norms Policy and Institutions Specialist																						

<sup>7</sup> Other line agencies (e.g. NCIP, NCCA), NGOs and SUCs

<sup>8</sup> Including provisions for ecological sustainability at ecosystem level



Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
		are very familiar with traditional varieties and practices. LGU strategic plans for all sites plan to convert gradually to organic agriculture.	sustainable use are reflected in the updating process for land use and socioeconomic plans in all three MLGUs - Provincial level principles and safeguards developed to guide and harmonize agency interventions in the high ABD target areas <sup>9</sup> (including for R&D in Ifugao)		
<b>Output 2.1.2:</b> Community level planning and governance frameworks in pilot communities incorporating ABD considerations	Numbers of target barangays in which plans and customary norms are in place incorporating consideration of ABD.	Community traditional norms in pilot municipalities encourage maintenance of small plots of traditional varieties; in Ifugao women's roles include maintenance of seed selection practices. Leaders are aware of threats to ABD, but no proactive plans exist for their long term conservation	Plans and customary norms cover all 17 target barangays <sup>10</sup> . - Providing for or enhancing the incorporation of ABD considerations into agricultural and forest management and tourism - Regulating the commercialization of ABD by individuals in IP communities	- Community development plans - Minutes of Tribal Council meetings - ADSDPP	
<b>Outcome 2.2:</b> Traditional varieties are maintained in community gene banks <sup>11</sup>	Numbers of ABD varieties/ farmer selections maintained in gene banks; supported by ex situ collections	Some individual initiatives (e.g. private museum in Lake Sebu municipality) hold a very limited number of varieties without adequate storage conditions. One seed bank exists in Hingyon. Some varieties are included in ex situ collections in universities.	All traditional ABD varieties/farmer selections present in the 3 target municipalities are maintained in gene banks, and supported by ex situ collections	- LGU Annual Reports - Special Agricultural Reports	Continued commitment by members of local communities  Collections are not damaged by extreme climatic events

<sup>9</sup> In the case of Ifugao, these will be incorporated into the Master Plan; conformity of agency actions with these principles and safeguards will be promoted through the capacity and awareness development proposed under Components 1 and 3

<sup>10</sup> The planning units may be defined in terms of ancestral domains

<sup>11</sup> Through modalities selected by the communities (e.g. community-maintained gene banks centralized in one facility in the community, or in the municipality, or through a network of farmers continuously maintaining the traditional varieties in their households, with at least two households maintaining each variety to ensure duplication)

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
<b>Output 2.2.1:</b> Community-based gene management systems and networks supported by <i>ex situ</i> collections	Numbers of pilot municipalities in which community gene banks and seed stores have been established.	There are community seedbanks in CAR established as emergency seed supply in times of disaster but these are only for a few varieties (both HYVs and TRV)	One community gene bank and one seed store established in each pilot municipality, supported by agreements, rules and procedures for their management and backed up by <i>ex situ</i> collections	- Highlights of community meetings - Inspection of gene bank and seed bank facility - LGU Annual Reports - Special Agricultural Reports	

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
<b>Outcome 2.3:</b> Enhanced and expanded knowledge among local level decision makers and community members on the application of dynamic ABD conservation practices and their relation to cultural heritage	Numbers of LGU policy makers, planners and extension personnel in the core LGUs aware of the value of ABD and specific management options to ensure their conservation and sustainable use	LGU members especially, agricultural extension and NRM staff, are typically aware of general environmental issues but not of the full importance of, or management options for, biodiversity (including ABD). <i>Baseline values of knowledge will be detailed through KP studies in Year 1</i>	21 LGU policy makers, planners and extension personnel in the core LGUs aware of the value of ABD and specific management options to ensure their conservation and sustainable use	- KP studies (at start and end) - Review of content of extension programmes - DA BAR - DA ATI	Willingness of community members to participate in knowledge generation and sharing  Commitment and support of relevant sectors and authorities to promoting knowledge on ABD among students
	Levels of knowledge among target farmers on how to adapt traditional management to changing circumstances	Farmers have retained traditional knowledge of traditional varieties and management practices, but lack knowledge of management options that would permit them to adapt to changing circumstances. <i>Baseline values of knowledge will be detailed through KP studies in Year 1</i>	KP surveys show enhanced knowledge among 1,000 farmers in 17 target barangays of how to adapt traditional management systems to changing circumstances	- KP survey report - Highlights of community meetings - DA BAR - DA ATI	
<b>Output 2.3.1:</b> ABD resources, agroecosystems <sup>12</sup> and their management practices mapped, characterized and documented in the pilot areas	Numbers of barangays covered by participatory inventories and analyses of ABD resources, agroecosystems and their management practices	No systematic mapping or characterization of ABD done to date	17 target barangays covered by participatory inventories and analyses of ABD resources, agroecosystems and their management practices	- Results of participatory inventories - Highlights of community meetings - DA BAR	
<b>Output 2.3.2:</b> Knowledge sharing <sup>13</sup> on ABD management <sup>14</sup> and conservation practices for farmers in pilot and	Numbers of MLGUs where extension/communi-cation guides/mod-ules have been developed	Knowledge holders in the pilot barangays have maintained some knowledge on ABD conservation and	Extension and communication guides/modules in ABD conservation and sustainable use developed	- Extension and Communi-cation Guides & /Modules - Highlights of community meetings	

<sup>12</sup> Ecosystems in agricultural landscapes whose management has implications for on-farm ABD (e.g. through environmental services/impacts or as hosts of wild crop varieties)  
<sup>13</sup> Including extension, farmer/conservation field schools, farmer to farmer exchanges, participatory action research

<sup>14</sup> Including sustainable agriculture practices compatible with ABD conservation, such as integrated pest management, integrated nutrient management, rainwater harvesting and soil/water conservation

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
neighbouring communities		sustainable use systems however knowledge sharing is minimal due to declining interest of younger farmers. Farmer based extension modules are being developed by a few NGOS (SEARICE and MASIPAG) and the University of the Philippines. The DA CHARM project has piloted an extension module on heirloom rice	for LGU agricultural extension facilitators as well as farmer facilitators in 3 MLGUs	-DA ATI -DA PLGU	

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions									
	Numbers of farmers involved in knowledge sharing on management and conservation practices for target ABD varieties.	Farmers in selected towns in CAR have been trained on improved cultural practices for one TRV	1,000 farmers in 17 core barangays have been involved in knowledge sharing on management and conservation practices for target ABD varieties	Records of knowledge sharing events										
<b>Output 2.3.3:</b> Inclusion of ABD issues in primary, secondary and tertiary education and IKSP programmes in the pilot provinces	Numbers of secondary and tertiary students receiving classes on ABD	Students in pilot schools participate in special training on heritage arts (song, dance, weaving etc.) but not on ABD concerns	450 secondary students (50 in each of 3 year levels in 3 municipalities) and 120 tertiary students (30 in 2 classes in 2 colleges/universities) are receiving classes on ABD	- Highlights of consultation with Elders and IK bearers - Pilot curricula and modules - Training kits for teachers										
	Numbers of ethno-linguistic groups having authored IKSP documents	Sporadic documentation of ABD resources initiated by individuals in pilot provinces but are not yet part of formal documentation of IKSP	Indigenous Knowledge Systems and Practices (IKSP) documents authored by 2 ethno linguistic groups include ABD	NCIP reports										
<b>Outcome 2.4:</b> Improved opportunities for local communities to derive economic, livelihood and food security benefits from agro-biodiversity conservation, resulting in increased sustainability of agro-biodiversity and ecosystem conservation practices	Numbers of farmers applying producer labels based on ABD considerations, and quantity of rice labelled	-No farmers are currently third party certified. -A few ABD varieties in Ifugao were certified by a PLGU-initiated system but this was not sustained. First party producer labels are only applied by a limited number of farmers, only in Ifugao.	350 farmers <sup>15</sup> (covering 238ha), in all 17 barangays, apply producer labels based on ABD considerations to a total of 55t of rice per year	Focus group discussions	Continued willingness to pay for ABD products and ecosystems/landscapes associated goods and services  Farmers have adequate physical access to markets									
	Levels of income from sale of traditional varieties	Average per farm annual production and sale of traditional rice varieties in the 17 target barangays (kg/farmer/year and US\$/farmer/year): <table><tr><td></td><td>Produced</td><td>Sold</td></tr><tr><td>Hunguan</td><td>492</td><td>182</td></tr><tr><td>Hingyon</td><td>450</td><td>99</td></tr></table>		Produced	Sold	Hunguan	492	182	Hingyon	450	99	A total of 350 farmers in 17 have increased their income from sale of traditional varieties by 10%	Focus group discussions	
	Produced	Sold												
Hunguan	492	182												
Hingyon	450	99												

<sup>15</sup> Out of a total of 1,000 farmers in the target barangays

Results Chain	Indicators	Baseline			End of Project Target	Means of Verification and Responsible Entity	Assumptions
		Lake Sebu	1381	732	243		
	Quantities of traditional rice varieties that farmers consume or use for social obligations, rather than selling, relative to baseline levels <sup>16</sup>	Quantities of farm-produced traditional rice varieties retained for home use (consumption or social obligations)			Farmers maintain the quantities of traditional rice varieties that they consume or use for social obligations, rather than selling, at least baseline levels	Focus group discussions prior to mid-term and final evaluations	
		Municipality	Kg/household/year				
		Hungduan	310				
		Hingyon	351				
		Lake Sebu	649				
<b>Output 2.4.1:</b> Access to tools, equipment and facilities <sup>17</sup> for improving productivity and sustainability, and reducing post-harvest losses	Numbers of target barangays with access to tools, equipment and facilities required for improving productivity and sustainability, and reducing post-harvest losses	Target technologies and baseline to be determined at project start			All 17 target barangays have access <sup>18</sup> to tools, equipment and facilities required for improving productivity and sustainability, and for reducing post-harvest losses, subject to and in line with their identification of needs at project start.	Field inspections and focus group discussions Agroecosystems Specialist Enterprise specialist DA BAR DA PhilMech	
<b>Output 2.4.2:</b> Recognition of distinctive ABD and cultural importance of target sites and products	Numbers of target municipalities including NIAHS recognised sites	-Hungduan is already designated as a GIAHS site -No sites are yet designated as NIAHS (two of the target sites are included in a compendium of 75 initial NIAHS candidate sites covering 5 regions <sup>19</sup> )			1 target municipality includes NIAHS-recognized sites		
	Numbers of target barangays with community registries of	-None			6 target barangays (2 per municipality) with community registries of	Government certification of Community Registry	

<sup>16</sup> Safeguard indicator, to check that the proposed focus on market-based incentives for traditional varieties does not result in farmers switching their home consumption patterns to less nutritious non-traditional varieties, to allow them to sell more of their traditional varieties that they would otherwise have consumed

<sup>17</sup> To be defined on a *barangay*-specific manner through participatory analyses, but could include for example hand tools for reducing labour costs for cultivation and weeding, facilities for producing clean planting material, composters, rice mills and drying facilities adapted for traditional varieties, and rainwater harvesting/micro-irrigation equipment. Investment costs will be supported by co-financing from relevant existing programmes of DA.

<sup>18</sup> As a result of development/adaptation of tools or equipment, and/or improved access to existing facilities, such as shared processing/drying service facilities

<sup>19</sup> The other site, Lake Sebu, was not included in the five regions covered by the compendium

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
	traditional varieties under the Plant Variety Protection Act (PVPA)		traditional varieties under the Plant Variety Protection Act (PVPA) covering around 2,000ha of traditional farming area		
	Numbers of traditional varieties in target barangays registered with National Seed Industry Council	-None	3 traditional varieties are registered with National Seed Industry Council	NSIC registries	
	Area covered by GI certification		Active heirloom rice production areas, covering 5,000ha in 3 municipalities in Ifugao, are covered by GI certification (which includes requirements for NIAHS designation and traditional varieties) <sup>20</sup> , covering around 20 varieties in each province	GI certifications	
	Area covered by organic certification (OA) in target municipalities	-Ifugao has received a national award for good practice in promoting organic agriculture production/certification	2 farmer groups (1 in each target province) observing internal control systems for organic certification, on around 80ha of traditional agriculture systems <sup>21</sup>	OA Certifications	
<b>Output 2.4.3:</b> Detailed market analyses conducted to assess the specific marketability of indigenous varieties as a premium market product (building on general analysis under 3.1.1)	Number of traditional varieties for which market studies carried out	Enterprise development plans have been done for rice in Hungduan and Hingyon (none for Lake Sebu), but did not cover evaluation of specific market outlets	Market studies carried out for 3 traditional varieties per municipality (9 total)		
<b>Output 2.4.4:</b> Capacity development for business planning, product development and marketing, to increase	Number of producer groups with business and marketing plans to maximize opportunities for product development	Some producer groups in Hungduan and Hingyon have business and marketing plans but none for Lake Sebu	17 producer groups in the three target municipalities, covering 350 farmers, have developed business and marketing plans to	Review of business and marketing plans developed Enterprise Specialist	

<sup>20</sup> GI certification would apply to specified areas (to be defined), and only to traditional production systems meeting the ABD-based criteria.

<sup>21</sup> Area for demonstration of third party organic certification system for traditional crop (rice) varieties, applying improved methods for support services to remote communities

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
farmers' abilities to seize commercial opportunities from target ABD species/varieties	and revenue creation from target ABD varieties		maximize opportunities for product development and revenue creation from target ABD varieties		
	Numbers of people to who have received training on business development and management, and enterprise development support	At least 75 farmers were trained under the 5 farmer business schools conducted in Hungduan and Hingyon Ifugao under CHAMP2  In Lake Sebu, at least 50 tinalak weavers received enterprise development support in terms of product designs and development but none for farmers producing traditional rice varieties	Training on business development and management, and enterprise development support provided in the three target municipalities to: -350 farmers -4 NGO staff members 10 LGU agriculture technicians	No of farmers indicated in the training attendance sheet Enterprise Specialist Copy of market analysis reports Enterprise Specialist	
	Numbers of new products developed from traditional varieties in target municipalities	At least 3 new products developed from rootcrops and traditional rice varieties in Hungduan and Hingyon. New products developed through processing and improved packaging materials.  Some new designs and products have been developed for tinalak but none for traditional rice varieties in Lake Sebu	3 new products <sup>22</sup> developed from traditional varieties in each of the 3 target municipalities	Number of products developed Enterprise Specialist	
<b>Outcome 3.1:</b> Increased knowledge and awareness among policy-makers and practitioners about the full socio-economic value of agro-biodiversity.	Numbers of policy makers aware of ABD and practices that conserve them	Less than 15 policy makers and planners at national level and less than 20 local officials nationwide are aware of the value of ABD	Policy makers and planners aware of the value of ABD and practices that conserve them: -50 from at least 15	KP surveys of policy makers, planners and local officials Knowledge Management Specialist	Receptiveness among policy-makers and practitioners

<sup>22</sup> For example organic rice sampler, banana chips from rejects of Fair Trade, organic sweet potato, yam, taro chips sampler



Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
<b>Output 3.1.1</b> Information on the full value of ABD and management options compiled and disseminated among policy-makers based on pilot results and existing national level information (including other initiatives)	Numbers of policy makers and planners who have received information on ABD and management options	Only limited information campaigns carried out to date on ABD and management options, mostly by SUCs and NGOs	national agencies 50 local officials in 32 LGUs <sup>23</sup> 100 policy makers and planners from 15 national agencies and 120 local officials in 35 LGUs have received information on ABD and management options through information and policy guidance documents, compendia and websites, symposia and congresses and NISM	Information and education campaign materials addressed to target audience such as ATI and Regional Offices of DA, DENR and NGO networks	
<b>Output 3.1.2:</b> Consumer awareness campaign implemented showcasing the nutritional, cultural, ecological value of traditional varieties	Percentage of consumers willing to pay higher price for eco-labelled products promoting ABD conservation	Numbers of consumers willing to pay different levels of price premiums for eco-labelled products promoting ABD conservation <sup>24</sup> : Price premium % of consumers (%) <10 35 10-20 39 21-40 16 >40 10	Increased numbers of consumers are willing to pay price for eco-labelled products promoting ABD conservation: Price premium % of consumers (%) <10 20 10-20 44 21-40 21 >40 15	Consumer survey	
<b>Outcome 3.2:</b> Conditions created for further replication and scaling up of ABD promotion in other parts of core provinces and regions	Numbers of farmers covered by commitments and action plans developed by regional organizations, LGUs and other organizations	Commitments on outreach cannot be established until project start.	Commitments and action plans developed by at least 4 regional organizations and at least 12 LGUs and other organizations covering communities in provinces and regions with high ABD, with a target population of up to 4,000 farmers	Highlights of meetings between Project and letters of agreements with targeted agencies such as ATI and Regional Offices of DA, DENR and NGO networks	Willingness among institutions in target replication areas to support upscaling
<b>Output 3.2.1:</b> ABD considerations	Numbers of farmers covered by knowledge	At least one pilot Farmer Field School for improved	ABD considerations have been incorporated into	Modules on ABD adapted to agricultural context of	

<sup>23</sup> 21 LGUs in core provinces (excluding the 3 core municipalities), and 11 in outreach target provinces

<sup>24</sup> Baseline values to be confirmed at project start and target values adjusted proportionally

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
included into knowledge sharing programmes <sup>25</sup> in target areas for upscaling (other parts of core provinces and regions, and elsewhere)	sharing programmes into which ABD considerations have been incorporated.	practices of one traditional rice variety in CAR, by the DA CHARM Project	knowledge sharing programmes covering 4,000 farmers in other parts of core provinces and regions and elsewhere	other targeted region Reports of ATI and Regional Offices of DA, DENR and NGO networks	
<b>Output 3.2.2:</b> Partnerships with private sector established to facilitate the introduction of agro-biodiversity products into larger markets	Numbers of private sector actors with which partnerships have been established creating increased market opportunities for ABD products nationwide	At least 4 organisations, foundations and associations (Rice Terraces Farmers Cooperative, Echosi Foundation Rice Inc, COWHEAD and LASIWAI) are providing marketing and quality control assistance to farmers in the target areas; private sector actors (Japanese organic snack house, Banaue Greenview Lodge, Peoples Lodge, Cherish Arts, supermarkets (e.g. JSGaisano) and Eight Wonder Inc. purchase ABD products (all except from JSGaitano from the target areas)	Partnerships with 2 additional private sector actors creating increased market opportunities for ABD products nationwide (identities of actors to be confirmed through negotiations during the implementation phase)	Attendance sheets/forms in trade fairs and products sold/carried in display centres Sales generated in trade fairs and display centres	
<b>Output 3.2.3:</b> Arrangements for outreach collaboration with actors in other municipalities, provinces and regions (NGOs/Government)	Number of target regions in which regional level outreach workshops have been held	None exist	Regional level outreach workshops held in the 2 target regions, with participation of actors from other regions in the country with high upscaling potential <sup>26</sup>	Results of outreach workshops	

<sup>25</sup> The knowledge sharing (extension, FFS, F2F, CPAR etc.) initiatives of relevant existing programmes and institutions e.g. ATI, BAR, LGUs, SUCs, PA Management Boards, NCIP

<sup>26</sup> Including those prioritized in the compendium of candidate NIAHS sites

## ANNEX B: RESPONSES TO PROJECT REVIEWS

### GEF Secretariat Comments

Comment	Response
<p><b>4. Is the project aligned with the focal area/multifocal areas/LDCF/SCCF/NPIF results framework and strategic objectives?</b></p> <p>Target for each indicator will be defined for CEO endorsement.</p>	<p>SMART indicators with corresponding targets have been developed for all outcomes and outputs (Project Document Appendix 1, Results Matrix).</p>
<p><b>7. Are the components, outcomes and outputs in the project framework (Table B) clear, sound and appropriately detailed?</b></p> <p>Please develop SMART indicators for each expected outcomes. METT and the indicator's targets will have to be provided at CEO endorsement.</p>	<p>The marketing/awareness-raising campaigns proposed under Output 3.1.2 will be carried out in partnership with private sector entities (e.g. Echostore, supermarkets, RTFC, etc.).</p> <p>Output 3.2.2 refers specifically to the establishment of partnerships with private sector actors, to facilitate the introduction of agro-biodiversity products into larger markets.</p> <p>Going beyond the site-specific marketing work and corresponding private sector partnerships proposed under Outcome 2.4, the project will support the exploration of partnerships between ABD producers and private sector actors at a wider level. The project will systematize and disseminate the pilot-level experiences of ABD marketing, with a focus on demonstrating to wider traders and retailers the nature and levels of interest in ABD products that is generated in the pilots, and the potential for market growth and profit generation. In turn, private companies will provide valuable assistance to the communities in providing much broader market access and supply chain facilities, as well as specific expertise for example on packaging, marketing and target group identification for the emerging indigenous variety products.</p> <p>The Stakeholder Committees at the village level will include private sector actors as well as representatives from barangay councils, local communities, women's associations/networks, public school teachers, farming and livestock associations, and municipal governments (Project Document Section 4.2).</p>
<p>Regarding the certification, please provide more information about the ongoing initiatives and demonstrate the added-value of GEF intervention.</p>	<p>In Section 1.12b) of the Project Document, it is explained how the project will contribute to GEF BD2 objectives by demonstrating the establishment and implementation of incentive structures in pilot communities, through product certification using recognized standards, development of corresponding products, and capacity development for farmers to attain certification for their products and subsequently maximize the economic benefits derived from certification through effective marketing and branding.</p> <p>One example of such incentive mechanisms is organic certification: the project will take advantage of the fact</p>

that the traditional production systems within which ABD is conserved are mostly organic, meaning that organic certification has the potential also to generate ABD benefits. Key elements of the baseline situation of ongoing initiatives and challenges related to organic certification, on which the project will build in an incremental manner, are described in the Project Document as follows:

- The legal framework in support of Organic Certification in the Philippines is described in Section 1.1 (Institutional and Policy Framework, Agriculture Sector)
- Markets and price differentials for organic certified products are discussed in Sections 1.4 (Value Chain Analysis for Traditional Varieties) and 1.5 (Willingness to Pay).
- Baseline investments in relation to organic food production and certification are discussed in Section 1.7
- The cost of obtaining organic certification is described as a barrier in Section 1.8, together with supply-side difficulties faced by farmers in meeting the quantity and quality demands of organic markets.

GEF incremental support in relation to organic certification (see Section 2 Output 1.1.1 of the Project Document) will include support to studies of options for supplementing guidelines for the National Organic Agriculture Act, in order to allow the implementation of a provision of the law which aims to facilitate the delivery or certification services to remote upland areas and IP communities, including the definition of the nature of accelerated services and the combination of this with streamlined procedures for verification and the improved delivery of existing subsidies for certification.

The GEF incremental approach will however go beyond the issue of organic certification, recognizing that the correlation between organic production and ABD conservation is not perfect. A particularly important incremental contribution to be made by the project, as described under Outcome 2.4 will be to leverage achievements made to date with NIAHS (for example building on experiences gained in Chile and China) by shifting its focus to ABD conservation, developing additional NIAHS criteria, and applying the criteria to selected indigenous varieties and species with the specific objective of product development. The GEF project will thus use the NIAHS system as a starting point for developing a full-fledged, recognized product standard and certification system for agro-biodiversity friendly goods.

The incremental approach of the project will also include a range of other certification and/or "eco-labelling" options criteria for which consumers have expressed willingness to pay. Section 1.7 presents baseline information on a number of such alternative market-based incentives and certification schemes currently in operation in the Philippines (organic certification, Geographic Indication, Green Choice Philippines, Star Certification, the Echostore Brand and producers' own first party certification schemes), on which the project's incremental approach will also build. GEF incremental support in relation to these other market-based incentives, as set out under Outcome 2.3, will focus on addressing knowledge and capacity gaps in relation to certification in order to increase their accessibility and viability, and their potential to deliver ABD benefits, by, for example, i) testing and applying strategies for availing of diversified and expanded niche markets through a range of certification schemes, ii) assisting producer groups to meet basic standards associated with certification systems, and iii) facilitating certification processes.

Under Output 2.4.2, the project will support producers in the target sites in gaining formal recognition of the validity of the claims on which market-based incentive and certification schemes are based. Under Output 2.4.3, the project will support further detailed market valuation analyses of specific traditional varieties, products and "labels", as the basis for the business and marketing plans proposed under Output 2.3.3 below, confirming the types of product and/or certification scheme which are likely to yield highest returns on investment.

The criteria to select the pilot sites are well developed. Please specify the expected number of pilot sites and the area. Sites and targeted species will have to be specified at CEO endorsement.	<p>The selection criteria for the pilot sites are developed in more detail in Appendix 7 of the Project Document, and information on each of the sites is presented in Appendix 8.</p> <p>The target municipalities will be as follows:</p> <table><tr><th>Province</th><th>Priority municipalities</th><th>Other Municipal sites for initial up-scaling (3<sup>rd</sup> year)<sup>27</sup></th></tr><tr><td>Direct target provinces and municipalities</td><td></td><td></td></tr><tr><td>Ifugao</td><td>Hungduan (22,911 ha)</td><td>Kiangan, Mayoyao, Banaue</td></tr><tr><td>South Cotabato</td><td>Hingyon (11,455.96 ha) Lake Sebu (70,200 ha)</td><td>Tupi, Surallah</td></tr><tr><td>Other provinces for replication</td><td>Other sites (exemplary sites cited in 2013 during the GIAHS project (DENR/DA/FAO))</td><td></td></tr><tr><td>Kalinga, Nueva Viscaya, Mindoro, Bohol and Camiguin</td><td><ul style="list-style-type: none"><li>- Rice based System in Tanudan - Kalinga</li><li>- Sweet potato Fallow System in Kalahan - Nueva Viscaya</li><li>- Rice-based Gentle Fallow System of the Hanunuo Mangyan - Mindoro</li><li>- Ubi Cultivation System in the Karst Landscapes of Bohol</li><li>- Lanzones Cultivation as Part of the Highland Biodiversity in Camiguin</li></ul></td><td></td></tr></table> <p>Within the target municipalities, a total of 17 specific villages (<i>barangays</i>) will be specifically targeted.</p> <p>Most of the production systems targeted by the project include rice, the focus of the project is on diverse traditional agroecosystems, which also include a number of other crops, including the following:</p> <ul style="list-style-type: none"><li>- Mungbean (<i>Vigna radiata</i>):</li><li>- Eggplant (including <i>Solanum torvum</i>, <i>S. indicum</i>, <i>S. nigrum</i>, <i>S. linnaeanum</i>, and <i>S. macrocarpon</i>);</li><li>- Taro and Yam (<i>Dioscorea</i> and <i>Colocasia</i>)</li><li>- Banana, including indigenous progenitors such as <i>Musa acuminata</i> (4 subspecies) and <i>M. balbisiana</i>.</li><li>- Abaca (Manila Hemp, <i>Musa textilis</i>).</li></ul> <p>The results of market and willingness to pay surveys carried out during the PPG phase are presented in sections 1.4 and 1.5 of the Project Document. These show that most consumers are willing to pay for eco-labelled products but the willingness varies depending on the level of price premium. These include products certified to conserve agro-biodiversity, indigenous varieties including rice, cultural heritage (e.g. handwoven products from abaca), certified organic rice, etc. Under Output 3.1.2, the project will work on the development and implementation of marketing/awareness-raising campaigns based initially on the ABD products of the three target sites, focusing on benefits such as their nutritional, cultural and ecological value. This will be carried out in partnership with private sector entities (e.g. Echostore, supermarkets, RTFC, etc.), with additional participation by entities including DA, AMAS, BAR, PLGU and SUCs, and will use tools such as websites, trade fairs, selling missions and display centres.</p>	Province	Priority municipalities	Other Municipal sites for initial up-scaling (3 <sup>rd</sup> year) <sup>27</sup>	Direct target provinces and municipalities			Ifugao	Hungduan (22,911 ha)	Kiangan, Mayoyao, Banaue	South Cotabato	Hingyon (11,455.96 ha) Lake Sebu (70,200 ha)	Tupi, Surallah	Other provinces for replication	Other sites (exemplary sites cited in 2013 during the GIAHS project (DENR/DA/FAO))		Kalinga, Nueva Viscaya, Mindoro, Bohol and Camiguin	<ul style="list-style-type: none"><li>- Rice based System in Tanudan - Kalinga</li><li>- Sweet potato Fallow System in Kalahan - Nueva Viscaya</li><li>- Rice-based Gentle Fallow System of the Hanunuo Mangyan - Mindoro</li><li>- Ubi Cultivation System in the Karst Landscapes of Bohol</li><li>- Lanzones Cultivation as Part of the Highland Biodiversity in Camiguin</li></ul>	
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9. Is there a clear description of: a) the socio-economic benefits, including gender dimensions, to be delivered by the project, and b) how will the delivery of such benefits	<p>The nature and magnitude of the socioeconomic benefits to be delivered by the project, and their relation to the delivery of GEBs, are explained in Section 2.5. The project will increase capacities in local communities to manage and conserve ABD: in addition to generating GEBs due to their global importance, this will help to safeguard their contributions to local culture, livelihoods and food security. Furthermore, the project will generate</p>																		

<sup>27</sup> The PIF proposed reaching at least 10 sites for up-scaling through training under Component 3, in addition to the 5,000 farmers directly involved under Component 2.

<p>support the achievement of incremental/ additional benefits?</p>	<p>net positive socioeconomic benefits, in the form of improved productivity and incomes, which will in turn motivate farmers to support the project's strategies and thereby the generation of global environmental benefits in the form of the conservation status of the target varieties.</p>
<p><b>10. Is the role of public participation, including CSOs, and indigenous peoples where relevant, identified and explicit means for their engagement explained?</b></p> <p>08/26: Local communities are the cornerstone of component 2. Information is provided on type of activities that will target them, but please provide further detail on their level of engagement in the project definition and implementation, the expected number of farmers involved, trained.</p> <p>08/30: This is sufficient at PIF stage but further details are expected of how these groups will be engaged, trained (e.g. number of farmers involved, how market will be secured, revenue generation).</p>	<p>Extensive consultations with local stakeholders were undertaken during the PPG phase: in particular, LGUs in the target areas were widely consulted and involved, and expressed strong commitment to ABD conservation and to participation in the project. On the basis of these extensive consultations, it is proposed that Local Government Units (LGUs) will play a lead role in the implementation of the pilot activities proposed under Component 2, given that most of the Government functions relevant to the pilot functions have now been decentralized to LGUs.</p> <p>As explained in Section 4.2, stakeholder committees (SC) will be established in each of the target sites. In each site SC will be established at both the Municipal and Village levels to provide advice on direction and coordination. At the municipal level the role of SC may be assumed by existing multisectoral bodies, provided that the key sectors relevant to the project are represented (i.e. similar to the sectors cited at the Provincial levels). The SC at the village level will include representatives from barangay councils, local communities, women's associations/networks, public school teachers, farming and livestock associations, municipal governments, and the private sector.</p> <p>Local participation will be particularly important in relation to Output 2.1.1 (ABD resources, agroecosystems and their management practices mapped, characterised and documented): although these activities will be championed by these Government institutions, there will be a strong emphasis on community participation. In line with principles of informed consent, the aims and proposed approach of the mapping will be discussed with the communities, and their approval sought for the activities. Particular attention will be paid to discussing how the information to be generated will be used, including, as required, the joint definition of corresponding protocols, in order to address possible concerns about biopiracy or "theft" of traditional knowledge. Communities will be encouraged wherever possible to assign local counterparts to accompany and work with the mapping teams, and feedback meetings will be held to present and discuss results and how to use them as the basis for the knowledge generation and sharing processes proposed under Output 2.3.2.</p> <p>The knowledge sharing and generation processes proposed under Output 2.3.2 will also be highly participatory, using (as appropriate, and in a flexible manner adapted to local needs and conditions) the participatory model of Farmer Field Schools. There will be an emphasis on viewing the participatory systematization and sharing of traditional knowledge as a starting point, complemented where necessary and appropriate by external technical inputs that will be subject to local validation.</p> <p>Project targets in terms of socioeconomic benefits and numbers of farmers trained are shown in the Results Framework (see in particular indicator targets for Outcomes 2.3 and 2.4).</p>
<p><b>11. Does the project take into account potential major risks, including the consequences of climate change, and describes sufficient risk mitigation measures? (e.g., measures to enhance climate resilience)</b></p> <p>.At CEO endorsement, please provide a fuller consideration of the potential risks and mitigation measure with regards to private</p>	<p>Risks associated with private sector involvement have been recognized in the summary risk table in Section 3.2.1. Market studies to date, including those carried out during the PPG phase, indicate that diverse private sector outlets exist for the ABD products from the target areas. The project will develop partnerships across this wide range of private sector actors, in order to spread the risk of the failure of individual outlets. Under Output 2.4.4, it will also develop capacities among the producers themselves to interact with private sector actors and thereby they adapt to evolving market conditions.</p> <p>Coordination is also recognized in the risk-table: in order to mitigate this risk, the project will implement various mechanisms including the Project Steering Committee, ad hoc Technical Working Groups and Provincial Coordination Committees, all with broad inter-institutional participation.</p>

<p>sector involvement, coordination between ministries, as well as with local institutions.</p>	<p>Specifically, additional emphasis will be placed on ensuring participation and support of private sector stakeholders, through the provision of technical expertise aimed at raising awareness and developing capacities for taking advantage of market opportunities for ABD and ABD-related products. This has been recognized as a separate risk in the risk matrix.</p> <p>PPG processes have contributed to mitigating the risk of limited involvement by the Local Government Units (LGUs) covering the target areas, representatives of which were fully involved in and consulted on project design and have expressed firm commitment to the project.</p> <p>Another additional risk has been added to the risk table, referring to inadequate coordination between ministries and with local institutions. The proposed mitigation measures are as follows:</p> <ul style="list-style-type: none"> <li>- A multi-institutional Project Steering Committee, including representatives from the Department of Agriculture, the NPD, the Department of Environment and Natural Resources (DENR), PhilRice, NCIP, the Department of Trade and Industry (DTI), and NCCA,</li> <li>- Ad hoc Technical Working Groups involving relevant bureaus of DA, DTI, NCCA, NCIP and the Department of Education.</li> <li>- Provincial Coordination Committees involving Provincial and Municipal LGUs, Provincial Offices for Planning, Agriculture, Environment, IP Affairs and Cultural Affairs, as well as provincial representatives of DENR, DA and NCIP.</li> </ul>
<p><b>12. Is the project consistent and properly coordinated with other related initiatives in the country or in the region?</b></p> <p>Further details of how coordination will be achieved are expected at CEO endorsement.</p>	<p>Arrangements for coordination are detailed in Section 4.1 (b)</p>
<p><b>14. Is the project structure/design sufficiently close to what was presented at PIF, with clear justifications for changes?</b></p>	<p>Modifications to project structure/design are explained and justified in the CEO Endorsement Request. The principal modifications are as follows:</p> <ul style="list-style-type: none"> <li>- Change of title: avoidance of the term "Rice Plus" and change of the term "rice-based farming systems" to "traditional ecosystems", in order to emphasise that the project will go beyond exclusively agronomic approaches to promote the integration of farming and livelihood systems into the management of the surrounding landscape, and that the project will include a number of other crops in addition to rice.</li> <li>- PIF Output 1.1.1 (Social, cultural and economic valuation of traditional food crop varieties) has been eliminated as it duplicated Output 3.1.1.</li> <li>- Outputs 1.2.1 and 1.2.2 on strengthened coordination and capacities have been combined into a single output.</li> <li>- A new outcome (2.1) has been added ("Planning and governance mechanisms support the conservation and sustainable use of ABD") with corresponding outputs, in order to reflect the importance of resource management and conservation being backed up by planning and governance frameworks.</li> <li>- A new output (2.3.3) has been added ("Inclusion of ABD issues in primary, secondary and tertiary education and IKSP programmes in the pilot provinces") in order to ensure inter-generational sustainability through the promotion of ABD issues among future farmers and decision-makers.</li> <li>- A new outcome (2.2) has been added ("Traditional varieties are maintained in community gene banks") in order to highlight the importance of gene banks as a cornerstone of the ABD conservation strategy promoted by the project.</li> </ul>

	<ul style="list-style-type: none"> <li>- A new output (2.4.1) has been added ("Access to tools, equipment and facilities for improving productivity and sustainability, and reducing post-harvest losses") reflecting observations of community members during PPG studies regarding the importance of these issues as barriers to ABD conservation.</li> <li>- PIF Output 2.2.3 ("National level product certification mechanism") has been eliminated as this barrier has now been addressed.</li> <li>- PIF outputs 2.2.4 (Business and marketing plans) and 2.2.5 (training for farmers to increase their ability to seize commercial opportunities) have been combined.</li> <li>- PIF outcomes 3.1 (increased awareness among policy-makers) and 3.2 (increased awareness of consumers) have been combined.</li> <li>- PIF Output 3.3.2 (Cross-regional workshops conducted with additional communities to facilitate replication and scaling up of project activities) has been divided into two: 3.2.1 (ABD considerations included into knowledge sharing programmes in target areas for upscaling) and 3.2.3: Arrangements for outreach collaboration with actors in other municipalities, provinces and regions)</li> </ul>
<p><b>15. Has the cost-effectiveness of the project been sufficiently demonstrated, including the cost-effectiveness of the project design as compared to alternative approaches to achieve similar benefits?</b></p>	<p>Cost-effectiveness is discussed in Project Document Section 2.6, as follows:</p> <p>"The only potentially viable alternative strategy to the dynamic <i>in situ</i> conservation proposed by the project is the <i>ex situ</i> conservation of genetic material in gene banks managed by research and academic institutions... However, resource limitations for field prospecting mean that <i>ex situ</i> conservation cannot be relied upon to capture the full diversity of ABD resources; neither does it permit populations to evolve, or new varieties to emerge, as they would normally do in on-farm conditions as a result of natural crossing or breeding and selection by farmers, and would therefore risk the eventual loss of inter- and intra-population diversity due to processes of viability loss in storage. The project approach therefore seeks sustainability and cost-effectiveness by recognising <i>in situ</i> and <i>ex situ</i> conservation as complementary and mutually interdependent strategies."</p> <p>Cost-effectiveness will also be furthered by a "layered" approach to targeting farmers for capacity development. A "core" population of 1,000 farmers will be targeted directly by the project in the 17 target barangays (Output 2.3.2); while a further 4,000 farmers will be targeted indirectly by the project's support to the inclusion of ABD considerations included into the knowledge sharing programmes of partners in target areas for upscaling (other parts of core provinces and regions, and elsewhere) (Output 3.2.1), resulting in impacts on their knowledge, attitudes and practices with a lower level of investment per farmer</p>
<p><b>17. At PIF: Is the indicated amount and composition of co-financing as indicated in Table C adequate? Is the amount that the Agency bringing to the project in line with its role?</b></p> <p><b>At CEO endorsement: Has cofinancing been confirmed?</b></p> <p>Please indicate for each of them, in a separate row, the respective amount in cash and in kind.</p> <p>Regarding the scope of the project, cofinancing from the private sector is encouraged. About 90% of the cofinancing is</p>	<p>Cofinancing is broken down by cash and in kind for each of the cofinancing sources in Table C above.</p> <p>Around 60% of the cofinancing is now cash.</p>



in kind, at CEO endorsement, more cofinancing in cash would be welcomed.	
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### Scientific and Technical Advisory Panel (STAP) comments

Comment	Response
2. The Outcomes, particularly in the text, are rather wordy and could be made tighter. The use of a concise statement of the expected Outcome would be appropriate at the beginning of the text. The table listing Outcomes and Outputs at the beginning is better in this regard but even there some tightening of the wording or focusing could be done.	The wording of the Outputs and Outputs has been reviewed and improved in the Project Document.
3. The GEBs of the project are understandable, and attainable, but they should be made more explicit.	<p>The GEBs are discussed in Project Document Section 2.5, and concrete targets are presented at Objective level in the Results Matrix:</p> <ul style="list-style-type: none"> <li>- Existing traditional varieties grown on 300ha in 17 target barangays will be maintained (24 rice, 1 sweet potato, 3 taro and 1 yam in Hungduan; 17 rice, 5 taro and 5 sweet potato in Hingyon; 20 rice, 9 taro, 1 sweet potato and 5 yam in Lake Sebu)</li> <li>- An average of 5 new traditional varieties will be grown in each of the 17 target barangays</li> </ul>
4. The definition of stakeholders is appropriate, although there is no indication that gender considerations have been taken into account. This should be addressed in the future stages of project development. The selection of pilot sites will help in this regard.	<p>Gender differentiated roles in relation to agricultural practices are described in Section 1.2 on pilot sites, Section 1.3 on farming and ABD management systems in the target areas, and Section 2.5 on Global Environmental Benefits. Agricultural terraces are maintained by an intricate system of knowledge and labour contributed by both men and women. Men tend the muyung forests and maintain the elaborate irrigation systems. They lead in land preparation. The women have a role in practically all stages of rice production but are particularly recognized for their skills to select the good quality seeds to be grown for subsequent harvests. Likewise, in South Cotabato, Tiboali women play a crucial role in farming (including seed keeping) and in crafts including abaca weaving.</p>
5. The indication and assessment of risks is realistic, although likely underestimated in some instances, such as consumers' willingness to pay and level of expected effective participation. Some elements of the proposed mitigation strategy sound more like assumptions based on linear cause-effect predictions, or wishful thinking, than realistic and effective proactive measures to be undertaken. Proposed measures may not always lead to expected results for a variety of reasons. More specificity grounded in what is realistic would be desirable moving forward. Is there a Plan B if what is being proposed and is assumed to work does not? Much of the project's success is predicated upon this.	<p>The description of risks has been reviewed and expanded in Section 3.2.1</p>

Regarding one of the risks, government budgetary constraints, the results of the preliminary discussions on co-financing remain unclear. Co-financing estimates are provided but the specific nature of this support is not particularly clear. This will require pinning down during further project development.	
6. The intent behind this project proposal is clear but in general the specifics are not. Since this is a concept that is understandable. As it stands, what is being proposed is still rather general and diffuse and does not provide a strong sense of what is realistically being expected to be achieved. This will require some focusing of the project during the PPG.	The outputs are described in detail in Section 2.3. "Reality checks" in the form of specific quantitative targets, milestones and work plans are presented in Appendices 1 and 2.

#### GEF Council Members' Comments

Comment	Action Required
Among activities of great importance to facilitate the upscaling of the project as well as in-situ maintenance of locally adapted rice landraces is particularly the establishment of community seed banks. This activity shall therefore be reflected in a suitable indicator, ideally under 2.1 of the project framework. A possible indicator could be: "Establishment of up to 3 community seed banks in the pilot regions."	<p>A new outcome (2.2: Traditional varieties are maintained in community gene banks) and output (2.2.1: Community-based gene management systems and networks supported by <i>ex situ</i> collections held by national institutions) have been included, with the following targets:</p> <ul style="list-style-type: none"> <li>- All traditional ABD varieties/farmer selections present in the 3 target municipalities are maintained in gene banks, and supported by <i>ex situ</i> collections (held by national institutions, as a backup to the CSBs)</li> <li>- One community gene bank and one seed store established in each pilot municipality, supported by agreements, rules and procedures for their management and backed up by <i>ex situ</i> collections</li> </ul>
Adequate financial allocations should be considered for this activity and future financial alternatives should be looked into (e.g. payment for environmental services or the like) to guarantee that custodian farmers of local races of rice receive financial and other incentives.	<p>Specific financial provision has been made in the budget for the establishment of the seed banks: however, in response to farmers' requests, the emphasis will be on the establishment of gene management systems combining seed storage in low-tech stores made out of local materials, with periodic rejuvenation through on-farm planting. Recurrent costs will therefore be low, which will make the issue of financial sustainability less of a concern. As explained under Output 2.2.1 (Section 2.3), in order to ensure sustainability the physical installations for the storage of planting material will be accompanied by investments in the training of selected community members responsible for managing the gene banks. Their roles will include prospecting for and collecting crop varieties grown by other community members; ensuring the security and maintenance of the gene bank; preparing planting material for storage (cleaning and drying); issuing planting materials to community members in such a way as to regenerate populations; arranging gene exchanges with other communities; negotiating the terms of access to the stored planting material by outside entities such as Government agencies and universities; maintaining records; and charging as appropriate in order to cover the costs of the gene storage system. Seed provided to farmers are normally required to be repaid to the gene bank after harvest, at a ratio of 1:1. The payment of financial incentives for the maintenance of seed banks is not feasible or sustainable given Government resource constraints.</p>
Inclusion of other relevant local land races and wild relatives in the community seed banks should be considered.	The proposal is indeed that other land races (of the focus crops) should be included in the community gene banks. The conservation of wild relatives should not however be done in the community gene banks, given that their importance may not be immediately evident to

	community members. The first preference is to have these wild relatives conserved in situ, through the maintenance of the traditional ecosystems and landscape management practices within which they typically occur. This needs to be backed up by complementary conservation of these wild relatives in ex situ gene banks such as those managed by Philrice and NPGRL. Incidentally, there are no reports of wild relatives of rice in the project's target areas.
It should be ensured that under component 2 "pilot activities to enhance and expand dynamic conservation practices for agro-biodiversity in three pilot communities", the Municipal Agricultural Offices of LGUs are adequately involved in the project through the devolution of agricultural extension services to Local Government Units (LGUs).	The role of LGU MAOs has been emphasized in the description of the approach to knowledge generation and transfer under Output 2.3.2.
Under component 1, "Mainstreaming agro-biodiversity considerations into policy and legal frameworks, development strategies and institutional structures", close coordination with the National Convergence Initiative (NCI) as coordinating body for all national government agencies active in the sectors environment and rural development should be considered.	The NCI is named in the Project Document as one of the existing inter-institutional coordination mechanisms with which the project will work under Output 1.2.1, and into the agendas of which ABD issues and good management practices and needs will be taken up as a result of the project.
Within Germany's bilateral development cooperation, GIZ is in the process of preparing the implementation of the Philippine component of the upcoming project "Better Rice Initiative Asia" together with the Department of Agriculture (DA) under the umbrella of the German Food Partnership (GFP). Synergies on policy advice and project piloting between the two projects should be sought.	In Section 4.1b), it is proposed that the knowledge products generated through the Better Rice Initiative project in the Central Luzon region (adjacent to CAR, where this project will operate) may be helpful for some of the farmers targeted by this project (especially in the lower and middle elevation areas in the case of Ifugao), who are using chemicals with little regard for safety. The ATI will be a key link institution as it will be working with both projects.
Clarify the title of the project – while the title notes that the project addresses "farming systems," the project description makes it clear the project is intended to support traditional rice varieties and species.	The title has now been modified to avoid use of the term "Rice Plus" and change the term "rice-based farming systems" to "traditional ecosystems", in order to emphasise that the project will go beyond exclusively agronomic approaches to promote the integration of farming and livelihood systems into the management of the surrounding landscape, and that the project will include a number of other crops in addition to rice.
Clarify the definition of "biodiversity friendly" that will be used to certify a product. Clarify whether the certification scheme will be focused on the process of production, the species, or variety being sold. In particular, as biodiversity friendly farming can happen at any scale (small and large) and with any varieties (traditional, hybrids, transgenic), it would be helpful to clarify if this certification scheme will exclude certain types of farmers, varieties, or farming practices as not being "biodiversity friendly".	<p>The project will work with a range of different certification systems, with differing emphases and requirements, building as much as possible upon existing systems in order to take advantage of their existing levels of market insertion and the relations that have already been developed between producers, intermediaries/processors and end consumers. These may include, but will not necessarily be limited to, the following:</p> <ul style="list-style-type: none"> <li>- <b>Organic Certification:</b> this is a farm-based system, focused on production systems, so will be specific to farmers that meet the specific certification criteria. Organic certification does not explicitly require farmers to maintain traditional varieties or prohibit the use of high yielding varieties, but in practice those farmers managing ABD tend to do so within the context of traditional organic farming systems; organic certification therefore tends to favour such systems and consequently the ABD that they</li> </ul>
Adjust outcome 2.2 to provide clearer product differentiation. Successful product differentiation hinges on	

<p>clearly articulating the characteristics of the product that distinguish it from the competition. A "biodiversity friendly" designation based on the NIAHS does not seem sufficiently different from the NIAHS designation to warrant trying to establish two competing certifications and markets. Basing the biodiversity friendly designation on the NIAHS could end up confusing consumers (who would be faced with deciding whether NIAHS is better or worse than biodiversity friendly) and entailing higher costs for producers (who would have to adopt NIAHS to market indigenous varieties with biodiversity benefits). Either result would reduce biodiversity gains. To avoid this, we suggest two possibilities:</p> <ul style="list-style-type: none"> <li>- Conduct further pilot marketing of the NIAHS designation since verification and definitions have already been established. Since biodiversity is already an element of this designation – and it incorporates other attributes of importance to the proposal—this would seem to be a straightforward next step.</li> <li>- Conduct market pilot testing of indigenous varieties. Since biodiversity and preservation of indigenous varieties are not contingent on heritage farming systems, we recommend focusing on marketing indigenous varieties that might have value to consumers in terms of taste and experience. In addition, it seems most simple – and least trade distorting – to focus on the products, rather than the systems that have produced them.</li> </ul>	<p>tend to contain.</p> <ul style="list-style-type: none"> <li>- <b>Geographic Indication (GI):</b> according to the Draft GI Implementing Rules and Guidelines, 2013, GI "refers to indications which identify a good as originating in a territory, region or locality, where a given quality, reputation, or other characteristic of the good is essentially attributable to its geographical origin and/or human factors". GI is a collective guarantee with regards the biological identity and quality of the product, which can strengthen market access and be used as a tool to regulate harvesting and promote rational land use strategies and in-situ conservation of biodiversity Guerra (2004). It therefore has both locality- and a farm-specific elements: to qualify, producers must be specific to a "geographic origin" (e.g. Ifugao rice terraces), but they must also comply with the criteria of "quality, reputation or characteristic of the good". In the case of Ifugao, the "reputation" of the good is based not only on the rice terraces (the production system) but also on the traditional varieties grown there, so GI certification is directly associated with, and dependent on (at a farmer-specific level), the maintenance of ABD.</li> <li>- <b>Green Choice Philippines:</b> product labelling criteria include the preservation of agrobiodiversity and cultural heritage, and therefore considers both varieties and production systems.</li> <li>- <b>Star Certification:</b> the criteria or standards for certification include environmental friendliness, high market demand and value, sustainable raw material source and uniqueness of the product (it therefore considers both production systems and varieties). As with organic certification, this system does not therefore explicitly include ABD as a requirement, but there is expected to be a degree of correlation between farmers who aim at "environmental friendliness" and sustainability and those who retain ABD.</li> <li>- <b>Producers' own ecolabels:</b> although not third-party certified, self-labelling as ABD allows farmers to access niche markets for ABD products, especially when associated with retailer branding. The Echostore brand is one such marketing brand/outlet: while not a certification system per se, it provides a market-based incentive for ABD conservation by offering farmers a favourable and accessible market for their ABD products.</li> <li>- <b>GIAHS Certification/labelling of products and services:</b> the project will build upon experiences in pilot China and Chile with eco-agriculture heritage labelling, explicitly to promote conservation of agricultural biodiversity harboured in agricultural heritage systems (again focusing on both production systems and varieties).</li> </ul> <p>Further market pilot testing is proposed under Output 2.4.3. The balance of focus between production systems and varieties as the bases for certification and marketing will depend to a certain extent on the need (and opportunity) to insert the project into existing certification systems, most of which combine these two emphases.</p> <p>The studies referenced in the PIF are as follows:</p> <ul style="list-style-type: none"> <li>- Borromeo, TH. 2006. On-farm conservation of plant genetic resources: 'Genes in the Field'. The Philippine Journal of Crop Science 31 (2): 15-22.</li> <li>- SDC Final Report. 2000. Safeguarding and Preservation of the Rice Genepool. IRRI,</li> </ul>
<p>We recognize that the methods proposed in Outcome 2.2 (certification scheme and willingness to pay studies) are based on previous successes in the region and in the Philippines. We note that several projects were referenced on page 12: 1) comprehensive market valuation research on</p>	

<p>indigenous food products of the Ifugao rice terraces, 2) stakeholder discussions during the PIF development, 3) long-term, extensive farmer survey series conducted by the Plant Genetic Resources Division at the University of Philippines, and 4) organic market demand and expansion as proxies. Please include citations to these studies in the final proposal. We recommend the final project proposal include additional information on whether all four of these studies looked at rice, and if not, what is the basis for providing parallels to rice demand. Finally, we would appreciate information on previous successes in using organic markets as proxies for other willingness to pay calculations. This information will help situate this project in the local and regional context and provide perspective on how this project relates to previous efforts to determine market viability for similar products.</p>	<p>Los Baños, Laguna</p> <p>The studies referenced in the articles focused specifically on traditional rice varieties.</p> <p>The PPG team did not find any previous study that specifically relates WTP for organic rice and for ABD, or that attempted to use WTP for organic rice as proxy for WTP for ABD. PPG studies measured willingness to pay (WTP) for organic rice and also (separately) for other attributes such as the geographic indication of being produced in the Ifugao rice terraces. The PPG studies did not specifically attempt to use WTP for organic rice as a proxy for WTP for ABD, but did find significant WTP for such other attributes: even with traditional rice varieties (e.g. brown and red) that are not labelled as organic sold in supermarkets and specialty stores, the average price was 70% higher than that of “commercial” non-ABD rice.</p> <p>The PPG results on WTP mirror those of other studies regarding consumer preference and WTP for ABD and associated characteristics, such as aroma, elsewhere in the region, including the following:</p> <ul style="list-style-type: none"> <li>- Goodwin, H.L., Jr., Holcomb, R.B., and Edward Rister, M. (1996) ‘Implicit price estimation of rice quality attributes for Asian Americans’, <i>Journal of Agricultural and Applied Economics</i>, vol. 28, no. 2, pp. 291-302.</li> <li>- Suwannaporn, P. and Linnemann, A. (2008) ‘Rice-eating quality among consumers in different rice grain preference countries’, <i>Journal of Sensory Studies</i>, vol. 23, pp. 1-13.</li> <li>- Orachos Napasintuwong (2012) “Survey of Recent Innovations in Aromatic Rice” Department of Agricultural and Resource Economics, Kasetsart University. Paper prepared for presentation at the 131st EAAE Seminar ‘Innovation for Agricultural Competitiveness and Sustainability of Rural Areas’, Prague, Czech September 18-19, 2012</li> </ul>
<p>On page 6, we note that stakeholders have “unequivocally identified” that the fundamental barrier to effective agro-biodiversity conservation in the Philippines is inadequate appreciation of the socio-economic and cultural value of traditional varieties. The final project proposal should include specific information on the process of consultation, who was involved, and when the study was conducted that came to this conclusion.</p>	<p>This statement in the PIF was a synthesis by the writer of the diverse comments received by stakeholders during PIF development, and has now been superseded by the results of the consultation processes carried out during the PPG phase.</p> <p>During the PPG phase more extensive consultations and analyses were carried out, including the following:</p> <ul style="list-style-type: none"> <li>- Field visits to the rural communities in all three of the target areas in which discussions were held with members of indigenous, women’s and farmers’ groups and Municipal and Provincial LGUs</li> <li>- Detailed specialist analyses by the thematic consultants contracted for the PPG phase, based on reviews of policy documents, extensive bilateral interviews with Government, private sector, LGU and community representatives, and the Capacity Building Needs Analysis reported in Appendix 13.</li> <li>- A national workshop at the end of the PPG phase to validate among representatives of all key stakeholder groups the results of the local consultations and the analyses carried out by the thematic PPG consultants.</li> </ul>
<p>We also believe that this project should be linked to</p>	<p>As set out in section 1.12, the project will specifically contribute to the Government’s</p>

<p>international efforts to promote the conservation and sustainable use of agro-biodiversity, especially through the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). We would appreciate clarification as to which parts of the agenda of the ITPGRFA the project intends to support.</p>	<p>compliance with the following articles of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA):</p> <ul style="list-style-type: none"> <li>- Art. 5.1: ...promote an integrated approach to the exploration, conservation and sustainable use of plant genetic resources for food and agriculture and in particular: c) promote or support, as appropriate, farmers and local communities' efforts to manage and conserve on-farm their plant genetic resources for food and agriculture; and d) promote in situ conservation of wild crop relatives and wild plants for food production, including in protected areas, by supporting, inter alia, the efforts of indigenous and local communities;</li> <li>- Art. 6.2 (a): ...pursuing fair agricultural policies that promote, as appropriate, the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources;</li> <li>- Art. 9.1: ...recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.</li> <li>- Art. 9.2: ...take measures to protect and promote Farmers' Rights, including: a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture; b) the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and c) the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.</li> </ul>
<p>This proposal contains little genetic/genetic resource information, and we were unable to determine how many different traditional varieties would be conserved and the patterns of eco geographical variability that would guide conservation efforts.</p>	<p><u>As set out in the results matrix, the project will maintain the conservation status of the following numbers of different traditional varieties:</u></p> <ul style="list-style-type: none"> <li>- Hungduan: 24 rice, 1 sweet potato, 3 taro, 1 yam</li> <li>- Hingyon: 17 rice, 5 taro, 5 sweet potato, 0 yam</li> <li>- Lake Sebu: 20 rice, 9 taro, 1 sweet potato, 5 yam</li> </ul> <p><u>As explained in Appendix 7, the criteria for the selection of the project sites are:</u></p> <ul style="list-style-type: none"> <li>- The presence of BD including priority ABD (covering interspecific and intraspecific diversity).</li> <li>- The extent of ABD (# of accessions including those with potential for breeding and direct utilization)</li> <li>- Threatened ABD, i.e. extent of genetic erosion</li> <li>- Representativeness – the site can represent other sites in the region, and nearby sites to catch spill-over effects.</li> </ul> <p><u>The information sources used for the application of these criteria include:</u></p> <ul style="list-style-type: none"> <li>- Information on germplasm accessions by the following institutions: UPLB, BAR, PHILRICE, BPI, VSU, MASIPAG and SEARICE</li> </ul>

	<p>- Compendium on NIAHS in the Philippines</p>
<p>Will the conserved genetic resources be accessible domestically or internationally for research and/or crop improvement, and if so, how will they be made available? Rice is included in ITPGRFA Annex 1, so if the genetic resources conserved by this project are under the management and control of the national government, and in the public domain, then the proposal should outline how they would be made available for research, education, and breeding for food and agriculture under the ITPGRFA's Multilateral System of Access and Benefit-Sharing.</p>	<p>The conserved material will be accessible domestically and internationally "solely for the purpose of utilization and conservation for research, breeding and training for food and agriculture, provided that such purpose does not include chemical, pharmaceutical and/or other non-food/feed industrial uses" (Article 13.3a of the Treaty). Since the project sites are in ancestral domains, the operative legislation is Republic Act 8371: The Indigenous Peoples' Rights Act of 1997" which states as follows:</p> <p>"SECTION 35. Access to Biological and Genetic Resources. — Access to biological and genetic resources and to indigenous knowledge related to the conservation, utilization and enhancement of these resources, shall be allowed within ancestral lands and domains of the ICCs/IPs only with a free and prior informed consent of such communities, obtained in accordance with customary laws of the concerned community."</p> <p>The IRRI and PhilRice are currently collaborating with the Bureau of Agricultural Research (BAR) in the documentation and promotion of heirloom rice. Both the BAR and the Project will be interacting with both organizations in the development of work plans and targets to ensure synergy. In fact collaboration with PhilRice has started during the preparation of the project</p>
<p>We strongly recommend that either or both the International Rice Research Institute and PhilRice, both based in the Philippines, should be involved as executing bodies in this project. These institutions have decades of experience developing new rice varieties and rice crop management techniques that help rice farmers improve the yield and quality of their rice in an environmentally sustainable way. They seem to be key partners in an agro biodiversity project focusing on rice.</p>	<p>The indicative cofinancing proposed in the PIF has been reviewed and renegotiated, and now more than 60% of the total is "cash/grant".</p>
<p>We note that 93% or \$7.2 million of the co-financing is "in kind" with only \$500,000 identified as "cash". The final project proposal should clarify what the "in-kind" financing is comprised of, and we urge additional cash co-financing to improve the project's sustainability.</p>	

# Review Response to First Review by the GEPEC to Project Document and CEO Endorsement (August 2015)

Review sheet questions	Reviewer comments	Responses
7. Are the components, outcomes and outputs in the project framework (Table B) clear, sound and appropriately detailed?	<p>- Please provide specific information about private sector versus the generic ones provide.</p> <p>- Also, except for COWHEAD stores (typo to be corrected in template), 3 out of 4 provided private sectors entities are not private sector. They are a cooperative, a foundation, and an association. Please label them as such entities.</p> <p>- Are there any private sector companies involved beyond COWHEAD, Eight Wonder Inc. &amp; Echostore? A table highlighting the role of each PS company, foundations, associations and cooperatives involved would be useful.</p>	<p>1. In Section 1.10 of the Project Document, the title of the sub-section on private sector stakeholders has been expanded to "Private sector, cooperatives and foundations".</p> <p>- Paragraph 201, in the same sub-section, explains that initial discussions have been held with the stakeholders listed in the new Table 4, and that these discussions will be continued during the implementation phase leading to firm agreements with selected private sector actors; these will involve a process of dialogue and negotiation between the private sector and the local producers, facilitated by the project, and therefore could not realistically be concluded during the PPG phase.</p> <p>- Table 4 under Section 1.10 lists the stakeholders that will potentially be partners during the implementation phase and beyond, distinguishing between private sector actors on the one hand and cooperatives and foundations on the other, summarizing for each their roles in relation to ABD markets.</p> <p>2. In the Results Framework (Appendix 2 of the Project Document and Section II of the CEO Endorsement Request), the baseline cell for the indicator of Output 3.2.2 has been modified to distinguish between private sector, cooperatives and foundations, and specific information has added on the identity of the private sector actors. The end of project target has also been modified to explain that the identities of the 2 private sector actors with which partnerships will be developed will be confirmed through negotiations during the implementation phase of the project.</p>
17. At CEO endorsement: Has co-financing been confirmed?	Out of the 16 co-financiers, 2 have provided co-financing letters. Please provide the rest.	All co-finance letters are enclosed with this resubmission
18. Is the funding level for project management cost appropriate?	There is a typo in the total project costs which should amount to \$2,182,611. Please adjust.	This has been corrected.
21. Have the appropriate Tracking Tools been included with information for all relevant	Tracking Tools are missing. Please provide	The tracking tool is also enclosed.



indicators, as applicable?

**ANNEX C: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS****A. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:**

None: PPG studies confirmed the target sites and strategies proposed in the PIF.

**B. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES FINANCING STATUS IN THE TABLE BELOW:**

<b>PPG Grant Approved at PIF: \$100,000</b>			
<i><b>Project Preparation Activities Implemented</b></i>	<i><b>GEF Amount (\$)</b></i>		
	<i><b>Budget Approved</b></i>	<i><b>Amount Spent to Date</b></i>	<i><b>Amount Committed</b></i>
1. Refine selection of 3-4 project sites in 1-2 pilot provinces and identify key stakeholder groups and mechanisms to benefit from the planned project activities.	10,000	10,000	0
2. Elaborate Component 1 – Mainstreaming agro-biodiversity considerations into policy and legal frameworks, development strategies and institutional structures	30,000	30,000	0
3. Elaborate Component 2 – Pilot activities to enhance and expand dynamic conservation practices for agrobiodiversity in three to four pilot communities	40,000	40,000	0
4. Elaborate Component 3: Dissemination of information, awareness raising and preparations for scaling up, monitoring and evaluation.	10,000	10,000	0
5. Information synthesis, project design and budgeting	10,000	10,000	0
<b>TOTAL</b>	<b>100,000</b>	<b>100,000</b>	<b>0</b>



# FAO/GLOBAL ENVIRONMENT FACILITY PROJECT DOCUMENT



**PROJECT TITLE: “DYNAMIC CONSERVATION AND SUSTAINABLE USE OF AGRO-BIODIVERSITY IN TRADITIONAL AGRO-ECOSYSTEMS OF THE PHILIPPINES”**  
**PROJECT SYMBOL:**

**Recipient Country:** Philippines

**Resource Partner:** GEF

**FAO project ID:**

**GEF Project ID: 5549**

**Executing Partner(s):**

Department of Agriculture (DA) – Bureau of Agricultural Research (BAR)

**Collaborating Institutions:**

DA Attached Bureaus (Bureau of Plant Industry; Agricultural Training Institute, Philippine Rice Research Institute)

Department of Environment and Natural Resources – Biodiversity Management Bureau (DENR-BMB) and Regional Offices

Local Government Units of South Cotabato and Ifugao

**Expected EOD (starting date):**

**Expected NTE (End date):**

**Contribution to FAO’s Strategic Framework**

**a. Strategic objective/Organizational Result: SO2: Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner** (Outcome 2.1 primarily contributes to increased and improved provision of goods and services from agriculture, forestry and fisheries in a sustainable manner, and particularly to ecosystem management through integrated and multi-sectoral approaches)

**b. Regional Result/Priority Area:**

**c. Country Programming Framework Outcome:**

**GEF Focal Area: Biodiversity**

**GEF Strategic Objective:** BD2 - Mainstreaming Biodiversity Conservation and Sustainable Use into Production Landscapes/Seascapes and Sector

**Environmental Impact Assessment Category:** A B C✓

**Financing Plan: GEF allocation:**

Co-financing:

DA – Bureau of Agricultural Research

DA – Agricultural Training Institute

DA – Bureau of Soil and Water Management

DA – Bureau of Plant Industry

DA - PhilRice

DENR Biodiversity Management Bureau

DENR Cordillera Administrative Region

DENR – Region 12

**USD 2,182,631**

USD 2,172,214

USD 90,910

USD 88,335

USD 113,636

USD 1,136,364

USD 27,838

USD 3,794,369

USD 16,205

National Council for Indigenous Peoples	USD 2,272
South Cotabato Provincial Government	USD 1,014,270
Lake Sebu Municipality	USD 94,887
Hingyon Municipality	USD 1,118,862
Ifugao Provincial Government	USD 815,682
Hungduan Municipality	USD 475,680
World Agricultural Heritage Foundation	USD 100,000
FAO	<b>USD 457,800</b>
<b>Subtotal Co-financing:</b>	<b>USD11,519,324</b>
<b>Total Budget:</b>	<b>USD13,701,955</b>

## EXECUTIVE SUMMARY

The project will conserve globally important agrobiodiversity (of rice, mung bean, taro, yam, banana, Manila hemp and others) in traditional agroecosystems. It will have an agroecosystem and landscape perspective, maintaining the provision of ecosystem services on which ABD conservation depends, and addressing threats originating in the broader landscape. It will help ensure favourable policy conditions; consolidate community-based governance; strengthen technical and organizational capacities at individual and community levels; promote market-based incentives for ABD conservation; and create conditions for further nationwide replication.

## TABLE OF CONTENTS

<b>GLOSSARY OF ABBREVIATIONS AND ACRONYMS.....</b>	<b>5</b>
<b>DEFINITIONS OF KEY TERMS .....</b>	<b>9</b>
<b>SECTION 1 – RELEVANCE (STRATEGIC FIT AND RESULTS ORIENTATION)..</b>	<b>11</b>
<b>1.1 Agricultural Biodiversity in the Philippines .....</b>	<b>11</b>
<b>1.2 Pilot sites.....</b>	<b>16</b>
<b>1.3 Farming and ABD management systems in the target areas .....</b>	<b>19</b>
<b>1.4 Value Chain Analysis for Traditional Varieties .....</b>	<b>22</b>
<b>1.5 Willingness to pay for Eco labelled products.....</b>	<b>23</b>
<b>1.6 Threats affecting ABD .....</b>	<b>24</b>
<b>1.7 Baseline investments and incremental reasoning .....</b>	<b>27</b>
<i>Agricultural development initiatives:.....</i>	<i>28</i>
<i>Agricultural products and value chains.....</i>	<i>29</i>
<i>Natural resource management and forestry development.....</i>	<i>29</i>
<i>Livelihood alternatives.....</i>	<i>30</i>
<i>Incremental/additional reasoning.....</i>	<i>31</i>
<b>1.8 Remaining barriers to the removal of the threats .....</b>	<b>32</b>
<b>1.9 FAO’s comparative advantages .....</b>	<b>39</b>
<b>1.10 Participants and other stakeholders.....</b>	<b>39</b>
<b>1.11 Lessons learned from past and related work, including evaluations .....</b>	<b>46</b>
<b>1.12 Links to national development goals, strategies, plans, policy and     legislation, GEF and FAO’s Strategic Objectives.....</b>	<b>46</b>
<i>a) Alignment to national development goals and policies.....</i>	<i>46</i>
<i>b) Alignment with international commitments.....</i>	<i>47</i>
<i>c) Alignment with GEF focal area.....</i>	<i>47</i>
<i>d) Alignment with FAO Strategic Framework and Objectives.....</i>	<i>48</i>
<b>SECTION 2 – PROJECT FRAMEWORK AND EXPECTED RESULTS.....</b>	<b>49</b>
<b>2.1 PROJECT STRATEGY .....</b>	<b>49</b>
<b>2.2 PROJECT OBJECTIVES .....</b>	<b>49</b>
<b>2.3 EXPECTED PROJECT OUTCOMES, COMPONENTS AND OUTPUTS. 49</b>	
<b>Component 1: Mainstreaming agro-biodiversity considerations into policy and         legal frameworks, development strategies and institutional structures .....</b>	<b>50</b>
<b>Outcome 1.1: Strengthened policy and legal framework defining a national         approach to agro-biodiversity and guiding the design and implementation of         corresponding activities at national and local level .....</b>	<b>50</b>
<i>Output 1.1.1 Key policy instruments favouring ABD conservation             developed at national and local level .....</i>	<i>51</i>
<i>Output 1.1.2 Specific guidelines for the implementation of policies             formulated for the three pilot project areas .....</i>	<i>52</i>
<b>Outcome 1.2: Enhanced institutional coordination and capacity to effectively         address cross-sectoral issues of agro-biodiversity.....</b>	<b>52</b>
<i>Output 1.2.1 Strengthened capacities and mechanisms for addressing             interdisciplinary aspects of ABD conservation.....</i>	<i>52</i>

<b>Component 2: Pilot activities to enhance and expand dynamic conservation practices for agro-biodiversity in three pilot communities .....</b>	<b>54</b>
<b>Outcome 2.1: Planning and governance mechanisms support the conservation and sustainable use of ABD .....</b>	<b>55</b>
<i>Output 2.1.1 Local Government (LGU) plans and programmes in pilot municipalities providing for ABD conservation.....</i>	<i>55</i>
<i>Output 2.1.2 Community level planning and governance frameworks in pilot communities incorporating ABD considerations.....</i>	<i>55</i>
<b>Outcome 2.2 Community-based systems for production and management of planting materials (community gene banks) .....</b>	<b>56</b>
<i>Output 2.2.1 Community-based gene management systems and networks supported by ex situ collections held by national institutions.....</i>	<i>56</i>
<b>Outcome 2.3 Enhanced and expanded knowledge among decision makers and resource managers on the application of dynamic ABD conservation practices and their relation to cultural heritage .....</b>	<b>57</b>
<i>Output 2.3.1 ABD resources, agroecosystems and their management practices mapped, characterised and documented in the pilot areas.....</i>	<i>58</i>
<i>Output 2.3.2 Knowledge sharing on ABD management and conservation practices for farmers in pilot and neighbouring communities.....</i>	<i>59</i>
<i>Output 2.3.3 Inclusion of ABD issues in primary, secondary and tertiary education and IKSP programmes in the pilot provinces.....</i>	<i>60</i>
<b>Outcome 2.4: Improved opportunities for local communities to derive economic, livelihood and food security benefits from agro-biodiversity conservation resulting in increased sustainability of agro-biodiversity and ecosystem conservation practices .....</b>	<b>60</b>
<i>Output 2.4.1 Access to tools, equipment and facilities for improving productivity and sustainability, and reducing post-harvest losses .....</i>	<i>61</i>
<i>Output 2.4.2 Recognition of distinctive ABD and cultural importance of target sites and products, to support certification and marketing .....</i>	<i>62</i>
<i>Output 2.4.3 Detailed market-valuation analyses conducted to assess the specific marketability of indigenous varieties as premium market products</i>	<i>62</i>
<i>Output 2.4.4 Capacity development for business planning, product development and marketing, to increase farmers' abilities to seize commercial opportunities from target ABD species/varieties.....</i>	<i>63</i>
<b>Component 3: Dissemination of information, awareness raising and preparations for scaling up .....</b>	<b>63</b>
<b>Outcome 3.1: Increased awareness among policy-makers, practitioners and consumers about the full socio-economic value of agro-biodiversity.....</b>	<b>63</b>
<i>Output 3.1.1 Information on the full value of ABD and management options compiled and disseminated among policy-makers based on pilot results and existing national level information (including other initiatives).....</i>	<i>64</i>
<i>Output 3.1.2 Consumer awareness campaign implemented showcasing the nutritional, cultural, ecological value of traditional varieties .....</i>	<i>64</i>
<b>Outcome 3.2 Conditions created for further replication and scaling up of ABD promotion in other parts of core provinces and regions .....</b>	<b>64</b>
<i>Output 3.2.1 ABD considerations included into knowledge sharing programmes in target areas for upscaling (other parts of core provinces and regions, and elsewhere).....</i>	<i>65</i>
<i>Output 3.2.2 Partnerships with private sector established to facilitate the introduction of agro-biodiversity products into larger markets.....</i>	<i>65</i>

<i>Output 3.2.3 Collaborative arrangements/outreach with actors in other provinces/regions (NGOs/Government).....</i>	65
2.5 GLOBAL ENVIRONMENTAL BENEFITS AND SOCIOECONOMIC BENEFITS.....	65
2.6 COST EFFECTIVENESS (alternative strategies and methodologies considered).....	68
2.7 INNOVATIVENESS .....	68
 SECTION 3 – FEASIBILITY (FUNDAMENTAL DIMENSIONS FOR HIGH QUALITY DELIVERY).....	70
3.1 ENVIRONMENTAL IMPACT ASSESSMENT .....	70
3.2 RISK MANAGEMENT .....	70
3.2.1 Risks and mitigation measures .....	70
 SECTION 4 – IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS .....	73
4.1 INSTITUTIONAL ARRANGEMENTS.....	73
4.2 IMPLEMENTATION ARRANGEMENTS.....	74
4.3 FINANCIAL PLANNING AND MANAGEMENT .....	81
4.3.1 Financial plan (by component, outputs and co-financier).....	82
4.3.2 GEF inputs .....	83
4.3.3 Government inputs.....	83
4.3.4 FAO inputs.....	84
4.3.5 Other co-financiers inputs .....	84
4.3.6 Financial management of and reporting on GEF resources .....	85
4.4 PROCUREMENT.....	85
4.5 MONITORING AND REPORTING .....	86
4.5.1 Oversight and monitoring responsibilities .....	86
4.5.2 Indicators and information sources .....	86
4.5.3 Reporting schedule .....	86
4.5.4 Monitoring and evaluation plan summary .....	88
4.6 PROVISION FOR EVALUATIONS .....	89
4.7 COMMUNICATION AND VISIBILITY.....	90
 SECTION 5 – SUSTAINABILITY OF RESULTS.....	91
5.1 SOCIAL SUSTAINABILITY .....	91
5.2 ENVIRONMENTAL SUSTAINABILITY.....	91
5.3 FINANCIAL AND ECONOMIC SUSTAINABILITY .....	92
5.4 SUSTAINABILITY OF CAPACITIES DEVELOPED .....	92
5.5 APPROPRIATENESS OF TECHNOLOGY INTRODUCED.....	92
 APPENDIX 1. ENDORSEMENT LETTER.....	94
 APPENDIX 2. RESULTS MATRIX.....	95
 APPENDIX 3. WORK PLAN (RESULTS BASED) .....	112
 APPENDIX 4. RESULTS BUDGET .....	120

<b>APPENDIX 5. RISK MATRIX .....</b>	<b>133</b>
<b>APPENDIX 6. PROCUREMENT PLAN.....</b>	<b>135</b>
<b>APPENDIX 7. TERMS OF REFERENCE (TORS).....</b>	<b>137</b>
<b>APPENDIX 8. PILOT SITE SELECTION CRITERIA.....</b>	<b>140</b>
<b>APPENDIX 9. SUMMARY INFORMATION ON SELECTED PILOT SITES .....</b>	<b>142</b>
<b>APPENDIX 10. BRANDS OF TRADITIONAL RICE VARIETIES 2014.....</b>	<b>149</b>
<b>APPENDIX 11. RESULTS OF PPG VALUE CHAIN ANALYSIS .....</b>	<b>151</b>
<b>1. Hungduan .....</b>	<b>151</b>
<b>2. Hingyon.....</b>	<b>154</b>
<b>3. Lake Sebu .....</b>	<b>155</b>
<b>APPENDIX 12. METHODOLOGY AND RESULTS OF PPG WILLINGNESS TO PAY ANALYSIS 157</b>	
<i>Profile of respondents .....</i>	<b>157</b>
<b>APPENDIX 13. MARKET-BASED INCENTIVE AND CERTIFICATION SCHEMES</b>	<b>163</b>
<b>APPENDIX 14. SUMMARY RESULTS OF CAPACITY BUILDING NEEDS ANALYSIS (CBNA).....</b>	<b>165</b>



## GLOSSARY OF ABBREVIATIONS AND ACRONYMS

ADSPP	Ancestral Domain Support Services Plan
AFC	Agriculture and Fisheries Councils
AFMA	Agriculture and Fisheries Modernization Act
AFMP	Agriculture and Fisheries Modernization Plan
AIP	Annual Investment Programmes
AMAS	Agribusiness and Marketing Assistance Service of the Department of Agriculture
ANR	Assisted natural regeneration
ASB	Alternative slash and burn
ATI	Agricultural Training Institute
AWP/B	Annual Work Plan and Budget
BAFS	Bureau of Agriculture and Fisheries Standards
BAR	Bureau of Agricultural Research
BD	Biodiversity
BDS	Business development services
BH	Budget Holder
BMB	Biodiversity Management Bureau
BPI	Bureau of Plant Industry
BPP	Biodiversity Partnerships Project
BSWM	Bureau of Soils and Water Management
BUB	Bottom-up budgeting
CAR	Cordillera Administrative Region
CARASU	Cordillera Association of Agricultural State Universities and College
CBD	Convention on Biological Diversity
CBNRM	Community-Based Natural Resource Management
CEO	Chief Executive Officer (GEF)
CGB	Community Gene Banks
CHARMP2	Second Cordillera Highland Agricultural Resource Management Project
CLUP	Comprehensive land use plan
CoP	Code of practice
CPAR	Community-based participatory action research
CSB	Community seed banks
CSO	Civil Society Organisation
DA	Department of Agriculture
DAR	Department of Agrarian Reform
DENR	Department of Environment and Natural Resources
DILG	Department of the Interior and Local Government
DOST	Department of Science and Technology
DOT	Department of Tourism
DTI	Department of Trade and Industry
ECHO	Environment & Community Hope Organizations
ECHOSI	Empowering Communities with Hope and Opportunities through Sustainable Initiatives
EIA	Environmental Impact Assessment
ENRC	Environment and Natural Resource Councils
EP	Executing Partner
F2F	Farmer to Farmer
FAO	Food and Agriculture Organization of the United Nations
FE	Final Evaluation
FFS	Farmer Field School
FPIC	Free and Prior Informed Consent
FPMIS	Field Project Management Information System
GEBs	Global Environmental Benefits
GEF	Global Environment Facility
GEFSEC	GEF Secretariat
GEFTF	GEF Trust Fund
GI	Geographic Indication

GIAHS	Globally Important Agricultural Heritage System
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GM	Genetically modified
GMOs	Genetically modified organism
HARRDEC	Highland Agriculture and Resources Research and Development Consortium
HH	Household
HVCC	High Value Crop Commercialisation
HYV	High yielding variety
ICCA	Indigenous Community Conserved Areas
ICHO	Ifugao Cultural Heritage Office
IFOAM	International Federation of Organic Agriculture Movements
IfSU	Ifugao State University
IKSP	Indigenous Knowledge systems and practices
ILIARC	Ilocos Integrated Agricultural Research Centre
IP	Indigenous people
IPED	Indigenous People Education
IPR	Intellectual property rights
IPRA	Indigenous Peoples' Rights Act
IRRI	International Rice Research Institute
IRT	Ifugao rice terraces
ITPGRFA	International Treaty on Plant Genetic Resources for Food and Agriculture
KBA	Key Biodiversity Area
KP	Knowledge and Practice
LASIWWAI	Lake Sebu Indigenous Women Weavers Association Incorporated
LCA	Local Conserved Areas
LDC	Local Development Councils
LGU	Local Government Unit
LoA	Letter of Agreement
LTO	Lead Technical Officer
LTU	Lead Technical Unit
M&E	Monitoring and Evaluation
MAO	Municipal Agricultural Office
MASIPAG	Magsasaka at Siyentipiko para sa Pag-unlad ng Agrikultura (Farmer-Scientist Partnership for Development)
MENRO	Municipal Environment and Natural Resources Office
MLGU	Municipal LGU
MoA	Memorandum of Agreement
NBSAP	National Biodiversity Strategy and Action Plan
NCCA	National Commission on Culture and Arts
NCSA	National Capacity Self-Assessment
NCI	National Convergence Initiative
NCIP	National Commission on Indigenous Peoples
NEDA	National Economic and Development Authority
NEWCAP	New Conservation in the Philippines Project
NFTS	Natural farming technology system
NGA	National Government Agency
NGP	National Greening Program
NIAHS	Nationally Important Agricultural Heritage Site
NICERT	Negros Island Certification
NIPAS	National Integrated Protected Areas
NIPEFP	National IP Education Policy Framework
NISM	National Information Sharing Mechanism
NM	National Museum
NOAA	National Organic Agriculture Act
NOAB	National Organic Agriculture Board
NOAP	National Organic Agriculture Program
NPAAD	Network for Protected Areas in Agriculture and Agro-Industrial Development
NPD	National Project Director

NRM	Natural resource management
NSIC	National Seed Industry Council
OCCP	Organic Certification Centre of the Philippines
PA	Protected area
PAENRO	Provincial Agriculture, Environment and Natural Resources Office
PAFC	Provincial Agriculture and Fisheries Council
PAMB	Protected Area Management Board
PCA	Philippine Coconut Authority
PCC	Provincial Coordination Committees
PCIC	Philippine Crop Insurance Corporation
PCSD	Philippine Council for Sustainable Development
PGR	Plant genetic resources
PHILRICE	Philippine Rice Research Institute
PIF	Project Identification Form (GEF)
PIR	Project Implementation Review
PLGU	Provincial LGU
PM	Project Management
PMCU	Project Management and Coordination Unit
PPDO	Provincial Planning and Development Office
PPG	Project Preparation Grant (GEF)
PPR	Project Progress Report
PRODOC	Project Document
PSC	Project Steering Committee
PTF	Project Task Force
PVPA	Plant Variety Protection Act
PY	Project Year
R&D	Research and Development
RAT Plan	Rationalisation Plan
RBM	Results-based management
RFO	Regional Field Office
RFU	Regional Field Units
RICE	Revitalize Indigenous Cordilleran Entrepreneurs
RTFC	Rice Terraces Farmers' Cooperative
SAFDZ	Strategic Agriculture and Fisheries Development Zones
SC	Steering Committee
SEARICE	Southeast Asia Regional Initiative for Community Empowerment
SITMo	Save the Ifugao Terraces Movement
SLT	Schools of Living Tradition
SM	Shoe Mart
SO	Special Orders
STAP	Scientific and Technical Advisory Panel
SUC	State University Centre
TA	Technical assistance
TCI	Investment Centre Division (FAO)
TCID	Technical Cooperation and Investment Division
TESDA	Technical Education and Skills Development Authority
TK	Traditional knowledge
TOR	Terms of Reference
TRV	Traditional rice variety
TSIKAT	T'boli School of Indigenous Knowledge And Traditions
UMFI	Upland Marketing Foundation Inc.
UPLB	University of the Philippines Los Baños
USD	United States Dollar
USec	Under-secretary
WTP	Willingness to pay



## DEFINITIONS OF KEY TERMS

The following key terms are understood as follows in the context of this project:

Agricultural biodiversity (ABD)	Includes all components of biological diversity of relevance to food and agriculture, and all components of biological diversity that constitute the agro-ecosystems: the variety and variability of animals, plants and micro-organisms, at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes
Agroecosystem	<p>The basic unit of study in agro-ecology: a spatially and functionally coherent unit of agricultural activity, including the living and non-living components involved in that unit as well as their interactions<sup>1</sup>.</p> <p>A subset of a conventional ecosystem; not restricted to the immediate site of agricultural activity (e.g. the farm), but rather includes the region that is impacted by this activity<sup>2</sup>.</p>
Dynamic conservation	A term popularised by the GIAHS initiative which emphasises a balance between conservation, adaptation and socio-economic development. With this, the conservation of ABD is taken into holistic, integrated approach of sustainable management of the agricultural resources including looking into market incentives, branding and labelling of products and services, cultural promotion and tourism related activities.
<i>Ex situ</i> conservation	The conservation of biodiversity outside of its natural habitat or the agroecosystems in which it is traditionally managed, for example in collections held by research institutions, where it is not integrated into local seed supply systems on a regular basis.
<i>In situ</i> conservation	<p>The conservation of biodiversity within its natural range of occurrence and natural habitat. In the case of agrobiodiversity, this includes:</p> <ul style="list-style-type: none"> <li>- Agroecosystems where it is traditionally cultivated, rather than solely its natural habitat of origin.</li> <li>- Crops (such as sweet potato and maize in the case of the Philippines) whose original centre of origin is elsewhere but which now form part of traditional agroecosystems.</li> <li>- Community-based gene banks where the stored material is regularly used, refreshed and replaced by material from local farms.</li> </ul>
Globally Important Agricultural Heritage Systems (GIAHS)	Remarkable land use systems and landscapes which are rich in globally significant biological diversity evolving from the co-adaptation of a community with its environment and its needs and aspirations for sustainable development
Nationally Important Agricultural Heritage System (NIAHS)	<p>Offspring of the Globally Important Agricultural Heritage Systems (GIAHS) to mainstream the concept of agricultural heritage conservation and its ecosystem goods and services, as well as to strengthen the ownership of GIAHS at national and local levels. For the selection of NIAHS, the Philippines adopted the global GIAHS criteria and tailored to local condition, such as landscapes that meet at least 3 of the 5 criteria suggested by the Globally Important Agricultural Heritage Systems (GIAHS):</p> <ul style="list-style-type: none"> <li>- Contribution to food and livelihood security;</li> <li>- High agrobiodiversity;</li> <li>- Supported by local knowledge;</li> <li>- Sustained by a social system</li> <li>- Presence of remarkable landscapes.</li> </ul>

<sup>1</sup> Agro-ecosystem Health Project. 1996. Agroecosystem health. University of Guelph, Guelph, Canada.

<sup>2</sup> Elske van de Fliert and Ann R. Braun. 1999. Farmer Field School for Integrated Crop Management of Sweetpotato. Field guides and Technical Manual. Bogor, Indonesia: International Potato Center. ISBN 92-9060-216-3. <http://www.eseap.cipotato.org/MF-ESEAP/Abstract/FFS-ICM-SP-Ind.htm>

Traditional  
agroecosystem

Key characteristics<sup>3</sup>:

- Developed and evolved over centuries
- Locally adapted farming system
- Includes a wide diversity of animals and plants
- Functions in harmony with nature and local wildlife habitats
- Promotes natural genetic adaptation
- Facilitates local, seasonal specificities.

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<sup>3</sup> <http://www.save-foundation.net/docu/en/TAES.pdf>

## SECTION 1 – RELEVANCE (strategic fit and results orientation)

1. The present project aims to enhance, expand and sustain the dynamic conservation practices that sustain globally significant agricultural biodiversity (ABD) in traditional agroecosystems of the Philippines. The global and national significance of the country's agricultural biodiversity (ABD) is described in section 1.1 below, followed by a description of the institutional and policy framework (section 17) that will support the project's actions.

2. The project will operate at field level in three pilot sites located in two provinces. The criteria for the selection of these locations are presented in APPENDIX 8.

### 1.1 Agricultural Biodiversity in the Philippines

3. Maintaining 5% of the world's flora, including more than 9,000 endemic plant species, the Philippines is recognized as one of the world's megadiverse countries and as a designated global biodiversity hotspot. The country is home to more than 52,177 described species of plants, animals and microorganisms, of which more than half are found nowhere else in the world.

4. As part of its biological richness, the country features an extraordinary diversity of globally significant ABD. It forms part of one of the six areas identified worldwide by GEF as priority genetic reserve locations for wild relatives of agricultural crops<sup>4</sup> Most notably, it is home to more than 5,500 traditional rice varieties and four of their wild relatives. In addition, the country boasts a broad spectrum of indigenous and endemic species of vegetable and fruit crops including indigenous varieties of eggplants and cucurbits, mung beans, winged bean and soybeans, taro and yam, as well as indigenous varieties of banana among many others.<sup>5</sup> The indigenous fibre crop abaca is another prominent example of Philippine wealth of agro-biodiversity.

5. The country's ABD is of major global importance. Wild species, land races and traditional rice varieties are sources of genes for traits of global significance, namely yield, resistance/tolerance to biotic and abiotic stresses. They comprise the gene-sources for the development of commercial rice cultivars. Traditional varieties of rice from the Philippines that possesses deep-rooting characteristic are being used as a potential source of drought tolerance useful in climate change adaptation. Varieties of taro from the Philippines, resistant to taro blight, were introduced to Samoa and were used to combat the crop's disease in that country. Similarly, a traditional variety of maize from the Philippines was the source of a gene for resistance to downy mildew, which affected the maize industry worldwide. Rice residues can produce bioenergy and at the same time reduce the negative effects of rice production systems on the environment; they could also be a source of extra income for farmers (Haefele, 2013).

6. The country's diversity of agricultural species and varieties has historically formed the basis for resilient agro-ecosystems providing crucial ecosystem services including the provision of food and nutrition, water and soil regulation, as well as performing a cultural role as agriculture heritage. ABD has been conserved, managed and sustained by local communities, primarily smallholders, family farmers and indigenous people, through traditional agricultural practices that conserve and enhance biodiversity at genetic, species and landscape level.

#### *Rice in the Philippines*

7. Rice is one of 14 global food crops prioritised by GEF for genetic resource conservation worldwide<sup>6</sup>. Rice constitutes the staple diet of 90% of the population of the Philippines. In addition to direct consumption, it is processed into rice flour, fermented to make rice wine (*tapuy*) and many other delicacies. Rice by-products are used as animal feeds, substrate for mushroom production and raw material for paper and particle board manufacture. Rice hulls are used as fuel and bran as animal

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<sup>4</sup> GEF6 Programming Directions, Annex VI.

<sup>5</sup> The **Country Report on the state of Plant Genetic Resources for Food and Agriculture** (Department of Agriculture, Bureau of Plant Industry, 2007) provides a detailed breakdown agricultural species and varieties.

<sup>6</sup> GEF6 Programming Directions, Annex VI.

feeds. 3.1% of the rice production in the Philippines is from traditional varieties<sup>7</sup>, but in areas such as Hungduan and Hingyon municipalities in Ifugao province, 90% of the rice area is still planted to traditional varieties. There are 44 and 25 traditional rice varieties planted in Hingyon (Ifugao); and Lake Sebu (South Cotabato), respectively, mainly for home consumption.

8. *Trade in traditional varieties:* in many parts of the country, traditional rice is traded for other commodities. More recently, some indigenous rice varieties of the Cordillera are grown in large areas to meet the growing demand for traditional and native staples in the international market. The Revitalize Indigenous Cordilleran Entrepreneurs (RICE) was able to export 7 tons of Tinawon native rice from Ifugao and Unoy native rice from Kalinga to the United States<sup>8</sup> (Cariño 2008). The Department of Agriculture through the Local Government Units had selected two traditional rice varieties from several provinces. These varieties have a market in the US because they are “heirloom” varieties and their pigmented grains are believed to possess antioxidant properties.

9. *Biological importance:* the Philippines is a centre of diversity of rice: in addition to the commonly cultivated *Oryza sativa*, a number of indigenous wild rice relatives are found including *O. minuta*, *O. officinalis* and *O. rufipogon*. Traditional rice varieties are important sources of genes for pest and disease resistance, abiotic stresses like drought and submergence and good eating quality. Parentage of modern rice varieties can be traced back to traditional rice varieties. They are also the raw materials from which farmers select and generate varieties adapted to local conditions.

10. *Cultural value:* in some areas in the country such as Ifugao, the culture has been intimately connected with the cultivation of rice. For example, 12 rice rituals, performed by the native *mumbaki* (chief), define the Ifugao agrarian calendar. These rituals are conducted throughout the rice growing cycle and had helped maintain the balance the Ifugaos had with their environment and help ensure a bountiful harvest (Dulawan, 1982). Upland rice varieties are used in zakat-tul-fitre in celebration of the end of Ramadan (Magindra, 2007). In Lake Sebu, sticky rice is commonly used for rituals.

11. In Hungduan, up to 25% of produce was reported to be used as gifts for the varieties Minaangan, Bukid, Diket and Imbuucan. Traditional rice varieties are grown as part of the cultural heritage of the locals, and are thus culturally valued. As such, they count among the icons or symbols of local culture. In Lake Sebu, Traditional rice varieties have also been used in the social justice system.

12. *Medicinal uses:* Pigmented rice varieties are possible sources of natural antioxidants. Sprouted black rice has high level of phytochemicals and could be a potential source of natural antioxidants for beverages (Bulatao, et al 2012). Further, they could be used to improve the nutritional and functional properties of beverages. In Lake Sebu, specific rice varieties are used for medicines. Halay S’do, a glutinous, violet variety was reported to be used to cure diarrhoea.

### ***Patterns of Rice Diversity***

13. The Philippines consists of three main geographical divisions: Luzon in the north, Visayas in the centre and Mindanao in the south.

14. **Luzon:** the provinces of Ifugao, Palawan, Ilocos Norte, Mountain Province, Nueva Viscaya and Oriental Mindoro have the most number of accessions deposited at the gene banks of the Genetic Resources Centre of IRRI, PhilRice and the Crop Science Cluster of UPLB. Based on the combined criteria for site selection for NIAHS and those set by PGR workers to identify priority crops for conservation, Ifugao, Mountain Province and Mindoro Oriental are particularly noteworthy: among the rice growing areas in the North Philippines, Ifugao has the highest number of rice accessions (323) at the IRRI and UPLB gene banks; Ifugao is a GIAHS and NIAHS site and due to its proximity, it can also represent the other sites in the Cordillera Administrative Region (CAR) like Kalinga and Mountain Province where rice diversity still exists. Diversity is maintained in Ifugao as the modern rice varieties for cool elevated areas are not acceptable to the culture of Ifugao farmers.

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<sup>7</sup> Sombillo and Quilloy (2014)

<sup>8</sup> This variety of rice is marketed in the US as an exotic heirloom organic rice produced to support the preservation of the rice terraces in the Philippines, in collaboration between Eight Wonder (a US NGO) and Rice Inc (a Philippine NGO).



15. **Visayas:** rice diversity is high in Bohol, Leyte and Negros Occidental (254 traditional varieties from the three provinces). However, diversity in these provinces is not as high as in Ifugao, due to high levels of replacement of traditional varieties by modern high yielding varieties (HYV). In Bohol, only a few traditional varieties can be found, mostly red pericarp varieties such as Lubang.

16. **Mindanao:** rice diversity here is highest in Surigao del Sur (189 varieties) based on the combined criteria for NIAHS and PGR conservation, while Surigao is the second largest producer of rice in the Caraga region. Rice and coconut are the dominant crops but farmers are now shifting to banana plantations due to higher economic returns from the crop.

17. Although the traditional rice varieties have not been deposited in the gene banks, ABD specialists on the PPG team agreed with the work of Turner (2009) in indicating tremendous diversity of traditional rice in Sarangani province in Mindanao. Turner (2009) was able to identify 102 different traditional rice varieties being grown by farmers in the province. Similar work is being done by Zapico et al. of the Mindanao State University in General Santos City.

#### ***Other crops***

18. Although most of the production systems targeted by the project include rice, the focus of the project is on diverse traditional agroecosystems, which also include a number of other crops, including the following:

- **Mungbean** (*Vigna radiata*): Many indigenous varieties are already replaced with standardized varieties, but shrinking pockets of diversity can still be found in traditional areas of cultivation; complementary vegetable used in traditional rice-based farming systems. The Philippines is part of the centre of diversity of mung beans.
- **Eggplant:** A high diversity of eggplant varieties exists in the country in terms of shape, size and colour of fruit. Indigenous varieties can still be found including *Solanum torvum*, *Solanum indicum*, *Solanum nigrum*, *Solanum linnaeanum*, *Solanum macrocarpon*; complementary fruit used in traditional rice-based farming systems.
- **Taro and Yam** (*Dioscorea* and *Colocasia*): The Philippines is part of the centre of diversity for *Colocasia* and *Dioscorea* with several indigenous varieties including *Dioscorea alata*, *Dioscorea bulbifera*, *Dioscorea esculenta*, *Dioscorea hispida* and *Dioscorea pentaphylla*. Except for *D. alata*, these species are generally no longer widely cultivated and utilized and are threatened with genetic erosion.
- **Banana:** the Philippines is also part of the centre of origin of bananas, with a number of indigenous progenitors including *Musa acuminata* (4 subspecies) and *M. balbisiana*.
- **Abaca** (Manila Hemp, *Musa textilis*) is an endemic fibre crop; the majority of cultivars planted in the Philippines are traditional varieties, but genetic variety is decreasing rapidly due to standardization.

#### **Institutional and policy framework**

19. There are five sets of existing policy frameworks that can potentially support or constrain the dynamic conservation of ABD resources. These are selected policies in the agriculture sector, environment and natural resources sector, indigenous peoples, cultural heritage and local governance. The following is a quick review of relevant policy instruments, and the institutions that are responsible for them.

##### Agriculture Sector

20. The Department of Agriculture is primarily responsible for setting agricultural policy and production and productivity goals for the country's key agricultural commodities. Local Government Units (LGUs) on the other hand are responsible for the provision of agricultural extension services.

21. Under the agriculture sector, the most important policy instrument is **Food Staples Self Sufficiency Program (FSSP)** under the Agriculture Pinoy Framework or AGriPinoy. This policy builds on the foundations of productivity enhancement, economic incentives and consumption management. The use of HYVs supported by irrigation, fertilizers and integrated crop production

strategies are meant to ensure food self-sufficiency. Though not articulated in specific terms, certain aspects of the program would benefit from the conservation of ABD. These include the continuing need for a broad genetic pool to support varietal improvement that makes crops more productive and climate resilient; local ecological knowledge associated with growing practices for agrobiodiversity may be able to help provide insights and lessons that help Philippine agriculture adapt to the effects of climate change

22. At the same time, there are also related agricultural policies that can help protect agricultural lands from conversion, promote sustainable and climate resilient agriculture and enhance food safety. The **Agriculture and Fisheries Modernization Act (AFMA)** of 1997, for instance, provides for the establishment and delineation of Strategic Agriculture and Fisheries Development Zones (SAFDZ) within the Network for Protected Areas in Agriculture and Agro-Industrial Development (NPAAD). The network focuses on the protection of all agricultural lands and lands suitable for agriculture in order to ensure the efficient utilization of land for agriculture and agro-industrial development and promote sustainable growth. The AFMA specifies a number of special concerns which need to be considered in the preparation of the Agriculture and Fisheries Modernization Plan (AFMP) for any given province or municipality, including comprehensive and integrated agriculture and fisheries research, development and extension services, preservation of biodiversity, genetic materials and the environment, indigenous peoples, and market support, etc.

23. The **National Action Plan to Combat Desertification**, which is the country's commitment to the UN Convention to Combat Land Degradation), provides guidance for sustainable land management (especially the conservation of soils). Until recently it has not covered the conservation of ABD resources as a land management strategy.

24. The **DA policy for Adaptation and Mitigation Initiatives in Agriculture (AMIA)** is an important recent initiative to climate proof agricultural programs. It has adopted climate smart agriculture concepts and recognizes the role of a wide genetic pool (made possible by a robust ABD base) for the development of climate resilient crops.

25. The **National Organic Agriculture Act** of 2010 aims to systematically introduce and mainstream organic agriculture in mainstream agriculture in the Philippines. The law establishes the system for certification of organic produce and discourages GMOs. It provides localization of the organic movement through the creation of local organic agriculture councils that will promote organic agriculture (OA) in local agriculture. It also recognizes the role of traditional knowledge and the *de facto* OA practices of traditional communities. OA policies are set by the National Organic Agriculture Board (NOAB) while standards and compliance are set by the Bureau of Agriculture and Fisheries Standards (BAFS)

26. The **Plant Variety Protection Act (PVPA)** of 2002 aims to protect new plant varieties including the intellectual property rights (IPR) of breeders. It provides the system for granting IPR protection based on varietal attributes related to newness, distinctiveness, uniformity and stability. There is a section in the law that provides for the creation of a community registry so communities may register their traditional varieties to avoid misappropriation by other parties. The Bureau of Plant Industry (BPI) is responsible for PVPA implementation.

27. The **laws on crop insurance** currently managed by the Philippine Crop Insurance Corporation (PCIC) cover crops of small farmers and provide insurance protection for the effect of natural disasters such as typhoons, floods, and pest and disease incidence. More recently innovations in weather based crop insurance has been introduced in response to worsening effects of climate change in agriculture.

28. In the past 5 years, the DA has launched **R&D and pilot programs to promote indigenous and underutilized crops** such as rice, maize, root crops and vegetables (R&D programs supported by the BAR R&D program for underutilized crops). Organically grown rice varieties, with the support of organic agriculture programs and the Philippine Upland Rice Program are also being promoted for niche export markets. The Philippines is also now exporting heirloom rice from Cordillera rice to the US and other parts of the world.

29. The **National Bio-Safety Framework** serves as safety net for the introduction of GMOs. In the country. Complaints have been manifested based on location specific cases documented (e.g. Roundup Resistant maize in parts of the country). Sixteen LGUs are in the process of declaring GMO free zones. The PBSAP has proposed to strengthen introduction of independent risk assessment of planned programs and inclusion of GMO concerns in the Environmental Impact Assessment (EIA) system.

#### Environment and Natural Resources sector

30. As signatory to the Convention on Biological Diversity (CBD), the Philippine Government is in the final stages of updating the **Philippine Biodiversity Strategy and Action Plan (PBSAP, 2015)**. The PBSAP serves as the highest form of guidance for public investments in biodiversity. Concurrently, the GEF has indicated that part of the criteria for approval of future proposals for GEF funding must be part of PBSAP investment program. For the first time Philippine history, the PBSAP provides substantive discussion on ABD as a response to the awareness created following the implementation of the GIAHS project<sup>9</sup> in the country, and outlines a plan for its conservation and sustainable use.

31. The **National Integrated Protected Areas Act (1992)** or NIPAS provides for the protection of the country's biodiversity resources as the ecosystems, species and genetic levels. Under this law, Key Biodiversity Areas (KBAs) are accorded Protected Area (PA) status.

32. The Department of Environment and Natural Resources (DENR) is responsible for the protection of natural resources including biodiversity through the setting of policies, standards, enforcement and compliance monitoring. Environmental and Natural Resource (ENR) services have only been partially devolved to LGUs. LGUs are supposed to establish ENR officers, but this is currently not mandatory.

#### Indigenous Peoples sector

33. The **Indigenous Peoples' Rights Act (IPRA) of 1997** protects the rights of indigenous peoples and their ancestral domains which include natural resources and agricultural resources. The National Commission for Indigenous Peoples (NCIP) is responsible for IPRA implementation and coordination. Under the law, indigenous people (IP) groups will establish their Ancestral Domain Support Services Plan or ADSDPP. Current regulations for the preparation of such plans are generically silent on the recognition, documentation and protection of agrobiodiversity resources as part of Indigenous Knowledge systems and practices (IKSP).

34. The Department of Education (DepEd) has adopted the **National IP Education Policy Framework (NIPEPF)** through DepEd Order no. 62, series of 2011. This framework developed in cooperation with NCIP and the National Commission on Culture and Arts (NCCA), establishes the policy for education based on the principles of participation, inclusion and empowerment. This policy builds on existing policies and experience on the operation of primary schools for IPs as well as Alternative learning systems for IPs implemented mostly by CSOs.

#### Cultural Heritage sector

35. The National Commission for Culture and Arts (NCCA) and its associate agencies such as the National Museum is the primary agency responsible for recognition of cultural heritage. The **National Cultural Heritage Law** provides a system of recognition of cultural properties and heritage zones. It also supports the development of Schools of Living Tradition (SLT).

36. Under a recently completed GIAHS project<sup>10</sup>, the DENR, DA, NCCA and NM together with the stakeholders developed a compendium of initial sites which are potential Nationally Important Agricultural Heritage Sites (NIAHS) following the principles of GIAHS. At the same time the key

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<sup>9</sup> GCP/GLO/212/GFF Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems (GIAHS), a project aimed to promote conservation and adaptive management of globally significant agricultural biodiversity harboured in GIAHS. Philippines was one of the 6 pilot countries.

<sup>10</sup> GCP/GLO/212/GFF Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems (GIAHS), a project aimed to promote conservation and adaptive management of globally significant agricultural biodiversity harboured in GIAHS. Philippines was one of the 6 pilot countries,

agencies cited agreed to develop a NIAHS system in the Philippines that will recognize qualified sites as cultural properties. The MOA is pending action by the DENR and DA.

#### Local Governance sector

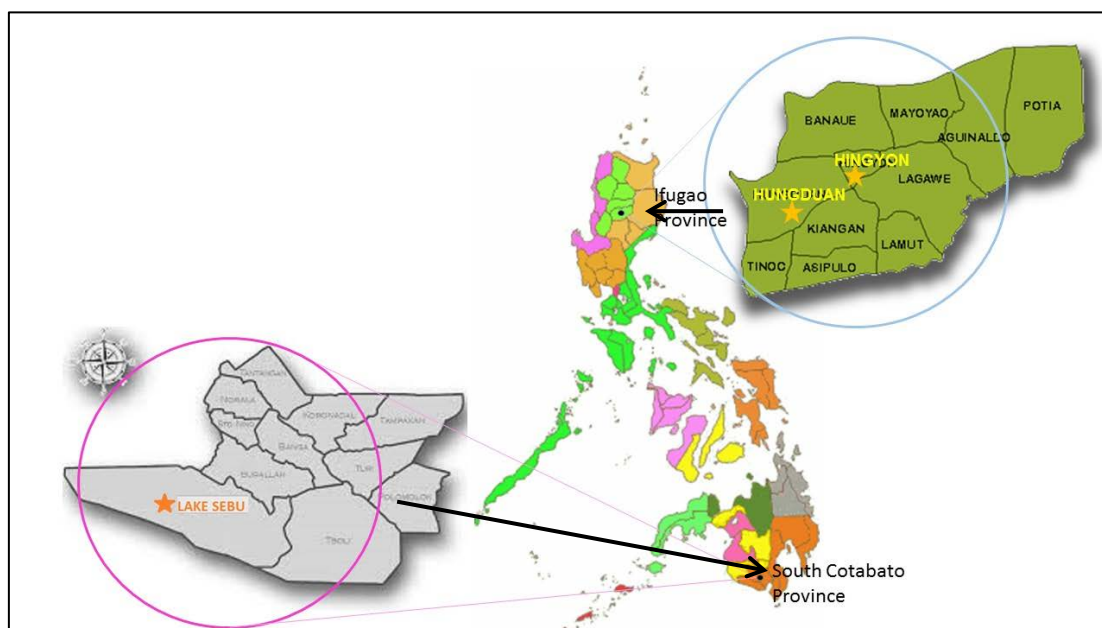
37. The **Local Government Code** of 1991 decentralized substantive authorities to Local Government Units (LGUs) notably land use planning and classification and agricultural extension. Land use planning guidelines under the Code as well as pertinent guidelines under the National Cultural Heritage provide LGUs the authority to declare certain areas in the locality as local protected areas and/or heritage zones. Many LGUs in the country have used these powers to declare certain ecologically sensitive items as protected areas. A few LGUs have also declared certain areas as heritage zones.

38. A special policy<sup>11</sup> also assigned the oversight of the Ifugao Rice Terraces (IRT) as a World Heritage Site to the Provincial Government of Ifugao. This policy mandates the Provincial Government to prepare and oversee the implementation of a master plan for the conservation of the IRT. The Provincial Government is currently updating the master plan. It has established shed a special Office of cultural heritage and launched pilot projects for the repair of terraces, document indigenous knowledge and increase cultural heritage awareness among the youth.

### **1.2 Pilot sites**

39. The project will carry out pilot activities in three pilot sites, located in the provinces of Ifugao in North Luzon (in the north of the country) and South Cotabato in Mindanao (in the south). The methodology and criteria used for the selection of these sites are presented in APPENDIX 8, and key data on the sites themselves are presented in APPENDIX 9.

**Figure 1. Locations of the target provinces and municipalities**



40. The criteria used for the selection of the project sites are explained in APPENDIX 8. These criteria were based on those proposed in the PIF but have been validated and refined during the PPG phase on the basis of consultations with key stakeholders. The sites selected through the application of these criteria (again on the basis of extensive consultations with national stakeholders) are shown in Table 1.

<sup>11</sup> a. Executive Order 72 dated Feb. 11, 2002: Rationalizing the Agencies Under or Attached to the Office of the President; b. Ifugao Sangguniang Panlalawigan Resolution No. 2002-679: Establishing the Ifugao Rice Terraces and Culture Heritage Project Office and Providing for the Appropriate Organizational Structure to Operationalize the Same; c. Ifugao Provincial Ordinance No. 2006-032 Establishing the Ifugao Culture and Heritage Office

**Table 1. Direct project target sites and other sites for replication**

Province	Priority municipalities	Other Municipal sites for initial up-scaling (3 <sup>rd</sup> year) <sup>12</sup>
Direct target provinces and municipalities		
Ifugao	Hungduan	Kiangnan, Mayoyao, Banaue
	Hingyon	
South Cotabato	Lake Sebu	Tupi, Surallah
<b>Other provinces for replication</b>	<b>Other sites (exemplary sites cited in 2013 during the GIAHS project (DENR/DA/FAO))</b>	
Kalinga, Nueva Viscaya, Mindoro, Bohol and Camiguin	<ul style="list-style-type: none"> <li>- Rice based System in Tanudan - Kalinga</li> <li>- Sweet potato Fallow System in Kalahan – Nueva Viscaya</li> <li>- Rice-based Gentle Fallow System of the Hanunuo Mangyan - Mindoro</li> <li>- Ubi Cultivation System in the Karst Landscapes of Bohol</li> <li>- Lanzones Cultivation as Part of the Highland Biodiversity in Camiguin</li> </ul>	

41. Table 2 presents the crops grown in Hingyon, Hungduan and Lake Sebu. PPG studies and consultations revealed high levels of intra- and interspecific crop diversity in the project sites. Variety names can be an initial indicator of diversity, and farmers named 17, 24 and 20 traditional rice varieties respectively in the three municipalities. Farmers, especially the older farmers (seed keepers) are able to distinguish each variety they grow. Farmers identify varieties based on morphological characteristics (lemma and palea colour, awning, seed size and shape), growth duration, use and other properties. There are no reports on the existence of wild rice species in Ifugao and South Cotabato provinces.

**Table 2. Main ABD crops in the target municipalities**

Common name	Scientific name	Hungduan and Hingyon	Lake Sebu
Lowland/upland rice	<i>Oryza sativa</i>	✓	✓
Maize	<i>Zea mays</i>	✓	✓
Sweet potato	<i>Ipomea batatas</i>	✓	✓
Taro	<i>Colocasia esculenta</i>	✓	✓
Cocoyam	<i>Xanthosoma sagitofolium</i>	✓	✓
Yam	<i>Dioscorea alata</i>	✓	
Banana	<i>Musa x paradisiaca</i>	✓	✓
Abaca	<i>Musa textilis</i>		✓
<b>Vegetables and field legumes</b>			
Peas	<i>Pisum sativum</i>	✓	
beans	<i>Vigna spp.</i>	✓	✓
Ground nut	<i>Arachis hypogaea</i>	✓	✓
Pigeon pea	<i>Cajanus cajan</i>	✓	
<b>Muyong forests</b>			
Fruit trees		✓	
Coffee	<i>Coffea arabica</i> , <i>C. robusta</i>	✓	✓
Forest trees		✓	

### ***Ifugao Province***

42. Ifugao lies at a latitude of 16050' N and 121010'E longitude. Ifugao is a landlocked province in the Cordillera Administrative Region, and is located in a mountainous region characterized by rugged terrain, river valleys and massive forests. In this province, the project will work in the municipalities

<sup>12</sup> The PIF proposed reaching at least 10 sites for up-scaling through training under Component 3, in addition to the 5,000 farmers directly involved under Component 2.

of Hungduan and Hingyon. These are both 5th class municipalities<sup>13</sup>. They consist of irrigated and rainfed rice grown in the mountainous terraces, along with cultivated crops. The livelihoods of the local communities are largely agriculture-dependent, about 72 per cent of the population are dependent on agriculture and agroforestry activities.

43. The people of Hungduan and Hingyon belong largely to the Tuwali tribe. Hungduan is one of the 5 municipalities covered by the World Heritage Site Designation. Likewise, Hungduan is also a demonstration area for piloting dynamic conservation of GIAHS. It is known for its fairly large area devoted to a traditional rice variety locally known as Tinawon or heirloom rice<sup>14</sup>. It represents the municipalities in Ifugao which also harbour a high degree of ABD that will certainly qualify for distinction at least at the national level.

44. Both municipalities have maintained rice terraces which harbour high biodiversity and ABD. The rice terraces are dependent on “*muyongs*”, an indigenous system of forest management unique to the people of Ifugao, which serves as the primary recharge zone that provides stable supply of water to the other components of the production system. *Muyongs* are untilled slopes covered mainly with timber, fruit trees, climbing rattan, bamboo, palms and other associated natural vegetation, which is often used as a source of fuelwood<sup>15</sup>; however the *muyong* system can be viewed from different perspectives, either as a forest conservation strategy, a watershed rehabilitation technique, a farming system or an assisted natural regeneration (ANR) strategy<sup>16</sup>. *Muyongs* are found near villages on the slope and upland areas which are non-irrigable, and are privately-owned by individual families, clans or communities. The *muyong* also serve to support the economic activities of the inhabitants: they provide wild vegetables, fruits, tubers and other the plant/crop species which constitute alternative sources of food and income, especially during poor harvests and during lean months where the staples are just planted. Integrating high value crops such as coffee and fruit trees into the *muyong* provides additional economic benefits to the inhabitants<sup>17</sup>.

45. The *muyong* also provide services essential for the resilience of the rice fields and the swidden farms. Water from the *muyong* carries nutrients built up by the forest. The *muyong* also serves as a source of rocks and stones to make walls for new terraces and to repair damaged older terrace walls. *Muyong* are rich in biodiversity: they have been found to contain 264 plant species, mainly indigenous, belonging to 71 plant families<sup>18</sup>; the number of species per woodlot ranged from 13 to 47, mostly endemic in the region, and out of the 264 species, 234 were considered useful by local people. The *muyong* also serve as buffers to nearby swidden areas, providing microclimates favourable to the growth of fallow vegetation, as well as trapping eroded soil.

46. In addition to the *muyongs*, the communities maintain community forests. Bananas, taro and pigeon peas are grown in the swidden lands within the crop/fallow rotation system. The areas are all under ancestral domain, and farms are maintained by family owner cultivators.

47. The mountain rice terraces here are also maintained by an intricate system of knowledge and labour contributed by both men and women. Men tend the *muyong* forests and maintain the elaborate irrigation systems. They lead in land preparation. The women have a role in practically all stages of rice production but are particularly recognized for their skills to select the good quality seeds to be grown for subsequent harvests. Farmers also maintain a labour exchange system to allow them to address the high labour demand for growing traditional varieties and terrace maintenance

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<sup>13</sup> Municipalities are divided into income classes according to their average annual income during the previous four calendar years: 1<sup>st</sup> Class = P55,000,000 or more, 2<sup>nd</sup> = P45,000,000-54,999,999, 3<sup>rd</sup> = P35,000,000-44,999,999, 4<sup>th</sup> = P25,000,000-34,999,999, 5<sup>th</sup> = P15,000,000 – 24,999,999, 6<sup>th</sup> = <P15,000,000

<sup>14</sup> Heirloom varieties are old cultivars that are still maintained by gardeners and farmers particularly in isolated or ethnic communities, and have been handed down for over three generations

<sup>15</sup> Serrano and Cadaweng (op. cit.)

<sup>16</sup> *Muyong forest of Ifugao: Assisted natural regeneration in traditional forest management* - Moises Butic and Robert Ngidlo  
<http://www.fao.org/docrep/004/ad466e/ad466e06.htm>

<sup>17</sup> Butic and Ngidlo, 2003

<sup>18</sup> Rondolo, M.T. 2001. Fellowship Report. Tropical Forest Update. Vol. 11, No. 4. ITTO, Japan.

48. *Mumbakis* (indigenous ritual leaders) guide farmers to maintain age old practices that have kept the rice terraces intact for centuries, maintained soil fertility and prevented major pest and disease outbreaks. These skills include maintenance of family forests, assisted natural regeneration (ANR), enrichment planting, small scale irrigation, natural fertilization, natural crop protection and various forms of agroforestry and crop combinations.

### ***South Cotabato Province***

49. South Cotabato is located in the southern part of the island of Mindanao. It is bounded by the province of Sultan Kudarat in the north and west, in the east and south by the city of General Santos and province of Sarangani. It lies at latitude of about 6°15' north and about 125° longitude. Its main access to the sea is through the Sarangani Bay. The place is generally flat, but is dotted with some hills and mountains.

50. The project site is Lake Sebu, the biggest municipality of the province with a total land area of approximately 891.38 km<sup>2</sup>. Most farmers in mountainous areas in Lake Sebu practice shifting slash and burn agriculture. Rainfed systems are practiced in the mountainous areas. Lake Sebu is a 1<sup>st</sup> class municipality in South Cotabato. It is considered as the ecotourism capital of Southern Mindanao, with many remarkable natural resources including the beautiful lake itself and 7 waterfalls. It is also the headwaters of the Allay Valley Watershed that feeds many irrigation projects downstream. The ethnic groups here include the T'boli (majority), Ubo, Tidruay Uvu Manobo and Ilongo (lowlanders). The T'boli and Ubo harbour ABD in their traditional farming systems. The Ubo are closely associated with the T'boli, sharing one (forthcoming) Certificate of Ancestral Domain Title. Also located in the Lake Sebu area is the Tasaday group, who are also active in conserving biodiversity in the area.

51. ABD in the area (rice, maize, root crops and the endemic abaca or Manila hemp) is part of a bigger diversity of the remaining forests of the Allay Valley. The area's ABD has diminished over time and is maintained by a few communities who practice traditional swidden agriculture on the uppermost slopes.

52. The original T'boli forest and farming systems consist of an intricate set of customary rules and practices protecting and maintaining and enhancing forest habitats, springs and other bodies of water, as well as wildlife and crop diversity, particularly of rice. This diversity also includes the Abaca or Manila hemp which is endemic to the Philippines. Farmers in the area practise natural farming techniques for nutrient and pest management. T'boli women play a crucial role in farming (including seed keeping) and crafts including abaca weaving.

53. The T'boli in particular also possesses remarkable knowledge systems and skills in relation to handicrafts that are derived from the products of their agro-forests. These crafts include the nationally renowned abaca weaving as well as pottery, and brassware making. The abaca weaving by the T'boli is known for elaborate designs: certain women are believed to be gifted with the ability to dream the design of their weaving, and are referred to as "dream weavers"; one of them has been given official recognition by the National Commission for Culture and Arts.

### **1.3 Farming and ABD management systems in the target areas**

54. Traditional rice varieties are part of the farming system in all three pilot sites. As a component of the traditional farming, indigenous knowledge system associated with rice cultivation, conservation and use had been generated. Traditional rice varieties contribute to improving food security of the target communities due to their nutritional characteristics, resistance to pests, and adaptation to climatic stresses.

55. The IPs in the proposed sites of Ifugao and Lake Sebu generally share a strong bond to their respective forest and biodiversity systems. They know that their farms depend on their forests. They value forest biodiversity and practice varying ways of ensuring that biodiversity habitats are maintained. Customary rules that are linked to the spiritual realm are maintained by peer pressure.

56. The IPs also highly values their ABD. They maintain it for personal food consumption, as a source of medicines (in Lake Sebu), as part of social networking and as emergency source of cash. They generally know that heirloom rice commands a higher price than the regular varieties. Although

many of these varieties have been lost, farmers are generally available to recall many more varieties than those that are currently planted, and elders and concerned members of these ethnic groups express interest in finding ways to restore those varieties of rice and other crops.

57. With very few exceptions, natural farming is practised by those who grow traditional varieties of rice. IP farmers are adept on natural ways for soil nutrient management as well as pest management. The generally low to modest adoption of innovations introduced by external projects is largely driven by the need to avoid labour demanding practices due to current labour scarcity in the uplands (principally due to outmigration). Some pioneering farmers do adopt some of these introduced technologies but it is rare for them to achieve a critical mass of adoption. The effects of climate change have made farming harder than it already is because of new demands such as water run off control, landslide prevention, water harvesting.

### ***Ifugao***

58. In Ifugao, annual (*tinawon*) traditional rice varieties are planted in November-December, but in hotter areas, second crop (*pinidwa*) varieties are also planted, in June-July. *Pinidwa* varieties could either be traditional or modern rice varieties. Root crops, especially taro, are planted in the margins of the rice paddies. Sweet potato and other vegetable crops are part of the home gardens, while some species of *Dioscorea* (yam) occur in woodlots.

59. Rice is the major crop in the target municipalities of Hungduan and Hingyon. Other crops planted include legumes, coffee, root crops, fruit trees and vegetables. Despite being produced mainly for household consumption, native rice still generates more cash income than other crops. For root crops, cash income is limited, but is still important for households to meet minor household needs that they may not be able to buy otherwise. In Hingyon, vegetables are also important sources of short-term cash, in addition to food.

60. Growers of native varieties of rice, sweet potato, taro and yam have a highly diversified livelihood portfolio. This is often a strategy among rural households to spread the risks of failure in one livelihood activity. Also, it is indicative of the very limited resources – including capital – available to these rural households. Engaging in a number of other livelihood activities in addition to agriculture helps households generate the goods as well as the cash needed to meet the varied needs of its members at different points in time. This diversification reduces the households' vulnerability to shocks, as well as resilience in times of crisis. Also, the low intensity of agricultural activity helps maintain the natural resource base for sustainability of the different livelihood activities that rely on it. Cash is the most common item that respondents' households often run short of, followed by rice in both towns. Thus, even if cash is often short in all households, food is secure in about half of the households.

61. Farmers grow combinations of traditional rice varieties, resulting in what appears to be a very high varietal diversity. A combined total of 50 rice varieties were reported in the two municipalities. Farmers distinguish and select traditional varieties on the basis of a wide range of characteristics, including aroma, grain colour, presence or absence of awn, shattering characteristic of grains, pest resistance, cooking quality and field performance. Native varieties of taro, sweet potato and yam were generally described in terms of their eating quality, as well as their flesh colour. There were five taro, two sweet potato and two yam varieties reported.

62. The peak of the planting season for rice happens in January, and extends to February. However, some varieties can be planted beginning in November. As most varieties take about 5 months until harvest, June is the peak of the harvest season. Root crops, on the other hand, can generally be planted anytime so that they are important as alternative food sources during the lean months.

63. Sweet potato was mentioned in the *kaingin* environment (traditional slash-and-burn hillside production system), similar to the sweet potato environment in many other subsistence communities in the Philippines. However, taro is identified with irrigated environments, owing perhaps to the practice of planting root crops in field margins of rice paddies.



64. Traditional varieties of rice are mainly grown for food. A very minimal amount of native rice reaches markets, as production is mainly targeted towards household consumption and the production areas are usually small (although rice still generates more income than other crops). Up to 25% of produce was reported to be used as gifts for selected rice varieties. Native rice varieties are grown as part of the cultural heritage of the locals, and are thus culturally valued. As such, they count among the icons or symbols of local culture. Sweet potato, taro and yam are also important for food. Moreover, taro seems to have an important role as feed in livestock-raising in addition to its role in cash income generation through periodic small-scale sales in local markets. This income is important for short-term cash to meet the household's daily needs. Traditional varieties of sweet potato, taro and yam are customarily given away under traditions of reciprocal sharing between community members.

65. Excess harvest of traditional rice varieties, after setting aside seed stocks for planting, are being sold or exchanged. This is a normal practice of cultural relevance to the community, and to make sure they do not lose the variety which they have inherited from their forefathers. Some varieties are sometimes planted just to make sure they are not lost, thus underlining their importance for income and food security. Thus traditional rice varieties are not only economically important – they are also culturally significant. Borrowing of rice seed appears to be a common practice among farmers. This practice of seed exchange within the community is called “*kodowan*”, and is instrumental to the conservation of varieties within the community. In this concept, one farmer can plant another farmer's seed if he will not plant it yet, and repay it at harvest. This way, seed is continually planted and renewed, and farmers are able to access it from other community members when the time for him/her to plant the variety comes.

### ***Lake Sebu***

66. In Lake Sebu, shifting cultivation is still a common practice. Rice is planted once a year in March or April and harvested between August and September. A second crop may be planted in August/September and harvested January/February. Among the Tiboli, rice is consumed only once a day during dinner. Root crops are also an important component of the Tiboli diet, being eaten as a staple for breakfast and lunch; they are planted and harvested throughout the year. Planting and harvesting months for taro and yam generally fall on the same months as these crops are ideally harvested after 12 months. Traditional maize is planted twice a year in March and August; it is sometimes mixed with rice, while yellow maize is used for animal feed.

67. Production of annual crops, including traditional rice and root crops is the most important source of cash income. Production of annuals provides food for the household, especially for rice, which is the basic staple. Production of traditional rice is even more important in view of the fact that it does not only provide the household their staple food; most traditional rice varieties are more preferred by the household for consumption over modern commercial varieties. Cash from farming also provides additional food for the household as well as the means to buy clothes, among other needs.

68. During the period from January to July, cash shortage was reported by more households, although it was reported to occur almost the whole year. It is most pronounced in the month of June as expenses for children's education are highest at this time. Rice supply is also particularly short in the month of April, although farm households experience it from January to August. The reasons for the shortage include crop failures in preceding seasons, so that supply is not enough to reach the tail end of the off-season when the planting season is already very near. By this time, rice supply is already depleted.

69. Farmers usually plant more than one variety of native rice. Seed of popular varieties circulate widely among many of the farmers, providing some assurance that it is somehow maintained in the locality. Popular rice varieties have a combination of desired characteristics that includes aroma, grain colour, maturity and eating quality. A total of 25 rice, 9 taro and 5 yam varieties were reported.

70. Choice of traditional rice variety to plant rests mainly with the male household head, although joint decisions between the male and female heads are also very common for rice. However, for taro and yam, it appears that the female household heads choose the varieties more often than the male heads. Looking for seed/planting materials is mainly the task of the male household head. Finding planting materials of traditional varieties of yam are mainly a task for the female heads. More male

heads know where to find seed of traditional rice, while more women know where to find planting materials of native yam varieties. Among the respondents, slightly more female heads than males know where to access planting materials of native taro varieties.

71. Exchange labour systems were only reported for rice production. They are adopted for some of the production operations, most commonly planting and harvesting, when the largest labour force is needed.

72. Rice is the staple among the Ubu indigenous people in Lake Sebu. Some traditional rice varieties also have other food uses such as snack food. Traditional rice varieties are also shared as gifts, indicating their value, rooted in its conceptualization as a novel item, usually given to elders/parents, children, other relatives, and friends. Rice may also be exchanged or used as payment in kind, particularly in exchange labour systems, although they are also popularly used to pay for debts.

73. Traditional taro and yam are also mainly for food, although they have additional use as animal feed. The important varieties of taro and yam are often given as gifts to parents/elders, relatives and friends. Rice is also very often associated with other crops in one system, such as rice-sweet potato-cassava-taro, the rice-sweet potato-cassava, or the rice-sweet potato systems. Cost avoidance is the primary motivation for the respondents to plant traditional rice varieties. The very low or no requirement for chemical fertilizers and pesticides is widely recognized.

74. Important varieties of native rice are usually handed down through generations, from forefathers and parents, or among community members. This supports the notion that traditional rice varieties are inextricably woven into the fabric of the community's culture. Thus, it is not simply the handing down of genetic material through the generations; it is also the transmission of the tribe's cultural memory.

75. Taro and yam varieties conserved in the community were maintained mainly for their good eating quality. Households resort to root crops when the rice crop fails or runs short.

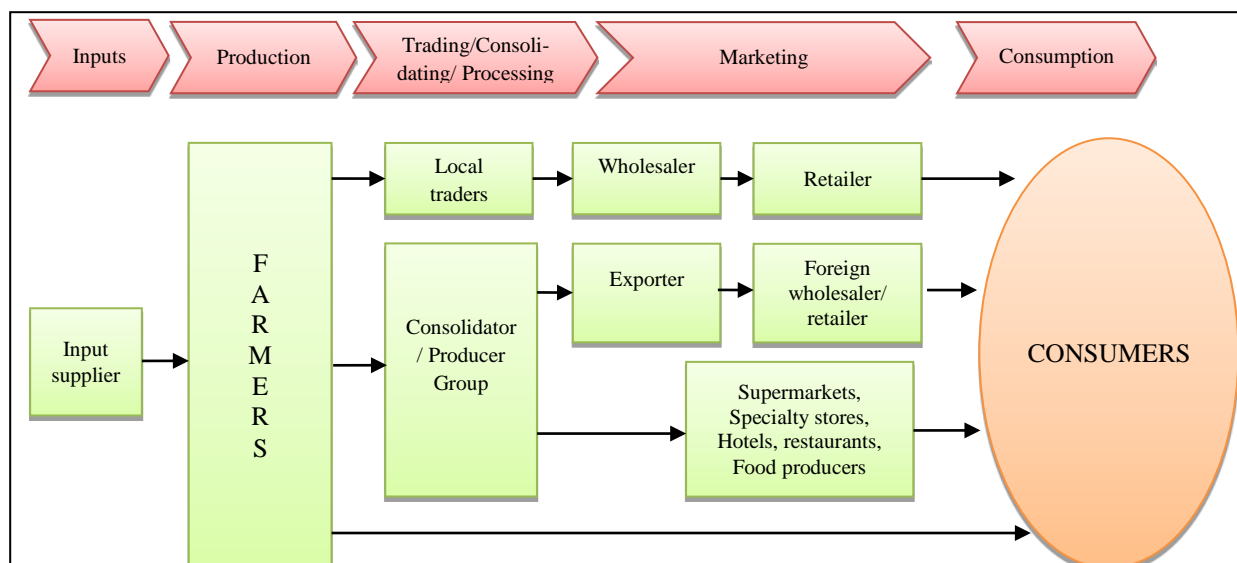
76. Planting materials of the important taro and yam varieties are also handed down through generations. Farmers mostly trace their original planting material to their forefathers. Again, this indicates an important avenue of transmission of cultural memory, through the passing on of preferred root crop varieties.

#### **1.4 Value Chain Analysis for Traditional Varieties**

77. A rapid value chain analysis was carried out for traditional varieties of rice during the PPG phase (see APPENDIX 11 for detailed results). The market is expanding for traditional varieties of rice which are usually grown without the use of chemicals. This is in response to changing market conditions where consumers increasingly appreciate living a healthy lifestyle. Part of this is increasing consumption of organic products. According to Philexport (based on studies carried out around 5 years ago), demand for organic products is increasing annually by approximately 20-30%.

78. The value chain for traditional varieties of rice is similar to commercial (modern variety) of rice. For commercial rice, *palay* or unmilled rice is sourced from the farmers, they are sold to traders in the barangay and some are consolidated by municipal traders who mill rice themselves or sell to large millers. They are then sold to wholesalers and retail outlets that include small retailers in wet markets, supermarkets and institutional buyers such as hotels, restaurants and fast food (see Figure 2). Inputs such as fertilizers and seeds are sourced from various outlets including traders who also finance rice production. In some cases, farmers are able to get credit from government financial institutions, micro-finance institutions and non-government organizations. Technical and extension services are provided by government, non-government organizations and private sector.

**Figure 2. Value Chain for Traditional Rice Varieties**



79. The main difference between the value chain for traditional rice varieties and commercial rice is the market outlets. Traditional varieties are sold mostly in supermarkets, specialty stores and sometimes they are sold directly by farmers to tourists, hotels and restaurants and consumers.

80. The market is quite competitive given the number of brands available in the market produced by small famers and large companies from Luzon, Visayas and Mindanao: around 16 brands of traditional varieties were found to be marketed in supermarkets, specialty stores, trade fairs and organic weekend markets nationally.

### 1.5 Willingness to pay for Eco labelled products

81. As indicated in the PIF, existing information and prior analyses already strongly suggest a clear market potential and corresponding willingness-to-pay for ABD products. The comprehensive market valuation research conducted for the indigenous food products of the Ifugao rice terraces then being finalized by the Provincial Local Government of Ifugao, PAWB and BSWM provided a clear indication of market demand. This was further backed by stakeholder discussions across stakeholder groups conducted during PIF preparation and particularly substantiated by the long-term, extensive farmer survey series conducted by the Plant Genetic Resources Division at the University of the Philippines. Finally, the market demand and expansion for organic food products (see section 2) serves as a proxy indicator for the market potential of indigenous food products.

82. An initial willingness to pay (WTP) survey was carried during the PPG phase<sup>19</sup>. The principal findings of this were as follows:

- Most consumers are willing to pay for Eco labelled products but the willingness varies depending on the level of price premium. These include products certified to conserve ABD, indigenous varieties including rice, cultural heritage (e.g. hand-woven products from abaca), certified organic rice, etc.
- The willingness to pay decreases as price premium increases which follows the normal demand curve. However for most Eco labelled products except rice without organic certification (the only one without certification), there is kinked demand which implies that there is a minimum price premium that most consumers are willing to pay.

<sup>19</sup> An electronic survey was carried out of 230 consumers in Luzon, Visayas and Mindanao, to examine the demand and willingness to pay of ecolabeled products. Factors that affect the level of price premium consumers are willing to pay were also analyzed using an econometric model. The model was estimated using interval regression analysis since the data used on price premia were in ranges. Data on production and marketing of farmers of traditional rice varieties and some rootcrops were also collected through household surveys conducted covering 26 farmers in Ifugao and 32 farmers in Lake Sebu.

- Certification fetches higher price. All the nine Eco labelled products considered are certified except one on rice products sold as organic but without certification. The latter follows the normal downward sloping demand curve with majority of the respondents willing to pay the lowest possible price (below 10%). This is consistent with the actual prices monitored from various market outlets.
- The majority of respondents are willing to pay price premium for Eco labelled products that range from 10% to 20%. About 75% of the respondents are willing to pay price premium for Eco labelled products below 20% and about a quarter are willing to pay above 20%. About 15% of the respondents are already consuming organic products. One of the possible reasons is that currently, Eco labelled products such as the traditional rice varieties (red, brown and black) labelled as organic with or without certification are currently price more than 20%, in fact 104% more compared to those traditional rice not labelled organic. Thus, a lower price may expand the market. In fact more than 30% of the respondents cited high price of organic product as one of the reasons why they don't purchase it.
- Modelling results show that gender, age, income and being an organic consumption consumer significant affect the level of price premium.

### **1.6 Threats affecting ABD**

83. The agro-ecosystems of the Philippines represent a vivid illustration of the indirect and direct drivers of biodiversity loss, as identified by the Millennium Ecosystem Assessment. Indirect drivers of rapid population growth, scientific and technology development, and changes in cultural and religious values caused the intensification of direct drivers of ABD loss, namely land use change and resulting habitat loss, overexploitation and pollution. In consequence, large parts of the country's globally significant ABD have already been lost or are under intense pressure. Many indigenous and endemic varieties are threatened by extinction. Based on PPG phase focus group discussions and household surveys in the municipalities of Hungduan and Hingyon, six of the 44 traditional rice varieties (13.6%) are no longer planted. In Lake Sebu, the figure is four out of 25 varieties (16%). According to Todi (2003) and the recent collecting expeditions of PhilRice, 22 traditional varieties are no longer planted in Lake Sebu. Today, the farming of traditional varieties is limited to certain areas in the Philippine highlands, while lowland agricultural systems are dominated by standardized monocultures and agricultural practices incompatible with the conservation of agricultural biodiversity. Substantial portions of the rice terraces in Ifugao are being abandoned; a small study in one barangay in Hungduan indicated that up to 20% have been abandoned. The loss of ABD and the abandonment of the traditional farming systems with which they are associated are discussed below.

#### ***Habitat loss and destruction***

84. Nationally, land conversion including of prime agricultural lands brought about by urbanization and industrialization has affected the natural habitats of many plant species. Some development projects that rapidly change the land use of an area, particularly during the period 1960-1990 have consequently eliminated or destroyed populations/genotypes of plants, including wild crop relatives. Agricultural expansion and shifting cultivation due to the survival needs of an ever-increasing population have also paved the way for the destruction of these natural habitats. Deforestation has contributed to erratic climate changes; the resulting prolonged drought changes the vegetative composition of an area, leading to the loss of many traditional varieties and wild relatives.

85. PPG studies confirmed the significance of these threats in the target areas. The *muyong* forests in the higher elevation areas of Hungduan and Hingyon have generally been maintained but increasing pockets of incursions are a concern. Cutting of trees in the *muyongs* to supply the wood industry in Hingyon and Hungduan had contributed to low water supply for the paddies which in turn lead to abandonment of the paddies. More generally, increasing incursions into forests are causing pockets of degradation that, when combined with the effects of climate change, have led to excessive water runoff, landslides, siltation of irrigation and water management problems.

86. Shifting cultivation is a widespread component of traditional ABD-based production systems, for example among the Tiboli tribe in Lake Sebu, where it has historically been sustainable. Prevailing discourses typically cite this practice as a major cause of biodiversity loss and deforestation, and PPG

studies give credence to these discourses in some cases: in the case of Lake Sebu, for example, changing demographic and productive conditions mean that the practice is now changing vegetative composition, destroying natural habitats and eliminating many of the wild relatives and varieties of crops. In general, however, these negative discourses are either misplaced or excessively simplistic: shifting cultivation systems tend to have a higher diversity of cultivated crop species and varieties compared to monoculture production systems, with two to four traditional rice varieties typically being planted together with field legumes, root crops and spices.

### ***Modernisation of agriculture, homogenization of crops, farming systems and agrarian conditions***

87. During the 1960s and 1970s, the Philippines was at the epicentre of the agricultural Green Revolution. Reacting to food insecurity driven by rapid population growth, agricultural modernization and intensification primarily in rice farming was promoted extensively across the Philippines. Varietal replacement, hybridization, mono-cropping and use of standardized crops effectively supplanted traditional rice-based farming systems and diminished indigenous ABD in many areas across the country. New rice cultivars like IR8 developed by the Philippines based International Rice Research Institute (IRRI) produced high yields, but at the same time required industrialized agricultural approaches and intense use of fertilizers and pesticides. Government policies and subsidies geared towards maximum short-term productivity further exacerbated the dominance of unsustainable agricultural practices in the Philippines.

88. In Lake Sebu, traditional varieties and farming systems have been impacted both directly and indirectly by programmes aimed at modernizing farming systems and agrarian conditions more generally. Access to land has become a chronic issue among the local *T'bolis* indigenous people, since the implementation of earlier government policies that encouraged migration to from other parts of the country to Mindanao, as well as the rise of agribusiness in the SOCCSKSARGEN region<sup>20</sup> where Lake Sebu belongs: major portions of what are considered as ancestral lands are now in the possession of agribusiness ventures and migrant farmers, through various forms of land transfer that many *T'bolis* have questioned; traditional farming which harbours ABD has rapidly shrunk and been pushed upwards to the steeper slopes in the fringes of remaining forests.

89. Many *T'boli* farmers in both steep and rolling hills around Lake Sebu have generally also adopted lowland agricultural practices that are inappropriate to the fragile landscape causing such problems as accelerated soil erosion. Many farmers have replaced traditional varieties of rice and maize with modern varieties including GM maize varieties. In more recent years, farmers have adapted labour saving herbicide technology that has encouraged maize planting in steep slopes. The adoption of Roundup Resistant varieties has led to the gradual replacement of the traditional varieties, and may result in introgression through gene flow to the traditional maize. Communities are aware that native rice and maize varieties command a high price in two nearby major urban areas but they cannot yet take full advantage of this because of the low volume of production and high transport costs.

90. In Ifugao, the situation is similar. In the target municipality of Hungduan, community members reported that low yielding traditional rice varieties are no longer planted by many farmers, leading in the year 2000 to the loss of Inawi, Imbayak, and Kam-nga traditional varieties. This trend has accelerated dramatically with the advent of the Green Revolution, notably in rice, maize, mung bean, eggplant, tomato, squash, bottle gourd, bitter gourd and okra. Moreover, crop replacement is observed in traditional rice (with oil palm, rubber, GM maize) and abaca (export banana).

### ***Erosion of traditional knowledge and ABD management systems***

91. Studies conducted during the implementation of the GIAHS project, as well as PPG studies, indicate increasing concerns that biodiversity friendly knowledge is not being passed on adequately and no longer pervasively practised, with negative implications for the dynamic conservation of ABD. Increasing emphasis on tourism also indirectly threatens ABD in Lake Sebu. In many areas near the lake, the establishment of infrastructure to attract tourists has pushed farming to more marginal areas.

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<sup>20</sup> Region XII (formally known as Central Mindanao), located in south-central Mindanao, comprised of four provinces (South Cotabato, Cotabato, Sultan Kudarat and Sarangani) and General Santos City.

92. Traditional knowledge is also in many cases failing to evolve adequately to changing circumstances, such as those described below, and to guarantee the maintenance of ecological functioning in agroecosystems. In the *kaingin* slash and burn systems within which much of the target ABD is produced, for example, levels of intra- and interspecific ABD are not necessarily sufficient to ensure the resilience and stability of the systems. Since most of the IPs still practises the *kaingin* system, an alternative slash and burn (ASB) method that is culturally sensitive but environmentally acceptable is required, that would enhance availability of water in the upland agricultural system.

93. In Ifugao, youth in general display limited willingness to maintain rice terraces, because of the association of this task with hard labour and low incomes. Anecdotal information in two of the target barangays indicates limited interest in studying agriculture at college.

94. These phenomena are strongly determined by processes of demographic and social change, which undermine the social capital on which the maintenance of traditional varieties depends. In the target areas, agriculture is predominantly traditional terrace farming in colder high elevation areas. The rugged topography limits the arable land area to age-old terraces inherited throughout the generations. This has promoted the outmigration of people to warmer and wider lowland areas where farming is relatively much easier. The migration of many upland farmers to low-lying areas to grow modern varieties reduces labour availability, especially for labour-intensive tasks such as the repair of dikes that needs to be carried out every season in localities such as Hingyon and Hungduan: the practice of labour-sharing for the repair of canals has diminished, and subsidies are now needed. In both target municipalities in Ifugao, traditional nutrient management measures are not sustained, in part because of perceived high labour requirements.

95. Most children see opportunities outside the farm as a way to uplift the economic conditions of their family, so most of them study or get employed in the cities. These factors limit the intergenerational transfer of indigenous knowledge systems in farming.

96. Increasing populations also have led to conversion of some terraces into residential areas or vegetable gardens. Recent trends in land uses such as intensive gardening (often with chemicals) and non-farm work opportunities such as mining and tourism also offer alternatives to rice terrace maintenance.

### ***Pests and diseases***

97. ABD in the Philippines is continuously threatened by the inadvertent introduction of exotic pests and diseases. The genetic diversity that has developed or evolved in the country in both indigenous and adapted crop species has severely diminished due to pest and disease infestations. Some notable examples are the drastic reduction in yield and the concomitant economic losses due to the tungro disease, the brown plant hopper and the emerging black bug infestation in rice; the collapse of the local papaya industry and loss of local papaya diversity due to the papaya ring spot virus; the outbreak of the coconut scale insect and *Brontispa* infestation threatening the coconut agroecosystem and its contribution to the Philippine economy; the wipe out of citrus genotypes due to the tristeza virus; the fruit and shoot borer in eggplant; the little leaf and mosaic viruses and the “namamarako” syndrome in local cucurbits like bitter melon, sponge melon and bottle melon; the feathery mottle virus of sweet potato; and the threat of erosion of abaca and banana diversity from banana bunchy top virus, banana mosaic virus, fusarium wilt and the sigatoka disease. Pests like giant earthworms destroy the terrace walls of rice farms. In 2012-2013, pest infestation greatly reduced harvests in Hingyon, limiting the amount of seeds available for the next planting. It appears that aromatic traditional rice varieties are preferred by rats and some insects. Rats are one of the major pests of rice in storage. Making sure that the dried rice seed is stored at a higher elevation is a common technique to avoid rat infestation.

### ***Natural disasters***

98. Natural disasters such as volcanic eruptions, typhoons, tsunamis, and earthquakes can damage or totally destroy the habitat as well as the diversity of the crop species. In 2010, the traditional rice variety, Ayuhipan, was lost due to a typhoon that hit Hungduan, and drought affected rice harvests in some barangays in Hingyon. The cataclysmic eruption of Mount Pinatubo, meanwhile, has led to the total loss of the indigenous diversity of root crops and vegetables that was cultivated by the native populace around the area.

### *Climatic change and variability*

99. Environmental disturbances also affect the diversity of crop species in the country, as the altered conditions become unfavourable for the indigenous plant populations. For instance, prolonged drought exacerbated by the El Niño phenomenon in 1983 directly affected the on-farm maintenance of many traditional varieties of crops including rice. The impending large-scale effect of climate change is expected to negatively impact ABD in the country. Strong winds or “buhawi” were one of the main threats mentioned by rice farmers in Lake Sebu. This causes lodging or complete crop failure when it occurs prior to grain filling. Despite these threats, the maintenance of diverse traditional varieties in fact provides farmers with an effective strategy for coping with the impacts of climate change, compared to a dependency on a limited range of HYVs.

100. PPG studies confirmed the specific threats affecting ABD in the target areas, as summarized in Table 3.

**Table 3. Threats to ABD in Hingyon and Hungduan (Ifugao) and Lake Sebu (South Cotabato)**

Site	Biological	Natural calamities	Socio-economic	Technological
Hingyon	<ul style="list-style-type: none"><li>- Pests and diseases</li><li>- Giant earthworm</li></ul>	<ul style="list-style-type: none"><li>- Drought</li><li>- Typhoon</li></ul>	<ul style="list-style-type: none"><li>- High cost of farm inputs</li><li>- Outmigration, especially of younger people</li><li>- Younger generation no longer interested in farming</li><li>- High labour cost</li><li>- Acculturation</li></ul>	<ul style="list-style-type: none"><li>- Displacement of traditional varieties by HYVs including hybrid rice</li><li>- Low yield</li></ul>
Hungduan	<ul style="list-style-type: none"><li>- Rat infestation</li><li>- Giant earthworm</li></ul>	<ul style="list-style-type: none"><li>- Typhoons</li></ul>	<ul style="list-style-type: none"><li>- Outmigration</li><li>- Poor road conditions in the key grain areas, including transport cost of inputs/harvest</li><li>- High cost of inputs</li><li>- High labour cost</li><li>- Acculturation</li><li>- Aging farmers</li></ul>	<ul style="list-style-type: none"><li>- Low fertility</li><li>- Abandonment of terraces due to lack of irrigation</li><li>- Variety displacement</li><li>- Low yield</li></ul>
Lake Sebu	<ul style="list-style-type: none"><li>- Pests and diseases</li><li>- Rat infestation</li></ul>	<ul style="list-style-type: none"><li>- Drought</li><li>- Strong winds</li></ul>	<ul style="list-style-type: none"><li>- Tourism- establishment of infrastructure near lake</li><li>- Acculturation</li><li>- Aging farmers</li><li>- Shifting cultivation</li><li>- Loss of IKS</li></ul>	<ul style="list-style-type: none"><li>- Low yield</li><li>- Crop replacement</li><li>- Variety replacement</li><li>- Gene flow to traditional varieties</li><li>- Long maturity</li></ul>

### **1.7 Baseline investments and incremental reasoning**

101. The ABD baseline scenario presents a particularly suitable situation for a GEF intervention. ABD in the Philippines faces intense threats (described in section 1.6), a situation which is recognized by an increasing number of institutional actors and reflected in a number of key policy instruments (see section 1.12); at the same time, there are a number of clearly definable barriers which are hindering the effective application of ABD conservation strategies, yet which are of a magnitude and nature than lends them to being addressed through a focused and incremental investment of GEF funds. Conditions for GEF funds to be used effectively and incrementally are furthermore promoted by the existence of a solid baseline of investments, which on its own however is not sufficient to ensure the conservation of globally important ABD.

102. The baseline situation, into which the project will be inserted, is characterized by a strong focus, particularly in the programmes of the Department of Agriculture (DA), on food self-sufficiency and

the promotion of high value crops, with a predominant emphasis on lowland areas, and relatively little on upland agricultural areas or on ABD which is mostly located in such areas<sup>21</sup>.

***Agricultural development initiatives:***

103. The Department of Agriculture's **Agri-Pinoy Rice Program**, with an annual budget of more than US\$60 million, is one of the central building blocks of agricultural development within the framework of the Philippine Development Plan for 2011-2016 and includes several aspects that can be directly leveraged by the GEF intervention. Especially the program's activities on rice production support for increased resilience as well as the market development services that are supported by the program can be directly linked to the GEF project's envisioned activities. In its current form, the programme does not emphasize ABD and traditional varieties, opening opportunities for the GEF project to supplement existing initiatives and to gear them specifically towards ABD conservation. The indicated in-kind co-financing from the Department of Agriculture will in part be associated with initiatives under this programme.

104. The DA has also invested in reducing poverty and improving the livelihoods of poor rural women and men in indigenous communities in the upland areas of the Cordillera Administrative Region through its second **Cordillera Highland Agricultural Resource Management project (CHARMP2)**<sup>22</sup>. CHARMP2 targeted 16 municipalities within Abra, Benguet and Mountain Provinces, with the objectives of (i) increasing the household income of poor farmers through sustainable agricultural development; and (ii) enhancing the quality of life of targeted communities by improving land tenure security, food security and watershed conservation. The first phase of the project had provided better access to markets through improved roads and footbridges. This led to greater transportation of available products. Cropping intensity increased and idle areas were developed as a result of the construction and rehabilitation of community irrigation. Agroforestry was also encouraged. CHARMP2 constitutes another important element of the baseline, particularly through its support to market access, which is essential for the success of any market-based incentive schemes for ABD conservation; it did not, however, specifically target ABD or associated traditional management systems.

105. Another element of the baseline that does recognise the importance of traditional varieties is the US\$291,410 **Heirloom Rice Project**, which is an initiative of Department of Agriculture (DA) and the International Rice Research Institute (IRRI) to enhance the productivity and enrich the legacy of heirloom or traditional rice through empowered communities in unfavourable rice-based ecosystems<sup>23</sup>. The objectives of the project are to: characterize existing heirloom or traditional varieties or landraces and modern climate-resilient varieties in selected provinces into varietal products; improve resistance to disease and tolerance of environmental stresses of selected heirloom varieties; enhance local capacity and enterprise-building in farming communities and identify opportunities for adding value and creating market linkages for heirloom or traditional rice varieties. The project sites are in Cordillera Administrative region in the North Luzon and the Arakan Valley, North Cotabato in South Philippines. The Heirloom Rice Project is however rice-specific and does not have the broad and integrated focus of the present project on whole farming systems, agroecosystems and landscapes.

106. The **Upland Rice Development Program** 2011-2016, with a budget of around US\$226,000, is a community-based project and mainly relies on the farmer's knowledge, particularly on the production aspects of traditional rice varieties. It aims to promote sustainable farming systems and practices in the upland farming communities that will help farmers increase their yields and income; develop a sustainable models of locally organized Community-based Seed Banks (CSB) and a viable seed production system; develop the capacities of LGUs and Upland Farmer Organizations in the implementation of Upland Rice Development Program; develop sustainable institutional collaboration and support in the planning and implementation of development program and interventions; and create and manage a data-based system in upland rice production in support to program planning and

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<sup>21</sup>Most Lands above 18% are legally classified as forest lands (mostly above 18% slope).

<sup>22</sup> [http://www.ifad.org/evaluation/public\\_html/eksyst/doc/prj/region/pi/philippines/philippines07.htm](http://www.ifad.org/evaluation/public_html/eksyst/doc/prj/region/pi/philippines/philippines07.htm)

<sup>23</sup> IRRI-DA. The Heirloom Rice Project. Raising productivity and enriching the legacy of heirloom or traditional rice by empowering communities in unfavorable rice-based ecosystems. [http://books.irri.org/Heirloom\\_brochure.pdf](http://books.irri.org/Heirloom_brochure.pdf)



formulation of interventions and strategies. The overall goal of the programme is to augment the country's rice supply and ensure food sufficiency of the upland farming communities.

107. Another relevant development is the intensifying attention to organic food products and corresponding agricultural practices. In 2010, the Government of the Philippines enacted the Philippines Act on Organic Agriculture (Rep Act 10068) and later launched the related **National Organic Agriculture Program (NOAP 2012-2016)** with the objective that at least 5% of the country's agricultural farm areas practice organic farming by 2016. A minimum of 2% of the Department of Agriculture's annual budget are earmarked for the implementation of NOAP. While not specifically targeting the conservation of ABD, the goals and mechanisms of the NOAP are complementary to the objectives of the proposed GEF project. The NOAP foundational support to premium market for organic food products yields crucial input for the market-based activities envisioned under component 2 of the GEF project. In addition, initial experiences with the certification of organic products under the NOAP will be of great value to inform the GEF project's certification activities.

108. The Ifugao PLGU also achieved considerable progress in starting an organic agriculture program. It recently received a recognition award of PhP3 million (US\$70,000) from the DA for its advocacy efforts among its municipalities. South Cotabato has also recently proclaimed passed organic agriculture ordinance for which it allotted PhP5 million (US\$ 200,000) for the initial years of operations. South Cotabato will be hosting the 2015 National Organic Agriculture Conference partly in recognition of its efforts to promote OA actively. The Province in collaboration with the Municipality of Lake Sebu also leads a major effort to maintain the environmental integrity of the Lake Sebu itself.

#### ***Agricultural products and value chains***

109. The Department of Trade and Industry (DTI) assists in promoting agricultural commodities that are part of national investment priorities. Particular attention has been given recently to commodities requiring major processing such as coffee and tinalak (cloth woven from abaca or Manila hemp, among others). It is establishing the system for Geographic Indicators: tanoak from abaca, which is produced in South Cotabato, is being considered as one of the top 10 commodities to be covered by this system. The DTI is also tasked to implement a recently enacted law requiring the establishment of Negosyo Centres (Business services centres) in each town which will serve as one-stop service centres for local micro, small and medium industries.

110. There is also a solid and diverse baseline of activity, involving both public and private sector actors, in support of market-based incentives for the maintenance of ABD. The various ABD-related Eco labels that are in existence to date, and with which the project may work, are summarized in APPENDIX 13.

#### ***Natural resource management and forestry development***

111. The proposed project sites largely form part of headwaters of river basins considered as national priority by the DENR, which carrying out major investments in natural resource management and forestry development.

112. The US\$154 million **Integrated Natural Resources and Environment Management (INREM) Project** (supported in part by a US\$20 million loan from IFAD<sup>24</sup>), will aim to reduce and reverse environmental degradation in river basins and improve livelihoods through the provision of ecosystem and biodiversity services, with a focus on river basin/watershed management and investment planning; smallholder, commercial and institutional investments; and capacity strengthening for river basin management.

113. The **National Greening Program (NGP)**<sup>25</sup>, which involves the Departments of Agriculture, Agrarian Reform and DENR, is providing start-up technical and financial support for reforestation to LGUs and community organizations in on-site reforestation programs in degraded areas identified by communities and LGUs (reflecting its cross-sector nature, half of the targeted trees to be planted under

<sup>24</sup> <http://www.ifad.org/operations/pipeline/pi/phl.htm>

<sup>25</sup> <http://www.denr.gov.ph/priority-programs/national-greening-program.html>

the program are forest tree species intended for timber production and protection, and half are agroforestry species). Between 2010 and 2013, the budget allocation for the NGP grew by an average of 77% annually percent, reaching a total of US\$127,832,000 in 2013.

114. DENR is also investing in forestry development, through the **National Forest Program Facility**, which is assisting the country in strengthening the implementation of its Community Based Forest Management (CBFM) Strategy.

115. DENR, with JICA support, is also implementing the ten-year (2013-2023) **Forestland Management Project (FMP)**<sup>26</sup>, with a total budget of around US\$26,974,000. This aims to strengthen forestland management in three critical river basins through the implementation of collaborative and comprehensive CBFM strategies: the FMP aims to rehabilitate degraded forestlands in three critical river basins, improve forest conservation and socio-economic conditions of affected communities, contribute to disaster risk mitigation efforts in vulnerable areas and strengthen forestland management through community-based management strategies (empowering people's organizations, securing land tenure rights, enterprise development for food security and income and the development, conservation, protection and sustainable use of forestland resources).

116. These initiatives of central Government are complemented by LGU programmes: for example, South Cotabato PLGU is investing heavily in on-farm agroforestry promotion to support protection of the remaining forests in the Lake Sebu area. In the Cordillera Administrative Region, the DA CHARM Project initiated an “Evergreen Covenant” system for reforestation that involves the LGU, particularly the Provincial LGUs in a more intensive way.

117. Reforestation programs in the past have tended to be marked by lack of technical sustainability associated with poor on-site planning, inadequate species choices and delays in funding flows. More recently, reforestation plans have focused on increasing the proportion of on farm agroforestry, use of indigenous species and greater involvement of LGUs.

118. In the Cordillera Administrative Region (CAR), where the Ifugao rice terraces are located, there is increasing attention to “go back to the basics” and support existing indigenous forest management systems that have been maintained for centuries by indigenous peoples. Sustaining the systems has been a challenge lately because of increasing populations and changing preferences. The DENR and the NCIP have agreed to help strengthen these systems as well as for the DENR to recognize them as legitimate, decentralized forms of forest governance. Once fully recognized, indigenous governance will govern their protection and management with continuing support from government.

119. Still lacking in all of these initiatives, however, is an adequate recognition in these initiatives of the value and importance of ABD and the traditional management systems in which it occurs, and the integration of the forestry and agroforestry management models that are promoted with the traditional management practices (including off-farm elements) in such a way as to support the conservation of ABD.

### ***Livelihood alternatives***

120. A number of municipalities in the priority provinces envision the promotion of ecotourism. There is a desire to promote sustainable agriculture as one of the pillars of the envisioned ecotourism. There is recognition of (and emotional attachment to) the cultural importance of traditional varieties of rice and other indigenous species in their places. However, the actual investment programs and activities, at least under the LGU agriculture sector, tend to follow the same pattern of activities promoted by regular national programs such as the promotion of HYVs with the corresponding use of agricultural chemicals. Safety nets to address the rapid influx of GMOs in some areas are also currently lacking. In South Cotabato, the PLGU has launched an aggressive eco- tourism program that builds heavily on the cultural heritage associated with the ethnic groups in the province including the T’boli and the woven crafts based on the endemic fibre crop species *Abaca (Musa textilis)*. The ecotourism program also builds on the natural wonders of Lake Sebu (7 waterfalls and a zip line). A certain portion of the ecotourism enterprise is being allocated to host communities and LGUs.

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<sup>26</sup> <http://forestry.denr.gov.ph/fmp.htm>

### ***Research and analysis:***

121. Providing a necessary prerequisite for meaningful ABD activities, the existing scientific knowledge and related research capacity at the national level is extensive. The Bureau of Agricultural Research (BAR), one of the project's executing partners, holds a key function in coordinating research activities that relate to and can be leveraged by the GEF project. Some of the most relevant examples include the *Evaluation of genetic identity, grain quality profile and nutritional value of selected traditional rice varieties* and several other projects focusing on traditional rice varieties conducted by the Philippine Rice Research Institute; studies on the *Commercialization and product development of Black Rice and other traditional Rice Varieties* which entails crucial information for the envisioned market-based mechanisms under the GEF project; the *Collection, Characterization and Seed Multiplication of Traditional Rice Varieties* conducted by the Ilocos Integrated Agricultural Research Centre (ILIARC); as well as a large series of research projects on *Community-Based Participatory Action Research in the Rice-Based Farming Systems* coordinated by BAR and implemented by several research organizations. The indicated in-kind co-financing from the Bureau of Agricultural Research will be associated with these described initiatives. On-going BAR initiatives directly related to traditional rice varieties amount to an investment of approximately US\$1.3 million.

122. Equally relevant to the envisioned project activities are the extensive research efforts of the Plant Genetic Resources Division at the University of the Philippines, which includes an ongoing research program analysing the *Approaches of farmers to maintain agro-biodiversity on-farm and factors influencing their decision-making regarding the conservation of agro-biodiversity* using extensive surveys of farming communities. These efforts yield crucial data to inform the detailed design of project approaches during the project preparation phase. In sum, research on the scientific characteristics of ABD in rice-based farming systems is extensive, putting the proposed ABD conservation activities on a solid scientific basis. The indicated in-kind co-financing from the University of the Philippines and other Research Institutions will be associated with these research initiatives. The volume of the directly relevant initiatives amounts to US\$1.3 million for 2012-2017.

### ***Indigenous education***

123. The Department of Education (DepEd) has launched an Indigenous People Education (IPED) program. Under IPED, indigenous knowledge systems (IKS) will be incorporated in the curricula of schools in communities that serve IP populations. Implementation of the IPED program will be simultaneous to the implementation of a bigger program referred to as the K2-12 Program. It will rationalize and increase the number of years of basic education. This initiative will constitute an important baseline for the insertion, with project support, of ABD issues into educational programmes in the target provinces.

### **Incremental/additional reasoning**

124. The financial resources provided by the GEFTF will serve to remove crucial barriers to the conservation of globally significant ABD in the Philippines identified in section 1.8. If these barriers are not addressed swiftly, the described baseline efforts are highly likely to achieve too little, too late in order to prevent continued ABD loss ultimately leading to the extinction of numerous indigenous species and a significant degradation of global ABD. With ABD in the Philippines under intense pressure, the incremental step financed by the GEFTF can prevent biodiversity loss by helping the Philippines to free the potential and seize the opportunities already inherent in the baseline scenario.

125. A solid basis in terms of knowledge and research combined with an initial momentum at the political level already exists that can be leveraged for the enhancement of ABD conservation. In addition, the baseline includes a spectrum of ongoing activities that are not explicitly targeting ABD, but feature overlapping objectives and create relevant capacity and experiences. These on-going initiatives are associated with the indicated co-financing provided by different project partners. The GEF project will help to leverage these baseline features and connected co-financing resources and make them usable for improved ABD conservation. GEFTF resources will simultaneously help to remove the identified roadblocks with respect to existing policies, legislation and institutional capacity and demonstrate ways in which baseline activities can be turned into effective and efficient conservation action on the ground. By channelling and adjusting mechanisms that are already in place,

the GEFTF investment in the pilot sites will illustrate approaches to turn the underappreciated value of ABD into economic profits for local farmers.

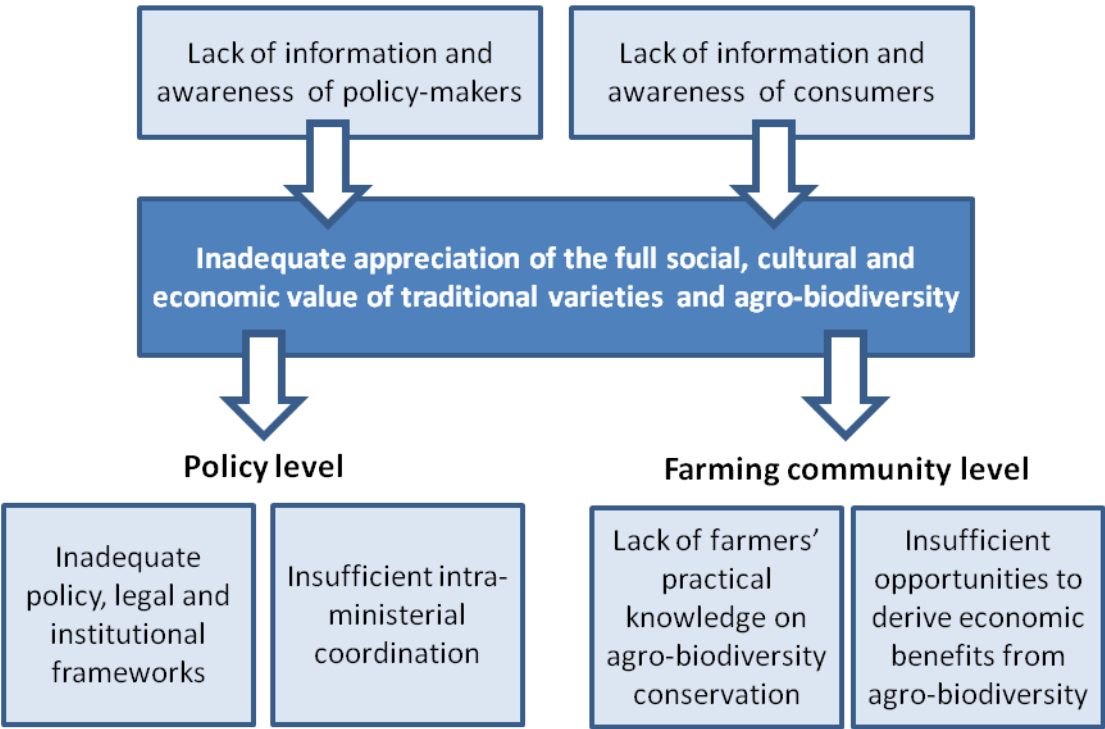
126. The explicit engagement of the private sector in this project through market-based partnerships with local communities included and described under component 2 is envisioned to open additional sources of private sector co-financing before CEO endorsement. This will also aid efforts to increase the proportion of cash co-financing in comparison to in-kind co-financing by the end of the project preparation phase.

127. Existing investments in sustainable rural development as well as efforts to promote the conservation and sustainable use of biodiversity provide not only crucial co-financing to be leveraged by the proposed project, but also create promising entry points and opportunities for the implementation of project activities. The envisioned activities will critically complement, adjust and improve ongoing government programs and consolidate fragmented efforts related to ABD into a coherent and strategic approach to ABD conservation. Given the highly suitable baseline situation and favourable conditions for replication and scaling up, the incremental GEF investment is likely to achieve significant Global Environmental Benefits well beyond the scope of the actual project.

**1.8 Remaining barriers to the removal of the threats**

128. The principal underlying barrier to the effective conservation of ABD in the Philippines is the inadequate appreciation of the full socio-economic and cultural value of traditional varieties. Benefits derived from ABD include superior nutritional value, cultural significance, and higher resilience against shocks like pests, invasive alien species, and extreme weather events. However, lack of information and awareness of these benefits among policy-makers as well as consumers leads to an incorrect valuation of traditional varieties and ABD. Consequently, the value of ABD is neither sufficiently reflected in market prices and consumer appreciation, nor appropriately taken into account at the political level. In consequence, inadequate valuation of ABD creates secondary barriers that effectively prevent stakeholders from addressing the challenge of ABD loss.

**Figure 3. Barriers to effective agro-biodiversity conservation**



129. Barriers to the conservation of ABD operate at two levels:

## 1) Structural level

### **Development paradigms and policy, legal and institutional frameworks that marginalize ABD**

130. The threats mentioned above are complemented by the presence of economic development paradigms, driven by goals of food sufficiency and agricultural modernization that have involved the spread of modern, commercial agriculture and intensive high-input production systems using modern, genetically homogenous HYVs. Limited value has been attached to ABD, in particular traditional crops, and places little emphasis on its conservation: native varieties and breeds are not normally included in the mainstream production systems promoted by such programmes, and the pervasive application of such programmes in fragile upland areas where most of ABD resources reside has brought mixed results: short term productivity gains were achieved concurrent with unintended adverse effects on soil productivity and increases in pest incidence, together with the loss of traditional varieties. Furthermore, until recently traditional varieties of rice, maize, root crops, vegetables etc. have long been neglected in agricultural research.

131. Certain policies hinder the on-farm conservation of ABD resources by farming communities. The project will focus on the following policy issues, with which it is expected that results will be obtainable during the 3 year project period:

#### ***1) Costs of organic certification***

132. The *National Organic Agriculture Act (NOAA)* establishes the system for certification of organic agriculture (OA) produce. It supports the localization of the organic movement through the creation of local organic agriculture councils that will promote OA in local agriculture. The main concern is the perceived high costs of the third party certification system. If unaddressed, this would be a lost opportunity for higher incomes for farmers who have been growing traditional varieties organically for decades /centuries.

#### ***2) Lack of implementing mechanisms for the Plant Variety Protection Act***

133. The Plant Variety Protection Act provides for the creation of a community registry so communities may register their traditional varieties to avoid misappropriation. In practice small farmers who produce traditional varieties have yet to benefit from the system, partly due to the lack of implementing mechanisms to do so. As a consequence, growers are vulnerable to misappropriation of their varieties by unscrupulous parties.

#### ***3) Limited coverage of crop insurance***

134. The laws on crop insurance currently cover only crop varieties recommended by the National Seed Industry Council (NSIC) which is slanted towards high yielding inbred varieties and hybrids that have been tested nationwide. Growers of traditional rice varieties cannot yet avail of crop insurance even if they are exposed to the same risks of disasters (such as typhoons, floods and pest epidemics) as farmers growing HYVs.

#### ***4) Inadequate consideration of ABD in protected areas***

135. Under the National Integrated Protected Areas Act (NIPAS), the identification of Key Biodiversity Areas (KBAs) and the planning of protected area management are based on current protocols for the characterization of biodiversity, which are slanted to forest, inland waters and marine based biodiversity, and do not normally include ABD. This deprives ABD resources from some form of protection as well as livelihood opportunities that may be made possible from public investments in environmental protection and overall biodiversity conservation.

#### ***5) Inadequate recognition of indigenous knowledge***

136. Existing legislation allows indigenous groups to establish Ancestral Domain Support Services Plans (ADSSP). However, current regulations for the preparation of such plans do not support the recognition, documentation and protection of ABD resources as part of Indigenous Knowledge systems and practices (IKSP). This means that succeeding generations of both farmers and policy makers do not get the chance to become fully aware of the value of traditional knowledge systems in the conservation of ABD resources and may, as a result, favour introductions of modern varieties.

#### ***6) Inadequate provision for agricultural heritage***

137. Under the National Cultural Heritage law, nationally important agricultural heritage systems that are high in ABD can be potentially declared as cultural properties. If declared as such, the communities concerned attain status that confers certain privileges favouring conservation and adaptation. The current operating guidelines for the declaration of cultural properties or heritage zones do not yet include agricultural heritage. Without these guidelines, communities are not able to attain status that protects them from arbitrary land conversion and at the same time offers opportunities for ecotourism or geographic branding of agricultural products to attain better farm gate prices.

#### **Insufficient human resource capacities in key institutions**

##### *Central Government*

138. Accordingly, under the arena of Biodiversity conservation, A National Capacity Self-Assessment (NCSA) in 2007 Philippine line agencies are “lacking to severely lacking” in all the 4 dimensions of capacity (human, financial, organization and public support) of relevance to biodiversity conservation and the implementation of the CBD. Among the 4 dimensions, the comparatively higher capacity is reported in human resource capacity: the capacity to prepare plans, establishing protected areas and launching educational programs were considered among the tasks that agency personnel has the potential to do well compared to other tasks.

139. National agency professionals have made major contributions in crafting innovative programmes and projects, including training programmes, but their abilities to implement programmes are challenged by neither lack of financial resources nor additional personnel. This is not only because ABD is a low priority at the moment; the overall public expenditure pattern for biodiversity as a whole has really been very low to begin with. More recently however there have been steady substantive increases in budgetary allocations to biodiversity due to a funding “windfall” resulting from anti-corruption and budgetary reforms under the Aquino administration.

140. National government personnel, particularly those dealing with agriculture, natural resources, science and technology are generally familiar with the basic concepts of biodiversity and the strategies and tools to conserve this. However, knowledge on ABD itself is very minimal. Many agriculture professionals who have some familiarity with the issue associate traditional varieties and other indigenous crops with “backward practices in agriculture; a few regard it as important as a potential support to crop breeding for climate change adaptation; while some professionals in the health sector regard the icons of ABD (e.g. organically grown heirloom rice) as important elements of an emerging movement towards healthy lifestyles. Only a very few are familiar with the concepts of heritage agriculture.

141. Professionals in both government and non-government organizations are conscious of many failed programs of the past especially those dealing with the indigenous peoples. In South Cotabato, professionals in the NGA offices (who are usually not indigenous themselves) expressed an interest in obtaining a better understanding of IP cultures and decision making systems, in order to help them prepare more effective support programmes. Those who plan ecotourism programs expressed a wish to ensure that an appropriate balance is achieved with the promotion of ecotourism, so that it does not commercialize indigenous cultures.

142. The continuing challenge of most agencies at national, regional and sub-regional levels is the sheer lack of personnel with regular/permanent appointments who at the same time are generally open to many of the innovative tasks contemplated for ABD conservation during and beyond the project. These types of personnel are currently overloaded with a myriad of other tasks, usually by foreign assisted projects.

143. The government-wide Rationalization (RAT) Plan of personnel under the Civil Service will pose a significant (though transitory) management challenge to any foreign assisted project in the next 3 to 5 years. Under the RAT Plan, organizational structures will be streamlined and major staff movements are expected to happen. This raises the possibility that the personnel with whom the project works with initially may be changed in midstream, requiring a new wave of orientation.

144. In addition to the above, personnel support systems can pose a challenge to human resource development programs. For instance, the management of training courses usually does not provide for post-training support that would enable the diffusion of new concepts from the trained individual to his team/agency, especially if the priorities of agencies remain unchanged for a long time. Thus, training interventions often have minimal impact.

#### *Local Government*

145. The NCA referred to above also found LGUs to be lacking in human, organization and public support solicitation capacities, and severely lacking in financial capacities. The study also found relatively good capacity to prepare local plans.

146. The Agricultural Training Institute (ATI) has recently described the current status of extension systems in the Philippines, in particular the challenges facing extension workers: each such worker is normally responsible for at least 300 farmers, and receives a monthly salary of only around US\$250; extension workers in some LGUs are demoralized because of limited opportunities for career growth and the lack of priority attention given to agriculture in this category of LGUs.

147. Among the MLGUs in the project sites, the number of extension workers is generally less than 50% of the ideal; the number of workers is not sufficient to cover even the existing national programmes. LGUs sometimes address this situation through improvisation, by engaging new graduates on short term, 3 month job orders; this is not ideal for accumulating relevant knowledge for the institution. Government projects have also tried tapping farmer trainers for specific programmes.

148. Based on a rapid self-assessment, Municipal LGU Teams are generally familiar with the theoretical aspects of biodiversity and strategies for conservation both for forest level and farm level interventions. Ifugao LGU staff members are skilled in recognizing their traditional varieties. Many are rice terrace farmers themselves or are part of a strong tradition of rice terrace farming. However, skills for assessments and implementation planning and management for ABD are needed, as well as more effective linkages to niche markets. Provincial planning staff members express interest in having better access to, and improved capacity for the management of, information and experiences generated by the various programmes and projects started by both NGAs and NGOs. There is also a need for support in terms of knowledge of policies and rules for cultural heritage management, including the management of the documentation of indigenous knowledge systems

#### **Insufficient intra-ministerial coordination:**

149. ABD loss and its effective prevention is an inherently cross-sectoral challenge, touching on many different policy areas. Current inter-ministerial coordination mechanisms at national and local level do not reflect this fact and are largely insufficient to tackle the cross-cutting dimensions of ABD conservation. There is at present no coordinated national programme on, or sustained funding for, ABD conservation. The different institutional activities on ABD conservation - especially on in situ on-farm conservation - in the country are operating independently of each other, mostly on project basis. This applies to both government- and non-government-led activities. This situation is partly due to the fact that most of the laws enacted to protect ABD have insufficient or no corresponding funds for their implementation. Hence, activities and projects become opportunistic and ad hoc as available funds would allow, paying little attention to complementation of all resources for ABD conservation. This makes it difficult to coordinate, consolidate and sustain whatever efforts to mitigate the loss of ABD are under way in the country.

## **2) Farming community level:**

#### **Incompatibility of local policies and initiatives with ABD conservation**

150. Government-sponsored forest protection and reforestation schemes, including the declaration of many parts of Lake Sebu as protected areas, have been generally beneficial for the overall conditions of landscapes and river basins, but have had mixed implications for ABD. Due to perceptions of environmental damage, they have placed restrictions on traditional swidden (slash and burn) agriculture, which is a low cost practice for land preparation, weed control and nutrient enhancement and forms an integral element of traditional ABD maintenance practices. Also, traditional forest based

livelihood practices have not been effectively considered in reforestation programmes, some of which have used exotic species that are not compatible with traditional resource management systems.

151. Outmigration, high labour costs, weakening of social and cultural capital, low prices, low yields and long maturity times are cited above among the underlying causes of the progressive abandonment of traditional production systems based on ABD, with emphasis being placed instead on their replacement by modernised systems that are considered to be more efficient and profitable, which however result in the displacement of ABD, may not be appropriate to local conditions and may have higher input cost requirements. To date, little attention has been paid to supporting the adaptation of traditional management systems to these evolving and challenging circumstances.

#### **Profitability and productivity constraints**

152. Families tend not to regard traditional rice farming as profitable, and growing them is primarily for consumption and as a source of emergency cash. There is some indifference to introduced innovations that actively improve productivity, such as organic fertilization and crop diversification. Traditional nutrient management measures tend to be deemed sufficient, when pitted against labour-demanding nutrient management recommendations, but farmers appear mostly to be concerned about environmental stresses (e.g. damaged terraces due to earthworms and excessive runoff), because they make farming harder than it already is.

153. The intrusion of exotic alien and invasive species (both agriculture and forestry-related) is further increasing labour demands. Other problems include the low yields of some traditional varieties (among the implications of which is the difficulty of meeting the volume requirements of markets) and the long time they take to reach maturity.

154. In the Lake Sebu area, the rough topography has meant that modern agricultural technologies successfully applied in the lowlands have had limited application in the municipality; nonetheless many farmers have adopted modern rice varieties but with increasing use of chemicals, a growing concern since the area is in the headwaters of the Allah Valley River Watershed. Opened forest lands are being transformed into either GM maize farms or to various forms of perennial tree crop plantations (such as rubber and coffee). Recent programs have introduced specific innovations for sustainable agriculture but the pace of adoption has been slow because of the perceived labour and capital requirements

#### **Inadequate valuation and adaptation of traditional knowledge**

155. Knowledge on effective farming practices to maintain and enhance ABD has already been lost in many farming communities and much of the still-existing knowledge is fragmented and not readily accessible. The lack of an adequate process to systematically document existing and newly emerging knowledge, validate its scientific basis, and disseminate it in local farming communities, represents a major barrier to ABD conservation.

156. Dynamic ABD conservation does not mean a static approach to conservation as mere preservation, but a dynamic process that includes the continuous creation and enhancement of ABD. Similarly, there is a need for traditional knowledge to adapt to changing circumstances, in order to avoid it being irrelevant in the face of new challenges. Existing farmer support programmes tend to focus on exogenous solutions or on the static preservation of traditional knowledge, without seeking or managing to bridge the two by helping farmers to define how to adapt their cultural capital without losing its intrinsic value.

157. Previous and ongoing government agricultural and reforestation programs are introducing innovations to help farming communities adapt to improve productivity and better adapt to climate change. Anecdotal information however indicate that farmers usually express interest in many innovations, attend trainings but only a number adopt and sustain them. A critical mass of adoption of improved technologies has evaded many well-meaning agricultural programs

#### **Marginalisation of in-situ ABD conservation from the agendas of local and regional institutions**

158. There has to date been limited recognition or development of *in situ* on-farm approaches to biodiversity conservation, focused on knowledge systems of indigenous crop species, among local and regional institutions. This situation stems from the fact that for decades *ex situ* conservation methods



had prevailed nationally and internationally. During the last four decades, the understanding of ABD has developed from the recognition of the importance of genetic diversity, particularly for crops, with an emphasis on the ex situ conservation of genetic resources in the 1970s, with the result that PGR institutions in the country have not tended to focus on in situ on-farm conservation, with no systematic effort to conserve the traditional varieties and wild relatives of crops in situ. The formal and informal educational systems, likewise, do not pay due attention to in situ on-farm conservation, and only few scientists and researchers are trained on in situ on-farm conservation. This situation trickles down to local government units, which should have been the primary agents of sustainability of PGR conservation at the local level. However, the LGUs, too, have limited physical, financial and technical capability to conduct ABD conservation.

**Insufficient opportunities and capacity of local communities to derive economic benefits from agro-biodiversity conservation**

159. One of the goals of this project is to provide opportunity for the farming community to derive sufficient economic benefits from ABD conservation. On the supply side, farmers face a number of constraints to the generation of economic benefits from ABD. Farm mechanization is limited, as is access to credit for obtaining machinery. Productivity is constrained by low fertility and limited access to irrigation. The introduction of HYVs also contributes to low fertility due to the elimination or reduction of fallow periods: it also threatens organic production as there are farmers who produce traditional variety in one cropping followed by HYVs in the next cropping with inorganic chemicals. High labour cost and limited access to credit also affect production. Post-harvest losses are high due to lack of drying facilities; limited and inappropriate milling machines also contribute to losses, and polishing processes also increases the rate of rice brokenness, according to some respondents.

160. On the demand side, a key constraint is the dearth of information and awareness of consumers about the social, economic, nutritional and ecological value of traditional varieties and ABD. Previous studies show a potential for organic products such as traditional varieties of rice (e.g. Concepcion, et al 2008, Philexport) with annual industry growth rates of 10-20% and a price premium from 20-30%. This does not mean, however, that farmers are assured to derive sufficient benefits from producing these products as there are costs and other issues involved in producing and bringing these products to the market, such as the high costs of organic certification. Even if consumers are aware of the value of these products (e.g. through eco-labelling) and are willing to pay for a high price premium, productivity constraints, production and marketing costs may squeeze the income or economic incentives of farmers.

161. Farmers also have issues on storage facilities and processing centre, high marketing cost due to costly transportation and packaging materials and poor road conditions. They also mention problems of low buying prices, strict quality requirements (such as 90% full grain), and unreliability of markets due to undercutting of prices by other producers.

162. Inadequate drying facilities and customized milling machines were identified as factors that contribute to post-harvest losses and low quality of rice respectively. Rice Inc. requires 90% whole grain which is difficult to achieve for conventional milling machines. Hingyon was not able to avail of the customized milling machine available under the CHARMP2 program. The local government unit has not fully taken advantage of the support provided by this project.

***Box 1. Barriers to market insertion of environmental friendly products by small-scale enterprises: some experiences and lessons learnt***

There are several examples of initiatives that involved small scale producers of environmental friendly products from poor communities where lessons learned can be drawn from.

One example is the case of small scale banana growers who ventured into supplying Rainforest Alliance Certified bananas for a large exporter of banana (Unifrutti/Chiquita). While the banana growers were able to get a price premium for their certified bananas, it was difficult for the growers to adopt sustainable practices without the price premium. Also, it was found that if there is no price premium, it is important to determine if operational cost savings and intangible benefits can provide enough of a business case for farmers to adopt sustainable practices. Once a clear business case is

established, four project elements are required for successful farmer certification: technical training on certification standards, business training, financing, and availability of local auditing capacity.

The above case shows an example of small producers supplying to a multi-national company supplying to a lucrative export market that is willing to pay for eco-labelled products. This case is similar to Rice Inc. that sources traditional rice varieties from the provinces of Ifugao, Kalinga and Mountain Province through its consolidator Rice Terraces Farmers' cooperative. Farmers benefit from receiving price premium because of an exporter that is willing to pay for higher prices. This is primarily because the exporter is able to recover costs through the willingness of consumers to pay for higher prices for heirloom rice from the rice terraces (eighth wonder brand) in the export market. Retail prices that appear in Rice Inc. website [www.heirloomrice.com](http://www.heirloomrice.com) range from USD12.65 to USD14.3 per kg excluding freight cost. One marketing message is the preservation of cultural heritage.

Another example is the traditional rice varieties (brown and red) certified organic from OCCP sourced from a farmer's cooperative in Bicol (Pecuaría Farmers' Cooperative), packed and sold by Upland Marketing Foundation Inc. Brands used are Healthy Rice and Farms and Cottages (F&C). They were one of the first suppliers of traditional varieties to supermarkets and before 2010 captured the largest market share in supermarkets. The case showed that small producers can be successfully tap supermarkets but this will require extensive knowledge of both market and production environment including significant amount of investment and efforts for business incubation. Strengthening of organizations is also highlighted in order for them to meet deliveries and quality requirements. Collaborative management and involvement of producer organizations in the management of the chain is also important. Through the feedback mechanisms developed by UMFI, producer organizations are able to fine tune production in order to meet market requirements. However, due to various reasons including increasing competition, market share significantly declined since 2010 based on key informant interview.

An example of a private sector, the largest fast food chain in the country that is willing to help a group of small scale kalamansi producers applying natural farming technology system (NFTS) in Siay Zamboanga showed challenges that need to be addressed that are relevant to the project. First, business comes first before charity. While the firm is receptive (donated significant amount of cash to support small farmers), high transportation cost simply does not the partnership profitable for both parties. Based on four shipment trials using modified atmospheric packaging to meet shelf-life requirement, production and marketing cost per kilo was P18.45 while the buying price of the large fast food chain was at P18/kilo. Also, the farmers and the project provided assistance were not able to position the product as environmental friendly as majority of the farmers did not adopt pure NFTS. This was partly because of the lack of incentives in terms of higher price given the labour requirement in applying NFTS. It was also observed that empowering small producers is not just training. It is addressing strategic capacity issues that include production, technology, technical assistance, institutional development, etc. to meet market requirements. The role of producer organizations was also an important factor not only in meeting volume requirements but also in adapting to changing market conditions. The organization was able to venture into processing when the fresh market for kalamansi is not feasibility in certain months of the year (CRS 2009).

There are a number of important insights that can be gleaned from the experience of the second Cordillera Highland Agricultural Resource Management Project (CHARMP2) particularly in relation to market linkage development. One of these is the linkage of target beneficiaries with the private sector such as the Rice Inc. (Eight Wonder) and its consolidator – the Rice Terraces Farmers' Cooperative (RTFC). While there are some issues on the low buying price by Rice Inc. raised by the farmers, it cannot be denied that many farmers assisted by the project continued to supply to Rice Inc. This implies that given existing market options, Rice Inc. appears to be the best option. Market linkage development becomes simpler as Rice Inc. has a relatively stable market which provides incentives for them to purchase at higher price. According to RTFC, they have been attempting to supply to domestic markets but they cannot compete with other suppliers such as those from Mindoro which sells at P40 per kg.

Although not necessarily into developing eco-friendly products, there are other examples from experience of the Rural Microenterprise Development Program particularly in developing microenterprises or products that promote the environment (see success stories published in “More than Cash” 2013). The example of developing coffee products from Kalinga showed the importance of the quality of technical assistance or business development services (BDS) provided to small scale producers in terms of product development, packaging, market promotion and skills training. Like in other enterprises assisted by the project, combining BDS and microfinancing emerged to be an important success factor.

### **1.9 FAO’s comparative advantages**

163. FAO’s vision is “a world free from hunger and malnutrition where food and agriculture contribute to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner”. To realise this vision, FAO’s three global goals are: (i) eradication of hunger, food insecurity and malnutrition, progressively ensuring a world in which people at all times have insufficient safe and nutritious food that meets their dietary needs and food preferences for an active and health life; (ii) elimination of poverty and the driving forward of economic and social progress for all, with increased food production, enhanced rural development and sustainable livelihoods; and (iii) sustainable management and utilisation of natural resources, including land, water, air, climate and genetic resources for the benefit of present and future generations. FAO Strategic Framework (2010-2019) reinforces FAO’s commitment to sustainable agriculture, specifically highlighting the twin objectives of sustainable increase of agricultural production to reduce hunger and poverty in combination with the sustainable management and use of natural resources in the agricultural sectors.

164. Accordingly, FAO has supported a multitude of initiatives that enhance awareness, knowledge and understanding of crop-associated biological diversity providing ecosystem services to sustainable agricultural production; demonstrate methods for conservation, and sustainable management of ABD; and promote mainstreaming of ABD conservation in sectoral plans and policies. FAO’s long-standing work with the farmer field schools in the Philippines and across Asia is ideally suited for this project’s emphasis on enhancing and improving the knowledge base on ABD. Prominent examples for FAO’s strong role in this field of work are the International Treaty on Plant Genetic resources for Food and Agriculture as well as the FAO Commission on Genetic Resources, both with their Secretariat and Governing Bodies based in FAO. In these roles, FAO also actively contributes to CBD processes. For example, the CBD Cross-cutting initiative on biodiversity for food and nutrition (CBD decision VIII/23, para. 2) explicitly “extends its appreciation to the FAO [...]” for its contribution to the formulation of the work program.

165. Furthermore, FAO implements projects that test, demonstrate and promote appropriate technologies and methodologies and policy tools that could be replicated on a larger scale by other partners. Most importantly, FAO has for the last decade been implementing the global initiative on Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems (GIAHS), with the Philippines being one of the project’s pilot countries. The experiences gained and local management structures established with national and local partners in the context of the GIAHS initiative provide an additional comparative advantage for FAO to implement the proposed GEF project.

### **1.10 Participants and other stakeholders**

166. The Capacity Building Needs Analysis (CBNA) carried out as part of the PPG studies defined the key institutional roles required to support the implementation and sustainability of the ABD conservation model proposed by the project, by sector, and identified the institutional actors currently or potentially placed to carry out these roles.

## **Principal stakeholders by sector, level and type**

### **Central Government**

#### ***Agriculture sector***

167. The Department of Agriculture (DA) is the lead institution in the agriculture sector, and is also the focal point for the Commission on Genetic Resources for Food and Agriculture and the International Treaty on Plant Genetic Resources. As such, it has an obligation to “promote an integrated approach to the exploration, conservation and sustainable use of plant genetic resources for food and agriculture” and fulfil the objectives of the Treaty. DA, along with DENR (which is the focal point for the CBD), will join forces in promoting the *in-situ* conservation of ABD and traditional knowledge systems harboured in GIAHS and/or within the protected area systems and networks.

168. The DA does not have personnel beyond the regional level in view of decentralization of extension services to LGUs. It leverages its priorities through the range of grants provided to LGUs and subsidies for farmers. The DA Regional Field Units (RFUs) reflect the range of technical functions provided by staff bureaus. Responsibilities for the delivery of general agricultural extension services such as Farmer Field Schools or FFS have been passed to LGU Agricultural Offices. DA Regional Field Offices (RFOs) provide direct technical support to LGU Municipal Agricultural Offices of MAOs

169. The DA regional field units provide assistance in agribusiness analysis and planning and market promotion. Remote upland farmers growing traditional staple crop varieties (rice, maize) have not yet fully availed of these services due to sheer distance and general low volume of production. In the case of Ifugao, a farmer’s cooperative has served as integrator in a value chain process for heirloom rice exports initiated by a local enterprise (RICE INC)

170. Farmers who grow coffee and other perennial tree crops have better access to DA’s market services due to aggressive programmes for these commodities by both the DA and selected commodity based industries such as that for coffee. The Department of Trade and Industry (DTI) is also helping in developing and promoting market linkages, particularly for commodities needing processing such as coffee and cacao.

#### ***Natural resources and environment sector***

171. DENR functions have only been partially decentralized. The DENR is represented at the regional, provincial and district level (clusters of municipal LGUs). Allocation of forest resource uses remain with the DENR. Under the local government code, LGUs are expected to help enforce laws in natural resources protection and sustain the implementation of community based forest programs started by the DENR.

172. Part of Lake Sebu’s upland areas belongs to a Protected Area and are thus subject to rules set by the Protection Area Management Board (PAMB) of which the DENR is the secretariat. The PAMB for the Allah Valley Protected Landscape where Lake Sebu belongs is perceived to be a comparatively active PAMB. The PAMB maintains programs for forest protection and river protection /rehabilitation. Implementation of programs on biodiversity conservation planning requires the direct support of DENR regional provincial and district level offices to LGUs and communities.

#### ***Cultural heritage sector***

173. The National Commission on Indigenous Peoples (NCIP) oversees the process for Free and Prior Informed Consent or FPIC. This is mandatory for all projects that aim to work in ancestral lands and with IPs including studies that document indigenous knowledge. The current procedures which aim to ensure a genuine consultation process have been the subject of some criticism for the cumbersome processes involved. Ongoing reforms seek to streamline the FPIC process and a “fast lane” is being brokered between the NCIP and the DENR for DENR projects and related projects. Guidelines exist for the consultative process of documentation of indigenous knowledge but it does not provide sufficient guidance on content development including the documentation of ABD practices.

174. The NCCA, National Museum, DENR, and DA are presently preparing a MOA to collaborate in developing the guidelines for declaring agricultural heritage as cultural property. Under this scenario, communities with high agricultural heritage can be nominated for proclamation as cultural property

and subsequently enjoy certain privileges revolving around heritage conservation. The actual privileges are not much (priority protection in times of war and calamity etc.) but the proclamation opens the door for agro-tourism and labelling of products from the proclaimed site.

175. The implementation of the IPED program of the Department of Education relies on a participatory process whereby elders of each ethno linguistic group is consulted by the respective DepEd Provincial Directorates on the priority content of materials to be incorporated in the school curriculum. Subsequently modules are pretested and teachers are trained before actual curricula are fully adopted. The DEPED has studied the alternative education systems initiated by civil society organizations in Ifugao (SiTMO) and Lake Sebu (TSIKAT, LASIWWAI). The experience from these initiatives are partly being considered in the development of implementing strategies for the IPED Program

176. In general, policies and priorities are initiated by Central office and staff bureaus. The Regional Development Council influences priorities to a certain extent. A key challenge is that the respective timing of LGU planning systems and national agency planning systems do not coincide adequately, thus leaving many location specific concerns inadequately addressed. A “bottoms up budgeting” processes being piloted which aims to ensure that grassroots concerns (articulated by communities through their CSOs) reach the planning desks of NGAs and get included in NGA plans.

177. The PLGU would normally have the influence required to call upon line agencies to the table, to ensure coordination and synergy of plans. In addition, the PLGU can provide important technical and financial sources of support to MLGUs. In Ifugao, formal leaders are also IPs themselves and thus there is general empathy for the plight of IPs and this is reflected in local priorities. In Mindanao, formal LGU formal leaders are mostly lowlanders and ensuring attention to needs of upland farmers is a challenge (Lake Sebu however has an IP leadership). The law on indigenous peoples rights (IPRA) provides for mandatory representation of IPs in the local councils. NCIP is overseeing this process. Some LGUs (like South Cotabato) have made unilateral actions by virtue of the Local Government code to ban open pit mining.

#### **Local Government Units (LGUs)**

178. LGUs in the target areas were widely consulted and involved during the PPG phase, and have expressed strong commitment to ABD conservation and to participation in the project. In Ifugao, for example, the LGU aims to achieve self-sufficiency on basic staple crops and encourages the use of traditional varieties; moreover, there are plans to institutionalize the *muyong* system as a reforestation program and to regulate forest tree cutting and *kaingin* methods of farming. Other plans of the municipality include revival of the municipal nursery, protection of endangered flora and fauna and the institutionalization of appropriate technology in marginal productive areas and sloping areas to increase agricultural productivity. All of these programs and plans are geared towards the conservation and sustainable use of ABD.

179. PLGUs have more flexibility to craft their own programmes than MLGUs. In Ifugao, a special law decentralized the conservation of the Ifugao Rice Terraces to the PLGU of Ifugao. The PLGU in turn created the Ifugao Cultural Heritage Office (ICHO) to oversee the updating of the Master Plan and to implement school and community based programs to sustain public interest in the Ifugao cultural heritage. Among the interesting traditional knowledge being conserved are the traditional skills in constructing repairing terraces; the seed keeping skills of Ifugao women as well as art forms such as the traditional harvest chant.

180. Support services for environment and natural resources are also provided by the Provincial Agriculture Office. In Ifugao, the Provincial and Municipal agriculture offices double up as the Provincial Environment Office and Municipal Environment and Natural Resources Office (MENRO) respectively. These are not mandatory offices under the Law.

181. In Lake Sebu, a full time MENRO has been established given the sheer size of the forest area. Like agricultural programs, the ENR programs of LGUs are very much dependent on the national Programs and the funding that accompanies these. In particular, the ENR program of the LGU is based on the Protected Area Management Plan for the Allah Valley Protected Landscape headed by

the Protected Area Management Board or PAMB which in turn is associated with the DENR. The main attention is on the implementation of the National Greening Program.

182. Priorities for the LGU's own self-funded programs are generally set by the Local Chief Executives with the support of the Legislative Council. These are contained in Comprehensive Land Use Plans, Comprehensive Development Plans (CDPs) Executive Legislative Agenda (ELA) and Annual Investment Programmes (AIP).

183. The LGUs in the target areas have started some notable initiatives which are in line with the objectives of the present project, for example:

- In Hungduan, the LGU has imposed a small environmental fee for tourists, with 60% of income going to heritage conservation activities. It has also mandated synchronized planting of rice to help in natural pest management, which is being implemented in half of the villages. Both the Municipalities of Hungduan and Hingyon are in the process of formulating their Organic Agriculture Ordinances.
- The Municipality of Lake Sebu has started its own ecotourism initiative building on the abundance of natural scenery and cultural diversity. This includes efforts to conserve indigenous arts, promoting production of quality indigenous clothing product from abaca (Manila hemp). There were attempts in previous administrations to conserve traditional varieties but this hasn't been sustained. There is a major concern on the influx of GM varieties and herbicide usage in vast erosion-prone hilly lands. In mid-2014, the LGU also allocated a starter fund to start collection of seeds of traditional rice varieties for seed production in 2015.

### ***Agriculture***

184. Local Governments are mandated to establish their local land use plans which includes among others, the regulation of conversion of agricultural land to non-agricultural land uses. The land uses of the Hungduan and Hingyon are still in active preparation while that of Lake Sebu is due for approval by early 2015. The draft comprehensive land use plans (CLUPs) are discouraging further conversion. However the same regulations are generally silent on the type of agricultural land use to follow. In Lake Sebu, rolling to steep hillsides been spared from the massive influx of herbicide dependent commercial maize production.

185. Locally mandated (and multi stakeholder) local development councils are mandated to review and scrutinize local public expenditure proposal. In practice, substantive review and participation in these councils especially at the municipal levels is weak. Few NGOS are present at the municipal level and the more predominant grassroots organizations such as farmer associations, women organizations, 4 H youth clubs are inclined to focus more on their own livelihood concerns than with priority issues of their respective sectors. Informal/traditional leaders generally participate actively at barangay level discussions convened by barangay (village) councils.

186. The Municipal Agriculture and Fishery Council mandated by Law, is composed of CSO and private sector representatives who advice the LGU on programs and projects. They are considered generally active in the project covered municipalities. In so far as implementation of DA banner programs are concerned. In Ifugao and South Cotabato.

187. The Provincial Agricultural Office government provide technical assistance to Municipal governments while Municipal Agricultural Offices provide direct extension services to communities. They are supplemented by occasional visits of technical staff from line agencies for special types of services such as planting materials certification. In Ifugao, the Provincial Agriculture and Fisheries Council (PAFC) is notably active on heirloom rice concerns including marketing for exports. In South Cotabato, the Provincial Government maintains a laboratory that produces and distributes beneficial biotechnical products for rapid composting and biological control of pests.

188. The frequency of visits by agriculture personnel of the Municipal Government extension staff to targeted farming communities range from once a month to once every 2 months Currently, the main modality for extension delivery is the farmer field schools (FFS). The different extension modalities

are discussed in the section on NGA procedures above because at the moment, it is the DA regional offices that are driving the process of developing the alternative extension methodologies.

### ***Cultural heritage***

189. In the arena of cultural heritage conservation, the Provincial Government of Ifugao has facilitated the establishment of a special high school that incorporated living traditions. It also supports the establishment of special sessions on selected traditional practices among secondary schools. At the municipal level, the actual investments for cultural conservation focus on conveying development messages through the annual traditional festivities attended by the public at large

190. In South Cotabato, the Provincial Government its cultural affairs and tourism office will soon be undertaking a cultural mapping of the province's cultural properties and heritage zones as basis for developing a research based cultural heritage plan . It currently collaborates with the Municipal Government in promotional activities for Lake Sebu's ecotourism destinations

191. The MLGU of Lake Sebu maintains a Tourism and Arts Council to oversee its programs for tourism and cultural heritage. The MLGU recently completed an Indigenous Peoples (IP) Summit attended by stakeholders from all sectors. Among other concerns the Summit agreed on specific actions accelerates the documentation of indigenous knowledge systems and to ensure faithful documentation and communication of the same to the outside world. They also agreed to accelerate the development of production standards for the *tinak* (native cloth from abaca or manila hemp).

### **Educational and research institutions**

192. There are several State Universities and Colleges that offer courses in agriculture in provincial capitals where the project learning sites are located. Tertiary Schools formulate their own curriculum using the general framework provided by the Commission on Higher Education.

193. ***Ifugao:*** the Ifugao State University (IfSU) offers courses in agriculture. With support from various national and foreign funded projects it has helped to document a range of topics related to indigenous knowledge, and is incorporating the same in the school curriculum. In the current documentation, agricultural practices and ABD are only minimally tackled. In Lake Sebu, South Cotabato, the Santa Cruz Mission College has been a major driving force in both formal and non-formal education on agriculture and community development. Many municipal officials and NGO partners graduated from the school.

194. At the regional level, regional research and development research and development consortia provide fora for discussing agricultural research and extension priorities as well as research results. In Cordillera this function is undertaken by the Highland Agriculture R&D Consortium (HARDEC) which is based at the Benguet State University in Baguio City. HARDEC consists of research agencies of line agencies and State University Centres (SUCs) in the region.

195. The IfSU is also the current secretariat of the Cordillera Association of Agricultural State Universities and Colleges (CARASU). This position enables it to share academic and research resources and learning's in mountain agriculture with the other mountain provinces in cordillera. Both the HARDEC and CARASU are members of the Committee of Agriculture of the Regional Development Council (RDC) of the Cordillera. The RDC aims to synchronize the development priorities of the region that national agencies should consider in formulating national programs and budgets.

196. ***South Cotabato:*** a somewhat similar situation exists in Region 12, where South Cotabato is located. Work on research and education on heritage agriculture is being started in Lake Sebu and in nearby towns with high IP populations. In Lake Sebu, the Santa Cruz Mission has been a major catalyst in enabling access by IP youth to formal education. It maintains a course on community development dedicated for IP welfare and development. In previous years, it started an initiative to collect and mass produce traditional varieties of rice and other crops, but this was not sustained. The Lake Sebu National High School is active in biodiversity conservation in collaboration with the PAMB for Lake Sebu protected landscape



197. The SUCs cited above have important roles to play in ABD conservation. They can provide direct education support to the younger generation in the core provinces of the project. They can provide backup research to adapt location specific technologies, as well as document good practices, and contribute to policy formulation in the province and region. Education modules that they help develop can be shared with other academic and research institutions in the region thereby extending the influence other organizations.

## NGOs

198. NGOS and NGO networks exist in the project sites and are contributing to raising awareness on the conservation of biodiversity and cultural heritage.

199. The Save the Ifugao Terraces Movement is a multisectoral movement in Ifugao that is helping two towns including Hungduan establish their community heritage learning centres. SITMo had initiated a project to nurture the IKSP experts, established a community training centre where documents/references on IKSP and Ifugao culture are housed (interview with Marlon Martin, Chief Operating Officer of SITMo). It will also serve as a learning place for the young generation of Ifugaos. Also, SEARICE has recently expanded its footprint to Ifugao province. RICE Inc. has catalysed heirloom rice exports and that has linked Ifugao rice terraces to the culinary organizations in the US and other parts of the world.

200. In Lake Sebu, several organizations (mostly women led) are actively involved in helping sustain interest in traditional weaving practices and other cultural traditions. The Lake Sebu Indigenous Women Weavers (LASIWWAI) supports a women's initiative to produce organic heirloom rice consisting of 10 varieties, and maintains an IP-oriented kindergarten which is one the first schools accredited by the DepEd. The T'boli School of Indigenous Knowledge And Traditions (TSIKAT) is a school for living tradition (SLT) that specializes on education and arts for T'boli children. Another family-based NGO is maintaining a private museum which includes storing and displaying several dozen traditional rice varieties.

## Private Sector, cooperatives and foundations

201. Table 4 shows the private sector stakeholders, cooperatives and foundations with which initial discussions were held during the PPG phase. These discussions will be continued during the implementation phase of the project, leading to formal agreements with a selection of these actors regarding their participation in favourable marketing chains for ABD products from the target areas (all of the private sector actors mentioned do already purchase ABD products such as rice and tinalak from the target sites, with the exception of JSGaitano which purchases these products but not at present from the target areas).

**Table 4. Summary of private sector stakeholders, cooperatives and foundations of relevance to the project**

Stakeholder	Roles
Private sector (buyers)	
COWHEAD Store	Buys rice and tinalak products including organic dyes and sells these products in their stores
Ecostores (Manila branches and Davao Branch)	Buys rice and tinalak products including organic dyes and sells these products in their stores. Echostore is a social enterprise and retail store carrying green and fair trade products created by marginalized community groups from all over the country. <a href="http://www.echostore.ph/">http://www.echostore.ph/</a>
Japanese organic snack house (La Trinidad, Benguet; buyer: Maccha Okada)	Purchaser of organic products
Banaue Greenview Lodge, Peoples Lodge, Cherish Arts (Banaue, Ifugao)	Purchaser
Supermarkets (e.g.	Buys rice and tinalak products



Stakeholder	Roles
JS Gaisano	
Eight Wonder Inc.	Purchaser of Rice Terraces Farmers' Cooperative: a socially responsible business that is importing select varieties of heirloom rice from the mountain terraces of the Philippines; operates in more than 18 communities, directly supporting sustainable agriculture and socio-economic development ( <a href="http://www.heirloomrice.com/">http://www.heirloomrice.com/</a> )
Partners	
Rice Terraces Farmers' Cooperative	Consolidates rice from farmers in Ifugao and other provinces (Mountain province and Kalinga) Provides milling services
Echosi Foundation	Provides assistance in product development for Tinalak and rice: ECHOSi is a non-profit (NPO) Foundation that teaches sustainability issues for empowering marginalized groups, women's groups and cultural communities. The acronym ECHOSi means Empowering Communities with Hope and Opportunities through Sustainable Initiatives. (source: <a href="http://echosi.org.ph/">http://echosi.org.ph/</a> )
COWHEAD	Consolidates tinalak products from members Provides access to common service facilities (e.g. weaving machines provided by the Department of Trade and Industry)

202. In Ifugao, a farmer's cooperative is actively serving as integrator of rice supply for export from small farmers. In Lake Sebu the hotel and restaurant/tourism association is an active member of the Municipal Culture Arts and Tourism Council. They want to help promote customer interest in heirloom products from local producers and craftsmen.

#### **Roles and interests in relation to the project**

203. The respective contributions of the different categories of institutional actors to the project, and the benefits which each might expect from the project, are summarized in Table 5 (further detail on the arrangement for participation in the project by institutional stakeholders is provided in Section 4):

**Table 5. Summary of stakeholder roles and interests**

Actors participating and benefiting	Role	Benefit for the project	Benefit for the actor
Line agencies	Contribute to policy development	Relevance and credibility of policy proposals	Contribution to socioeconomic and environmental goals & mandates
Line agencies and LGUs	Assign staff time to participate and be trained	Ownership and scaling up of project impacts	Capacity building, contribution to socioeconomic and environmental goals & mandates
DENR and LGUs	Use of facilities, operational support	Ownership, effectiveness, efficiency	Contribution to socioeconomic and environmental goals & mandates
NCIP	Support and advise on IP participation	Social relevance and sustainability	Ensure interests of IPs protected
DA/LGU/NGO farmer support programmes	Act as conduits for ABD knowledge to farmers	Multiplication of project reach	Contribution to socioeconomic and environmental goals
Private sector	Act as conduits for increasing consumer awareness and for marketing ABD	Sustainability of market-based incentives	Market opportunities
Line agencies, NGOs/PDOs, private sector	Technical and policy orientation	Relevance and effectiveness	Contribution to socioeconomic and environmental goals

204. On the basis of the extensive consultations carried out during the PPG phase, it is proposed that Local Government Units (LGUs) will play a lead role in the implementation of the pilot activities proposed under Component 2, given that most of the Government functions relevant to the pilot functions have now been decentralized to LGUs.

### **1.11 Lessons learned from past and related work, including evaluations**

205. Experience to date has been that the application of conventional approaches to agricultural development, relying on the use of exogenous technologies and high yielding varieties, has had mixed results unless traditional knowledge is taken into account. Interventions at lower elevations, supported by irrigation, have tended to have best results. Others, working at lower to middle elevations, have tended to encounter problems such as reduced nutrient availability due to the adoption of systems involving shortened fallow periods, or increased pest incidence due to reduced observance of traditional control practices, for example regarding the timing of planting etc.

206. Experience has also shown that processes for obtaining Free and Prior Informed Consent (FPIC) must be factored clearly into start up plans, and groundwork for FPIC must be done as early as possible. In a number of cases, project implementation has been delayed because of the length of the FPIC<sup>27</sup>.

207. Lessons learnt with the market insertion of environmental friendly products by small-scale enterprises are presented in Box 1. These include the following:

- In some cases it has proven difficult for growers to adopt sustainable practices without a price premium, unless operational cost savings and intangible benefits can provide enough of a business case for farmers to adopt sustainable practices.
- Once a clear business case is established, four project elements are required for successful farmer certification: technical training on certification standards, business training, financing, and availability of local auditing capacity.
- Small producers can successfully access supermarkets, but this requires extensive knowledge of both market and production environment including significant amount of investment and efforts for business incubation.
- Organizational strengthening is required in order for producers to be able to meet the requirements of supermarkets in terms of quantity and quality, together with collaborative management and involvement of producer organizations in the management of the value chain.

### **1.12 Links to national development goals, strategies, plans, policy and legislation, GEF and FAO's Strategic Objectives**

#### ***a) Alignment to national development goals and policies***

208. The proposed project is fully consistent with the Philippines' biodiversity conservation priorities and strategies. Although ABD conservation has been marginalized from political agendas for a number of decades (see section 1.8), this situation is now changing in the light of the increasingly apparent negative effects of unregulated agricultural intensification.

209. The GEF funded global project on Globally Important Agricultural Heritage Systems (GIAHS) has contributed to this increasing awareness of the importance of ABD and traditional agriculture and knowledge systems. A clear signal for an emerging trend is the current revision of the Philippine's National Biodiversity Strategies and Action Plan (NBSAP<sup>28</sup>), which aims to incorporate more comprehensive ABD considerations into the current NBSAP.

210. ABD conservation is also included in the overall efforts to achieve sustainable agricultural development, as for example reflected in the overarching Philippine Development Plan for 2011-2016 under Chapter 4: Competitive and Sustainable Agriculture and Fisheries Sector, which explicitly

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<sup>27</sup> DENR. 2012 Proceedings of DENR NCIP Workshop for the Biodiversity Partnership Project and personal communication with Executive Director of NCIP, 2014

<sup>28</sup> Originally developed in 1997

includes biodiversity conservation under its Strategic Goal 2.1. As early as 1997, the Agriculture and Fisheries Modernization Act (RA 8435), included objectives for the sustainable conservation of agricultural crops and their utilization in crop improvement programs, as well as the diversification of farming systems to alleviate poverty and improve nutritional quality.

***b) Alignment with international commitments***

211. The Philippines ratified the CBD in 1993 and has demonstrated its commitment to fulfilling its obligations under the convention through a broad spectrum of national policies and laws as well as the implementation of extensive biodiversity conservation programs. ABD conservation is explicitly addressed through the CBD programme of work on agricultural biodiversity (CBD decision V/5, Annex) and its three cross-cutting initiatives on Pollinators, Soil Biodiversity, and, particularly relevant to this project, the Cross-cutting initiative on biodiversity for food and nutrition (CBD decision VIII/23).

212. The project's main areas of focus also contribute to several Aichi Targets, in particular the following:

- **Target 7:** By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity
- **Target 13:** By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.
- **Target 14:** By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

213. The project will specifically contribute to the Government's compliance with the following articles of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA):

- Art. 5.1: ...promote an integrated approach to the exploration, conservation and sustainable use of plant genetic resources for food and agriculture and in particular: c) promote or support, as appropriate, farmers and local communities' efforts to manage and conserve on-farm their plant genetic resources for food and agriculture; and d) promote in situ conservation of wild crop relatives and wild plants for food production, including in protected areas, by supporting, inter alia, the efforts of indigenous and local communities;
- Art. 6.2 (a): ...pursuing fair agricultural policies that promote, as appropriate, the development and maintenance of diverse farming systems that enhance the sustainable use of agricultural biological diversity and other natural resources;
- Art. 9.1: ...recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world.
- Art. 9.2: take measures to protect and promote Farmers' Rights, including: a) protection of traditional knowledge relevant to plant genetic resources for food and agriculture; b) the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and c) the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.

***c) Alignment with GEF focal area***

214. The proposed project, in objective and approach, is closely aligned with Objective 2 of the GEF-5 Focal Area Strategy on Biodiversity (BD-2): Mainstreaming Biodiversity Conservation and

Sustainable Use into Production Landscapes/Seascapes and Sector. Envisioned project activities closely follow the logic and assumptions laid out under Objective 2. The project will put a strong emphasis on enabling, establishing and implementing incentive structures for private actors to align their practices and behaviour with the principles of sustainable use and management of biodiversity, in this case ABD. To this effect, it will help to adjust and improve policy, legal and regulatory frameworks enabling corresponding incentives to be created and sustained. Principles of biodiversity conservation and sustainable use will be mainstreamed into key policies and strategies and stakeholder capacity to implement these provisions will be systematically strengthened at the national and local level.

215. Furthermore, the project will concretely demonstrate the establishment and implementation of these incentives structures in pilot communities, following the instruments identified in the GEF-5 Focal Area Strategy: product certification using recognized standards, development of corresponding products, and capacity development for farmers to attain certification for their products and subsequently maximize the economic benefits derived from certification through effective marketing and branding. In sum, the project will rather narrowly follow the steps towards contributing to Objective BD-2 as envisioned in the GEF-5 Focal Area Strategy on Biodiversity. The national context and baseline scenario in the Philippines makes this approach particularly suitable for ABD conservation in productive agricultural landscapes.

216. The Philippines is eligible for accessing financial resources from the GEFTF, the proposed project has been identified as a priority project in the GEF National Portfolio Formulation Exercise (NPFE), and corresponding resources have been earmarked for this project and are available under the country's STAR allocation.

***d) Alignment with FAO Strategic Framework and Objectives***

217. The project is aligned with Strategic Objective 2 (SO2): Increase and improve provision of goods and services from agriculture, forestry and fisheries in a sustainable manner (Outcome 2.1 primarily contributes to increased and improved provision of goods and services from agriculture, forestry and fisheries in a sustainable manner, and particularly to ecosystem management through integrated and multi-sectoral approaches). The project also supports a number of existing programmes and initiatives of relevance to the project include the: (i) implementation of the GIAHS initiative (South-South Cooperation and Twinning Programmes and Network for in-situ conservation of ABD); (i) implementation of the Global Plan of Action for the Conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture; (iii) contribution to State of the World's Biodiversity for Food and Agriculture; (iv) Climate Smart Agriculture; (v) FAO policy on indigenous and tribal peoples; (vi) Zero Hunger Challenge; (vii) Regional initiatives on Rice and similar other programmes,

## SECTION 2 – PROJECT FRAMEWORK AND EXPECTED RESULTS

### 2.1 PROJECT STRATEGY

218. GEFTF resources will support targeted activities addressing the barriers that impede effective ABD conservation (see section 1). Through a set of closely coordinated interventions, the GEF project will leverage the opportunities of the baseline scenario to create an enhanced system of ABD conservation. The interlinked levers for achieving this objective directly relate to the identified barriers.

### 2.2 PROJECT OBJECTIVES

219. The project objective is to enhance, expand and sustain the dynamic conservation practices that sustain globally significant agro-biodiversity in traditional eco systems of the Philippines.

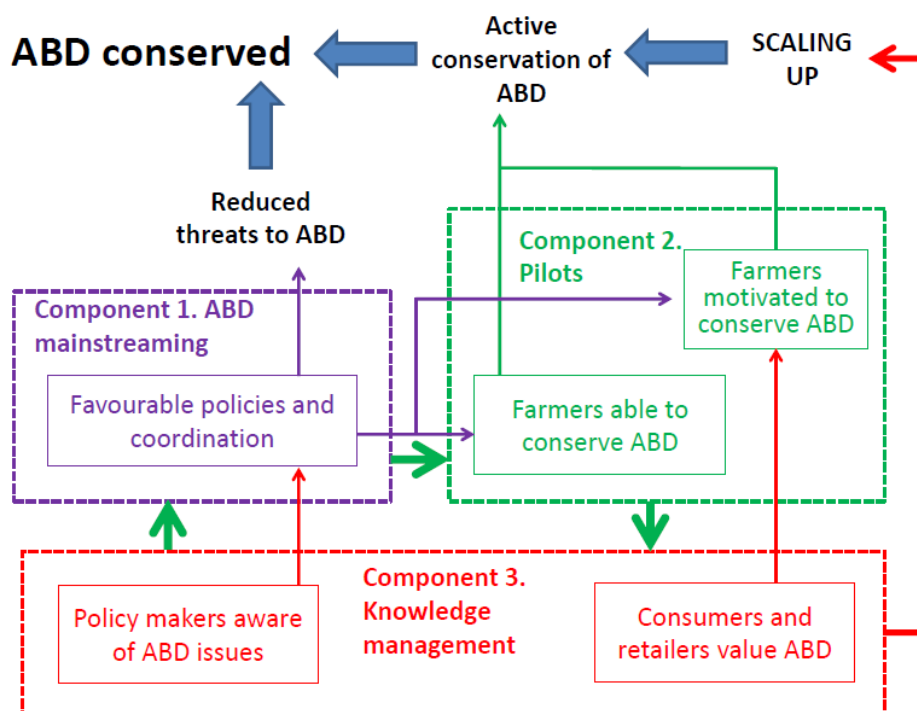
### 2.3 EXPECTED PROJECT OUTCOMES, COMPONENTS AND OUTPUTS

220. The project will consist of three interlinked and mutually reinforcing components:

- **Component 1 “mainstreaming agro-biodiversity considerations into policy and legal frameworks, development strategies and institutional structures”** will result in a favourable enabling environment for the implementation of ABD management and conservation strategies at ground level. Working within this increasingly favourable environment.
- **Component 2 “pilot activities to enhance and expand dynamic conservation practices for agro-biodiversity in three pilot communities”** will result in direct on-site benefits for ABD conservation in prioritised pilot sites through the creation of capacities among farmers, local authorities and others, as well as generating experiences with potential for informing policy makers and being scaled up.
- **Component 3 “dissemination of information, awareness raising and preparations for scaling up, monitoring and evaluation”** will focus principally on knowledge management, combining the experiences and knowledge generated in the pilot sites with that resulting from other experiences and/or available in the literature, in order to raise awareness among key actors and to inform the policy work under Component 1 in an iterative manner. This awareness raising will in addition contribute to the feasibility of market-based approaches to ABD conservation proposed under Component 2.

221. As proposed in the PIF, these components will therefore jointly address the issue of inadequate appreciation of the full social, cultural and economic value of traditional varieties and ABD, which as explained in the previous section is the fundamental underlying cause of all of the barriers to effective ABD conservation.

**Figure 4. Barrier removal strategy**



222. Given the limited scope of this project, prioritization will be a prerequisite for success. The project therefore puts a focus on rice as the most important component of agro-biodiversity in the Philippines. While this puts the main emphasis on the conservation of indigenous rice varieties, the project will take the broader agro-ecosystem of rice-based farming systems fully into consideration. In particular, endemic vegetable and fruit varieties that serve as a complement to rice farming in traditional systems (especially varieties of eggplants, beans, taro and yams, and bananas) will be equally included in the project's conservation activities.

223. PPG studies include a Capacity Building Needs Analysis (CBNA), which addressed capacity development needs in relation to all areas of the project. The results of the CBNA are summarized in APPENDIX 13 and are referred to throughout the description of the components, outcomes and outputs of the project below.

**Component 1: Mainstreaming agro-biodiversity considerations into policy and legal frameworks, development strategies and institutional structures**

224. Activities under this component will focus on creating a favourable enabling environment for ABD conservation, in terms of strengthened policy and legal frameworks (Outcome 1.1) and enhanced institutional coordination and capacity (Outcome 1.2).

**Outcome 1.1: Strengthened policy and legal framework defining a national approach to agro-biodiversity and guiding the design and implementation of corresponding activities at national and local level**

225. This outcome focuses on the incorporation of ABD conservation issues into a number of key policy instruments, taking into account the results of the social, cultural and economic valuation of indigenous and endemic varieties carried out Component 3<sup>29</sup>, and building on and leveraging the current political dynamic.

<sup>29</sup> Output 3.1.1 Information on the full value of agro-biodiversity compiled and disseminated among policy-makers

***Output 1.1.1 Key policy instruments favouring ABD conservation developed at national and local level***

226. Building where possible on documented experiences and stakeholder consultations at site level, the project will work with a number of national agencies to facilitate the development of policy instruments aiming to help farming communities generate tangible benefits from ABD, enhancing, in turn, the chances for sustained dynamic conservation.

227. At the Department of Agriculture and DENR, the project will work with the Office of the Undersecretary for Policy, the office of the Undersecretary for Special Concerns (including gender and indigenous issues) and technical bureaus, to analyse the policy options and promulgate the following specific policy instruments:

- **Protocols for the establishment of community registry** based on provisions of the Plant Variety Protection Act, to be developed with the Bureau of Plant Industry (BPI). This will likewise be based on pilot experiences to be developed in the Ifugao project sites.
- **Amendments to specific guidelines covering the definition of biodiversity under the National Integrated Protected Areas Act (NIPAS)**, in conjunction with the Biodiversity Management Bureau (BMB) of the DENR. These amendments will involve the definition of appropriate forms of ABD and their inclusion in the inventory and planning protocols for key biodiversity areas (KBAs) that are either covered by the National Protected Areas System (NIPAS) or by other modalities of protection such as Indigenous Community Conserved Areas (ICCAs) or Local Conserved Areas (LCAs)
- **Supplementary provisions for guidelines that cover the documentation of IKSP** and the preparation of Ancestral Domain plans, in collaboration with the National Commission on Indigenous Peoples (NCIP), so that they would include measures for the proper identification and conservation and sustainable use of ABD.
- **Amendments to existing guidelines/protocols to mainstream the GIAHS/NIAHS concept of dynamic conservation.** The project will facilitate the continuity of the outcomes of the GIAHS project, to create an enabling instrument at national level to help DA, DENR, and NCCA in aligning policies and programmes, to integrate sectors (environment, agriculture, culture and education), to improve local livelihoods, and to contribute to the objectives of Treaties and Conventions to which the Philippines is signatory, including the Convention on Genetic Resources for Food and Agriculture, the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), and the CBD..

228. In addition to the proactive policy formulation actions above, the project will support four policy studies to further analyse constraints and propose policy and institutional options to enhance the application of existing policies that can favour the conservation of ABD. The following are proposed

- **Options for institutionalizing the inclusion of ABD under the coverage of crop insurance**, to be developed in collaboration with the Philippine Crop Insurance Corporation (PCIC). The project will facilitate a stakeholder consultation and negotiation process between concerned apex farmer networks, support groups and the PCIC to institutionalize the inclusion of traditional rice varieties of rice, maize and root crops and vegetables under the insurance coverage. The exclusion of traditional varieties from such insurance currently acts as a disincentive to the maintenance of crop ABD on farm.
- **Options to supplement guidelines for the National Organic Agriculture Act**, to be studied together with the BAFS and NOAB, in order to allow the implementation of a provision of the law which aims to facilitate the delivery or certification services to remote upland areas and IP communities. This provision will include the definition of the nature of accelerated services and the combination of this with strengthened procedures for verification and delivery of existing subsidies for certification. This will address the current problem of high fee levels and high transaction costs, which impedes many producers from signing up to third party certification schemes. There is expected to be a high degree of correlation between the

maintenance of organic farming systems, for which such schemes will provide an incentive, and the conservation of on-farm crop ABD.

- As mandated by the PBSAP, review of options and development of processes and procedures to **consider the presence of important ABD resources as one of the criteria for the development of agricultural land use prescriptions in the process of formulation of local Strategic Agriculture and Fisheries Development Zoning (SAFDZs)** under the Network for Protected Areas in Agriculture and Industrial Development (NPAAD). This will be studied together with the Bureau of Soils and Water Management.
- Identification of policy and institutional options for **securing a portion of tourism revenues to help protect agricultural heritage landscapes** of importance for tourism, such as the Ifugao Rice Terraces. This will be studied in consultation with the LGUs involved, together with the DENR, National Economic and Development Authority (NEDA), Regional Development Councils and the Department of Tourism

***Output 1.1.2 Specific guidelines for the implementation of policies formulated for the three pilot project areas***

229. As set out in paragraph 220, the project will be managed in an adaptive manner: while the field level actions under Component 2 will generate information and experiences to guide policy making, those field experiences will themselves benefit from the increasingly favourable enabling policy environment generated through this component. For this to happen, the emerging policy instruments developed under this component will be “translated” for application at local level, in the form of interpretation documents for practitioners (such as local government actors, extension agents and community leaders); these documents will explain the policy instruments and how to apply them, in terms that are both understandable and relevant to the conditions in each pilot area. Although they will initially be generated for the specific cases of the pilot areas, it is intended that these instruments will constitute models which can be adapted for subsequent application anywhere else in the country.

**Outcome 1.2: Enhanced institutional coordination and capacity to effectively address cross-sectoral issues of agro-biodiversity.**

***Output 1.2.1 Strengthened capacities and mechanisms for addressing interdisciplinary aspects of ABD conservation***

230. Effective inter-institutional coordination and collaboration are crucial for the long-term success of ABD conservation strategies, given their cross-sectoral nature. Most significantly, they require cropping systems and the marketing of agricultural commodities (the domain of the Department of Agriculture) to be integrated with the sound environmental management of the landscapes and ecosystems (the domain of DENR) of which they form a part, yielding benefits for the productivity and sustainability of agricultural systems as well as for the status of global environmental values (globally rare ABD) and locally important ecosystem services. Many of these issues are recurrent and will require time before they are finally resolved. The project would provide opportunities to develop a better understanding of these issues and generate insights and lessons learned that can help pave the way for lasting solutions such as policy reforms.

231. The following are examples of competing concerns or opportunities that require institutional coordination.

- Programmes that safeguard micro watersheds and biodiversity , versus the programs that allow intensive monoculture cash crop production even in hilly lands
- Incentives that conserve traditional varieties as part of cultural heritage versus incentives that promote HYVs
- Promoting certified organic agriculture versus allowing market driven promotion of GMOs with inadequate safety nets
- Safeguarding forests versus land conversion for agrarian reform, urban reform or mining
- Maintaining indigenous forest systems versus a narrow focus on ensuring compliance with national forestry laws



- Faithful documentation of indigenous culture and knowledge systems and the need to popularize IK to enhance nature based tourism

232. In order to address the above concerns, coordination will be needed a) between bureaus within the same agency; b) between NGAs; c) between LGUs; d) between NGAs and LGUs; and e) between government, civil society, and business. The current governance for agriculture and natural resources management and cultural heritage management involves many inter agency bodies mandated by law (as part of day to day governance) or by executive orders (to support special projects). The project will focus wherever possible on working with existing coordination mechanisms, such as the NCI and the RDCs, rather than (as proposed in the PIF) establishing new ones. The instruments for coordination that may be considered may include the following:

- At the policy level, the subcommittee for biodiversity concerns exist under the interagency Philippine Council for Sustainable Development (PCSD). This body will be overseeing the investment programs of the Philippine Biodiversity Strategy and Action Plan (PBSAP) which now includes ABD. Compliance to NBSAP will be a key determinant in the approval of GEF projects.
- At the regional level, Regional Development Councils (RDC) brings NGAs and Provincial LGUs to the drawing table to discuss convergence issues. RDCs have sub committees on the agriculture and natural resources sectors whose dialogue is facilitated by the National Economic and Development Authority (NEDA) regional offices. The RDCs are supported by R&D consortia who provide research based policy recommendations
- At LGU level, Local Development Councils (LDCs) bring concerns of NGAs, LGUs, Civil society and business concerns to the table. The LDC functions at the Provincial Municipal/City levels and Barangay or village levels and complemented by other supporting bodies such as the Municipal Agriculture and Fisheries Councils (AFCs) or Environment and Natural Resource Councils (ENRCs). Culture and Arts Councils, Tourism councils and other thematic councils that provide support to LGU.
- In addition to the above structures, interagency councils created by law also exist to help agencies plan on an ecosystems approach. In South Cotabato, the Allay Valley Protected Landscape is governed by the Protected Area Management Board (PAMB), which also brings stakeholders to plan for the watershed management of which Lake Sebu is an important headwater.
- Adjacent LGUs has also established their own local cooperation through the inter LGU I Allay Valley Development Alliance (AVLADA), which has won national recognition for its good practices in watershed rehabilitation.
- A special coordination mechanism called the National Convergence Initiative (NCI) aims to synergize efforts of agencies involved in the primary sector. These are DENR, DA, DAR and DILG. The NCI involves regional consultations and are important mechanism for reconciliation of programs and the promotion of new ones in agriculture, natural resources and agrarian reform. The NCI is meant however for areas where the programs of the 3 agencies do not coincide.

233. The needs of the dynamic conservation of ABD do not need a new special coordination body on the long term. Creating a special body for this long term purpose may not be sustainable. Instead, it is suggested that the existing bodies such as those described above be tapped depending on the nature of coordination needed such as those described below :

- The policy agenda being proposed with project support would involve intensive dialogue among bureaus within the Agency. Technical working groups or task forces at the agency level may be created to further define field problems and identify practical solutions.
- Policies by different agencies that need to be reconciled with one another or issues between LGUs and NGAs may both be raised at the Regional Development Council (RDC) or finally at the Subcommittee for Biodiversity under the Philippine Council for Sustainable Development. In both cases the help of the regional or national NEDA would be important.
- Implementation of existing policies and adapting them to the local situation in the project sites will require coordination at the local level. This is where the role of Local Development

Councils (LDCs), will be valuable. Existing special bodies may also be tapped. The key facilitator for such dialogue would also be the Local Planning and Development Office.

234. A small interagency ad hoc steering committee, a subcommittee of the PCSD Biodiversity Subcommittee may be created during the project period to set project directions, monitor progress and manage knowledge that is generated so that these are used by the appropriate interagency bodies on the long haul. At the local level, a subcommittee of the Provincial Development Council needs to be established to help oversee project operations. The subcommittee needs to be composed of representatives of the DA, DENR, NCCA, NCIP and DepEd and a representative of the Project Management.

235. The project will provide highly targeted support to key institutions, in order to develop capacities to put the required cross-sectoral approaches referred to above into practice. This will be achieved through a combination of direct training and the development of guidance documents and manuals.

236. The direct training will be directed principally at personnel of DA and DENR, focusing on raising their awareness and knowledge on issues lying outside of their normal sector-specific remits. For example, DA personnel at central and local levels will receive training on issues related to biodiversity and traditional agricultural systems including landscape management, such as:

- The GIAHS approach of dynamic conservation of agricultural biodiversity and associated ecosystem goods and services
- ABD significance of global importance and its economic significance, including the potential of traditional varieties and farming systems to yield local benefits in terms of income generation, sustainability (productive and environmental) and climate change resilience;
- The ways in which farming systems depend on the sound management of the landscapes that surround them (drawing examples from the target areas, such as the importance of the *muyong* forests in Ifugao for ensuring water supply for the irrigated rice terraces
- Principles of ABD conservation including the management and supply of planting material in such a way as to maintain the diversity and health of populations of traditional varieties (an issue in which DA will be directly involved, under Output 2.2.1).

237. Likewise, DENR personnel at central and local levels will be trained to raise their awareness of the importance of farming systems as elements of integrated landscape-wide conservation strategies, complementing and broadening the conventional focus on natural ecosystems and protected areas.

238. In addition to direct training of project staff, the project will invest in creating lasting “institutional memory” within the target institutions, through the production and dissemination of guidance documents and manuals setting out the issues mentioned above in clear and practical terms, with direct reference to how they relate to the roles and responsibilities of the institutions concerned. In order to maximize interest and therefore uptake of the content of these guidance documents, they will be formally “launched” through seminars and workshops at central and local levels, publicized through the media, and be made available online through links to the websites of the target institutions (a detailed dissemination strategy will be developed early on during the implementation phase of the project).

239. In addition to the above, the project will support the R&D agenda of DA line agencies (BAR, BPI, PhilRice) and DENR-BMB, ensuring that it incorporates a fully cross-sectoral approach. This will build on existing elements such as the government’s compliance to Treaties and Conventions e.g. ITPGRFA articles (Art. 5.1 (c,d); Art. 6.2 (a) and Art. 9.1 and 9.2) and work on access and benefit sharing (ABS), programmes on indigenous crops and the community, the commodity commercialization programme, and the FAO GIAHS programme

## **Component 2: Pilot activities to enhance and expand dynamic conservation practices for agrobiodiversity in three pilot communities**

240. Activities under this component will focus on generating site-level experiences of ABD conservation and management, in the three target sites. The lessons learned here will be systematized under Component 3, and will be used in an iterative manner to inform the policy and institutional

strengthening actions proposed at national level under Component 1. In addition to functioning as pilots, these activities will generate concrete environmental and social benefits in their own rights.

**Outcome 2.1: Planning and governance mechanisms support the conservation and sustainable use of ABD**

241. As explained in Section 1.1.1, ABD is subject to a wide range of threats that have their origins in the landscapes surrounding the cropping systems themselves in which they are located. It became increasingly clear in the course of PPG studies and consultations that the sustainability of the conservation of the target ABD is therefore inseparable from the adequacy of the management of these landscapes. The project will therefore generate capacities among local actors for the rational planning and management of these landscapes, and for ensuring that the productive and other activities that take place within them are subject to effective governance.

***Output 2.1.1 Local Government (LGU) plans and programmes in pilot municipalities providing for ABD conservation***

242. LGUs have responsibilities for developing territorial land use plans over their areas of jurisdiction; they also play key roles in determining the nature and magnitude of the landscape-wide factors affecting ABD through the formulation of thematic plans covering infrastructural, productive, social development, educational and other issues. It will therefore be vital for the project to support them in these roles in order to ensure that they adequately provide for ABD conservation and avoid generating unintentional negative impacts of “perverse incentives” that undermine the status of ABD.

243. This support will take various forms:

- Direct advice on, and facilitation of, the development and implementation of land use and thematic plans in relation to the dynamic conservation of ABD, applying as appropriate procedures of environmental impact assessment and strategic environmental assessment in order to help LGUs appreciate the implications of different development scenarios.
- Provision of relevant information on ABD and on the nature and magnitude of variables with potential implications for its status (such as demography, markets, ecosystem status and function and climate change).
- Support to the establishment, as necessary, of in-house information resources in the target LGUs, and of systems to ensure that information continues to be supplied to LGUs and managed effectively by them in the long term.
- Provision of training, to develop capacities among LGU members at technical and strategic levels, in the development and updating of spatial and thematic plans incorporating provisions for ABD conservation and the reduction of threats.

***Output 2.1.2 Community level planning and governance frameworks in pilot communities incorporating ABD considerations***

244. In all of the pilot communities, traditional planning and governance structures exist, including community-based norms on natural resource management and forest/agricultural management practices that are generally favourable for the maintenance of traditional farming systems and the sustainable management of the landscapes that surround them. These do, however, require some adjustments in order to take into account the location of globally-important varieties, their wild relatives and associated biodiversity at ecosystem level, as well as the specific landscape dynamics and flows of ecosystem services on which ABD conservation depends (such as the role of remnant forests in providing water for irrigated rice terraces).

245. The project will therefore provide facilitation support to members of the target communities to enable them to review the adequacy of these mechanisms in relation to their appreciations of the value of traditional varieties, and the nature and magnitude of the threats affecting them; and on the basis of this to develop, modify/expand and/or strengthen them to provide for the effective combat of the identified threats. Spatial and temporal aspects will be introduced as complements to these norms, through support to the development of plans for the management of their agricultural and forestry

lands in such a way as to favour the sustainability of traditional agricultural and natural resource management systems.

246. Another vital aspect to be supported by the project will be the strengthening of the social capital necessary to enable the members of the target communities themselves to develop, update and implement norms and plans (including supervision and where necessary appropriate redress). This support will recognise and build upon existing social structures such as the roles of the village leaders (*mumbakis*), complementing these in consultation with community members through the expansion and strengthening of their roles and capacities and, where necessary (subject to satisfying conditions of social acceptance and sustainability), supporting the creation of new structures.

247. In all of these aspects, particular attention will be paid to helping to ensure the adequate and appropriate representation and participation of women and marginalised sectors of society. This will be achieved through case-specific analyses, during project implementation, of the differentiations in roles and power between genders and socioeconomic sectors in these structures, and the corresponding participatory development of proposals for addressing these.

## **Outcome 2.2 Community-based systems for production and management of planting materials (community gene banks)**

### ***Output 2.2.1 Community-based gene management systems and networks supported by ex situ collections held by national institutions***

248. Traditionally, crop varieties are maintained *in vivo* in farmers' fields, and stored from one season to the next in houses and granaries. In both situations, they are vulnerable to pests and natural disasters. In some areas, such as the Cordillera Administrative Region (CAR), community seedbanks have been established for emergency seed supply in times of disaster, but these only include a few varieties (both HYVs and TRV). In order to ensure the effective conservation of significant levels of traditional crop diversity in local communities, and farmers' easy access to it for planting, the project will support the establishment of community-managed gene banks, incorporating experiences gained to date by DA with community seed banks (CSBs) (see Box 2). As an additional precaution against loss of traditional varieties in the long term (for example as a result of damage to community-based collections from extreme weather events), safety duplicates of the traditional varieties will be held in *ex situ* gene banks outside of the target sites (e.g. PhilRice and NPGRL), following standard procedures for germplasm collecting including securing Free and Prior Informed Consent of the concerned communities.

#### **Box 2. DA community seed banks**

The Department of Agriculture has established CSBs in strategic rice production areas to ensure farmers will have enough rice seeds every cropping season. The programme includes training of farmers on seed production. Farmers were initially provided with two-kilogram registered rice seeds for free to produce their own certified rice seeds. Planting the two popular traditional varieties in each province is also encouraged. Organized farmers with at least half- hectare land can avail seeds that they can return after harvest. Repayment is 1.5kg of certified seeds for every kilogram of registered seeds borrowed. Seeds are stored in CSBs and will serve as their buffer seed stock. The CSBs are concerned mainly with access to and availability of varieties to farmers especially after adversities such as typhoons, flooding, droughts or infestation/infection of pests and diseases. Through the program, a CSB was established in Hingyon, Ifugao..

249. These will be designed to allow the storage of crop seeds (air-dried to required humidity levels<sup>30</sup>) as well as vegetative material of root crops such as yam and taro, and so will include hermetically sealable jars and shelves, with adequate provision for ventilation but sufficiently secure to prevent the entry of rodents and other pests.

<sup>30</sup>Seeds are normally air-dried for two days, then further dried using silica gel to a moisture level of 6-8%. Seed are periodically subjected to germination tests, and when germination rates decline significantly the variety is regenerated by planting.

250. The physical installations for the storage of planting material will be accompanied by investments in the training of selected community members responsible for managing the gene banks. Their roles will include prospecting for and collecting crop varieties grown by other community members; ensuring the security and maintenance of the gene bank; preparing planting material for storage (cleaning and drying); issuing planting materials to community members in such a way as to regenerate populations; arranging gene exchanges with other communities; negotiating the terms of access to the stored planting material by outside entities such as Government agencies and universities; maintaining records; and charging as appropriate in order to cover the costs of the gene storage system. Seed provided to farmers are normally required to be repaid to the gene bank after harvest, at a ratio of 1:1.

251. The nature of community gene banks will depend on farmers'/communities' decisions in each location. In Hingyon, Ifugao for example, the gene bank will be in a form of a network of farmers; drying and storage will be in accordance with farmers' normal practices; and a key feature of the gene bank will be the mapping of the varieties in the community. In Hingyon, the Municipal Agriculture Office (MAO) will maintain all the traditional varieties in order to safeguard against further loss. In Hungduan, the MAO will maintain a seedbank and will encourage farmers to deposit their varieties in the seedbank: the MAO has maintained demonstration plots of the traditional varieties where farmers can select preferred varieties.

252. Other land races (of the focus crops) will also be included in the community gene banks. There are no reports of wild relatives of rice in the project's target areas; however in any cases in which such relatives may occur, it is not proposed to attempt to conserve them in the community gene banks given that their importance may not be immediately evident to community members. The first preference is to have these wild relatives conserved *in situ*, through the maintenance of the traditional ecosystems and landscape management practices within which they typically occur. This needs to be backed up by complementary conservation of these wild relatives in *ex situ* gene banks such as those managed by Philrice and NPGRL.

### **Outcome 2.3 Enhanced and expanded knowledge among decision makers and resource managers on the application of dynamic ABD conservation practices and their relation to cultural heritage**

253. Of central importance for the sustainability of the project's results is the existence of the required human capacities, both among resource managers (farmers and other community members, who interact directly with ABD and with the other natural resources in the landscape with which its condition is related) and decision-makers at a range of levels who influence the conditions and threats affecting ABD.

254. During the PPG phase, a Knowledge and Practice (KP) survey was carried out to guide the definition of project strategies for capacity development in the target communities. The results of this KP survey are summarized in Table 6.

**Table 6. Summary of KP survey results on knowledge development needs in target communities**

<b>KP baseline</b>	<b>Actions required to address KP gaps</b>
Knowledge and Practices to support upland agricultural systems that harbour ABD; as well as produce forest products for food, wood, medicine, botanical pesticides etc.	
<ul style="list-style-type: none"> <li>- <i>Ifugao</i>: Families maintain community- and family-owned forests that support age old hillside wetland rice production.</li> <li>- <i>Lake Sebu</i>: Customary rules prevent cutting of trees and promote forest regeneration. Unclear governance of community forests due to overlapping legal frameworks between Protected Area and forthcoming Ancestral Domain Title (CADT) and local government code.</li> </ul>	<ul style="list-style-type: none"> <li>- Facilitate community based assessment and action planning on how to strengthen indigenous system for enforcement in collaboration with LGU and DENR</li> </ul>

KP baseline	Actions required to address KP gaps
- <i>Ifugao and Lake Sebu</i> : Recent inappropriate forest utilization practices( reflecting poor implementation) combined with impacts of climate change contribute to increased incidence of landslides, erosion and water related concerns	
<b>Knowledge and practices for on-farm and community-based conservation of ABD</b>	
<ul style="list-style-type: none"> <li>- <i>Ifugao and Lake Sebu</i>: women select and keep good quality germplasm of a wide range of varieties.</li> <li>- <i>Ifugao</i>: communities maintain a reciprocal seed exchange systems to address contingencies.</li> <li>- <i>Ifugao and Lake Sebu</i>: diminishing ABD conservation practices; current efforts (LGU, CSO) are inadequate</li> </ul>	<ul style="list-style-type: none"> <li>- Facilitate identification of range of crops specials and varieties.</li> <li>- Help ensure seed keeping knowledge is documented and transferred to younger generation (women).</li> <li>- Develop community gene bank network consisting of a network of seed keepers supported by small infrastructure and LGU coordination.</li> <li>- Develop community registry system and facilitate recognition by government</li> <li>- Conduct performance trials to identify high performers among traditional varieties</li> </ul>
<b>Knowledge to adapt to stress partly due to climate change</b>	
<ul style="list-style-type: none"> <li>- Repair of terraces &amp; Maintaining irrigation system in steep slopes to last for generations ( Ifugao )</li> <li>- On farm systems for soil moisture conservation (Lake Sebu )</li> <li>- Current interventions are inadequate to address the scale of stress and shocks to the farm</li> </ul>	<ul style="list-style-type: none"> <li>- Incorporate participatory micro watershed planning to ensure full understanding local hydrology (new normal due to climate change) and thus guide the design of water management structures (run off interception systems , gulley checks, water harvesting etc. )</li> </ul>
<b>Knowledge related to Marketing forest and farm products</b>	
<ul style="list-style-type: none"> <li>- Basic packaging of traditional rice varieties for niche markets</li> <li>- Wood carving and other value adding works on minor timber products , farm wastes</li> <li>- Weaving with abaca hemp inspired from dreams (dream weaving)</li> </ul>	<ul style="list-style-type: none"> <li>- Test and apply strategies for availing of diversified ad expanded niche markets through a range of certification such as “geographic indicator “, organic agriculture certification etc.</li> <li>- Assist producer groups with capacity meet basic standards associated with certification system</li> <li>- Facilitate certification process</li> </ul>
<b>Embedding ABD knowledge in IKSP and education of the next generation</b>	
<ul style="list-style-type: none"> <li>- Elders participate in the articulation and documentation various art forms and embed in primary education ( with the help of NGOs and DepEd)</li> <li>- Young generation no longer interested in traditional agriculture but still appreciate BD and ABD</li> </ul>	<ul style="list-style-type: none"> <li>- Upscaling of the experience in agricultural tourism in Kiangnan in Hungduan</li> <li>- Embedding ABD values in existing and proposed IKSP</li> </ul>

***Output 2.3.1 ABD resources, agroecosystems and their management practices mapped, characterised and documented in the pilot areas***

255. It is essential for knowledge sharing and generation activities under this component to be based on reliable information on the ABD resources which will be the target of conservation and management activities, for which capacities will be developed. Activities under this output will therefore focus on generating and presenting knowledge on what ABD resources are present in each of the pilot areas, and how they are managed: the target is that 17 target barangays will be covered by

participatory inventories and analyses of ABD resources, agroecosystems and their management practices.

256. The lead actor for the mapping, characterisation and documentation of on-farm ABD resources foreseen under this output will be the Department of Agriculture, in particular DA agencies such BPI and BAR, as well as commodity agencies (PHILRICE, IFAD), The National Museum and SUCs will also be involved, as they have some personnel capable of working with communities to identify ABD resources. To complement the analyses above on crops and cropping systems, analyses will also be carried out of the ecosystems and landscapes in which the ABD cropping systems are located. This is necessary in order to take into account the multiple productive, biological and social interrelations between ABD cropping systems and their surrounding landscapes, for example the importance of hilltop forests in providing stable water supplies for irrigated rice terraces, and the biological relations between on-farm crops and biodiversity outside of the farm (including wild crop relatives). The lead actor in relation to these aspects will be DENR.

257. Although these activities will be championed by these Government institutions, there will be a strong emphasis on community participation. In line with principles of informed consent, the aims and proposed approach of the mapping will be discussed with the communities, and their approval sought for the activities. Particular attention will be paid to discussing how the information to be generated will be used, including, as required, the joint definition of corresponding protocols, in order to address possible concerns about biopiracy or “theft” of traditional knowledge. Communities will be encouraged wherever possible to assign local counterparts to accompany and work with the mapping teams, and feedback meetings will be held to present and discuss results and how to use them as the basis for the knowledge generation and sharing processes proposed under Output 2.3.2.

***Output 2.3.2 Knowledge sharing on ABD management and conservation practices for farmers in pilot and neighbouring communities***

258. The project will adopt a two-fold approach to ensuring the existence of the required levels of knowledge on ABD resources and their management and conservation: in the pilot communities, knowledge sharing and generation will be directly facilitated by in-house technicians and consultants funded with GEF resources, and in neighbouring communities it will be provided by partner institutions who will be provided with orientation and materials by the project. Municipal Agricultural Offices of LGUs will play a particularly important role in this regard, reflecting the devolution of agricultural extension services to LGUs. A resource of extension and communication guides/modules on ABD conservation and sustainable use will be developed for LGU agricultural extension facilitators as well as farmer facilitators in 3 MLGUs. Under this output, 1,000 farmers will be targeted in 17 barangays.

259. Overall, the approach of the project will be to take as a starting point for the recognition of the extent and value of the traditional knowledge (TK) already held by farmers and other community members, as guardians of ABD, and to focus primarily on supporting the systematization, sharing and valuation of this knowledge. Particular attention will be paid to ensuring that the traditional knowledge of women is adequately recognised, for example in relation to the selection and keeping of seed and in the design of traditional products based on ABD (see paragraphs 295 and 384).

260. A key element of this approach, however, is that it will avoid trying to preserve TK in a static manner, but instead to help farmers to adapt this TK and associated practices to changing biophysical (including climatic), socioeconomic, demographic and cultural conditions. Where appropriate and necessary, this will be complemented by exogenous technical inputs that may be required to enable this adaptation process, but these will be subject to participatory validation by the target populations in order to ensure their appropriateness and acceptability. Specific issues highlighted during the PPG phase on which technical capacity development will focus will include nutrient management and planting material production and management (in all three target sites), and water conservation and mechanization (in Ifugao only).

261. The project will use a range of approaches for knowledge generating and sharing. The main approach to be used will be that of Farmer Field Schools (FFS), which has been widely tested worldwide and in the Philippines. Recent experiences in the Philippines have however highlighted the

challenges posed by the implementation of this model in remote upland farming communities with small and widely separated landholding, where participation in FFS covering whole cropping cycles can imply high opportunity costs for farmers, and a consortium of agricultural extension and research management agencies is currently undertaking a strategic review of the different technology transfer and extension modalities in the Philippines, with results are due in mid-2015. The ATI and other allied institutions have in recent years developed a wider and more flexible menu of methods, which are being tested in collaboration with LGUs. The approaches for knowledge sharing and generation to be applied by the project will therefore be flexible and responsive to such ongoing reviews. Advantage will also be taken of existing community structures and organisations (such as farmer associations, women organizations, 4 H youth clubs and barangay councils) for the sharing and discussion of information and lessons learned through the project within and between communities.

***Output 2.3.3 Inclusion of ABD issues in primary, secondary and tertiary education and IKSP programmes in the pilot provinces***

262. PPG studies and consultations highlighted the importance of cultural awareness as a key determinant of the success of ABD conservation issues, especially in the light of increasing levels of emigration from rural communities, particularly among the young, and the growing levels of detachment between young people and their cultural roots. To address these issues, the project will support the introduction of ABD issues into primary, secondary and tertiary educational programmes in the target municipalities and provinces, for example through the development and pretesting of ABD oriented modules for tertiary curricula in selected SUCs, and the development of an action plan with the Commission on Higher Education on mainstreaming the subject of ABD in tertiary curriculum for agriculture and forestry.

263. The target audience at secondary level will include “future farmers”, in other words young people from farming families who are most at risk from cultural alienation and emigration yet who have the potential, if provided with the required motivation and knowledge, to become the future managers and custodians of ABD. The audience at tertiary level (for example in provincial technical schools) is likely to include future extension agents and members of local and provincial governments; by promoting ABD issues at this level, the project will therefore make a higher-level contribution to the creation of a favourable enabling environment, thereby resulting in scaling up and sustainability.

264. The project will target around 450 secondary students (50 in each of 3 year levels in 3 municipalities) and 120 tertiary students (30 in 2 classes in 2 colleges/universities) in this way in the target provinces.

**Outcome 2.4: Improved opportunities for local communities to derive economic, livelihood and food security benefits from agro-biodiversity conservation resulting in increased sustainability of agro-biodiversity and ecosystem conservation practices**

265. PPG studies indicated that sociocultural factors play an important role in motivating farmers’ continued maintenance of traditional varieties. These include personal preferences for their taste and other characteristics, and the varieties’ importance in cultural rituals. Nor does their marketing behaviour respond directly to economic factors; even when saleable surpluses exist beyond their personal consumption needs, these are often retained rather than sold, as a means of meeting cultural obligations for donations to relations. Despite this, numerous examples were reported of farmers being forced to move away from traditional varieties due to their low profitability, due to price levels which fail to reflect the high labour requirements of their production.

266. In order to address this situation, the project will demonstrate the effectiveness of a market-based incentive system to make agro-biodiversity conservation economically profitable for local communities. This will be achieved in close collaboration with the private sector, including actors such as Echostore, supermarkets, RTFC, etc., who will also be involved in the market upscaling proposed under Outcome 3.1. In close coordination with existing efforts (see Baseline section), the project will facilitate the establishment and local application of nationally recognized certification mechanisms to label agro-biodiversity friendly products. Certification will represent the starting point for establishing a premium market for agro-biodiversity goods.



267. The project will lever the existing recognition initiative for “Nationally Important Agricultural Heritage Systems” (NIAHS), building upon experiences in pilots in China and Chile with eco-agriculture heritage labelling, explicitly to promote conservation of ABD harboured in agricultural heritage systems (focusing on both production systems and varieties). The NIAHS initiative is based on the standards of the globally recognized “Globally Important Agricultural Heritage Systems” (GIAHS) where agricultural biodiversity and associated biodiversity of significance to food and agriculture is one of the five criteria of selection. NIAHS certification is designed following GIAHS criteria, targeting dynamic conservation of agricultural biodiversity harboured in evolving traditional agricultural practices. NIAHS criteria thus overlap with the principles of agro-biodiversity conservation. The existing NIAHS initiative is a system to recognize traditional agricultural practices and highlight primarily their cultural value as an historic heritage. NIAHS designates areas that apply these practices and contribute to their safeguarding, comparable to the designation of historical buildings. As such, NIAHS does not provide a product certification scheme for agricultural products that make a targeted contribution to the enhancement of agricultural biodiversity. However, since traditional practices recognized under NIAHS include an emphasis on traditional varieties, which at the same time are central to agricultural biodiversity, NIAHS provides a well suited basis for the development of a specific agro-biodiversity product certification. The related activities under the GEF project will therefore leverage the achievements of NIAHS by shifting the focus to the primary purpose of agro-biodiversity conservation, develop additional criteria that can be incorporated in the NIAHS set of criteria, and apply the criteria to selected indigenous varieties and species with the specific objective of product development (also see component 3 on partnerships with the private sector). The GEF project will thus use the NIAHS initiative as a starting point for developing a full-fledged, recognized product standard and certification system for agro-biodiversity friendly goods.

268. PPG studies (see section 1.6) indicate significant levels of willingness to pay on the part of national consumers for a range of product characteristics, including the following:

- Products certified to promote biodiversity and indigenous or local varieties
- Products certified to preserve heritage sites (Ifugao rice terraces)
- Certified Organic rice
- Rice products labelled/sold as organic but without official organic certification
- Rice products certified to preserve Ifugao rice terraces as a cultural heritage site

269. The project’s approach to market-based incentives will therefore not be limited to NIAHS recognition, but will include a range of other certification and/or “eco-labelling” options criteria for which consumers have expressed willingness to pay.

270. In addition to the sale of ABD products, the project will support the generation of economic benefits from ABD conservation through linking this to farm-based tourism, which has the potential to benefit diverse sectors of the population (including typically elders, as raconteurs of traditional knowledge, young people as guides and women through the provision of services and the sale of goods). Tourism is already an important activity in both target sites, and is prioritised by local governments, and under Outcomes 1.1 and 2.1 the project will strengthen the incorporation of ABD considerations into tourism development plans at national and local levels.

***Output 2.4.1 Access to tools, equipment and facilities<sup>31</sup> for improving productivity and sustainability, and reducing post-harvest losses***

271. One of the factors that is leading farmers to move away from growing traditional crop varieties in traditional farming systems is the high levels of labour that these often demand (given, for example, that they typically involve manual weeding rather than the use of pesticides, and are often located on topographically challenging uplands where conventional forms of mechanisation are not feasible, obliging farmers to clear and cultivate land manually). This factor is becoming increasingly limiting as

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<sup>31</sup> To be defined on a *barangay*-specific manner through participatory analyses, but could include for example hand tools for reducing labour costs for cultivation and weeding, facilities for producing clean planting material, composters, rice mills and drying facilities adapted for traditional varieties, and rainwater harvesting/micro-irrigation equipment. Investment costs will be supported by co-financing from relevant existing programmes of DA.

labour becomes scarcer due to the emigration of population (especially the younger, more economically active and physically capable members of society) to the lowlands. The project will contribute to reducing the overall labour budget of these systems by supporting the development and provision of labour-saving “appropriate” technologies, such as animal-drawn ploughs capable of negotiating steep hills that would be off limits to conventional tractors. Support will also include technologies for reducing post-harvest losses, such as customised milling machines tailored to the characteristics of traditional varieties, resulting in reduced grain breakage, and drying and packaging facilities capable of prolonging shelf-life and improving presentation.

272. The specific technologies to be supported in this way will be confirmed and developed in a participatory manner with the target communities, and in close consultation with national research and development institutions in both public and private sectors. The development of these technologies will be accompanied by:

- The provision of technical support for their application;
- Technical and organizational support for the development of small businesses based on the local production of the technologies (e.g. low-tech agricultural machinery, driers and packaging machines);
- Advice on and facilitation of access to sources of finance for the initial investments required to obtain the technologies;
- Organizational support to ensure the efficient and equitable use of shared resources such as milling and drying facilities.

***Output 2.4.2 Recognition of distinctive ABD and cultural importance of target sites and products, to support certification and marketing***

273. Consumers’ willingness to buy in to market-based incentive systems that reward the production of traditional varieties is dependent on their having evidence that the product in question does in fact have the characteristics for which they are prepared to pay. To this end, the project will support producers in the target sites in gaining formal recognition of the validity of their claims, which can then be used for marketing the products. These will include both site-based and product-based approaches, such as:

- Recognition of NIAHS sites, building on the progress made to date presented in paragraph 267 above;
- Community registry of traditional varieties, under the provisions of the Plant Variety Protection Act
- Recognition of Geographic Indication, for example evidence that rice comes from the Ifugao rice terraces, which have renown among consumers at both national and international levels.

274. These forms of recognition will take advantage of the existence of a favourable legal framework, which will be supported by project activities under Output 1.1.1, in relation for example to the development of policy instruments for community registry of traditional varieties under the Plant Variety Protection Act, and for accelerated adoption of the NIAHS as a category in the current guidelines for Cultural Heritage conservation.

***Output 2.4.3 Detailed market-valuation analyses conducted to assess the specific marketability of indigenous varieties as premium market products***

275. The market/WTP study carried out during the PPG phase was necessarily limited in scope and specificity. The project will support further detailed market valuation analyses of specific traditional varieties, products and “labels”, as the basis for the business and marketing plans proposed under Output 2.3.3 below, confirming the types of product and/or certification scheme which are likely to yield highest returns on investment (taking into account market prices in relation to production, marketing and transaction costs), and identifying the specific markets to be targeted (based on factors including accessibility, marketing and transport costs, price levels, and demand volumes, as well as likely trends in these factors).

***Output 2.4.4 Capacity development for business planning, product development and marketing, to increase farmers' abilities to seize commercial opportunities from target ABD species/varieties***

276. Based on the results of the market analyses proposed under Output 2.4.3 above, the project will support farmers and their organizations in the target areas in developing business and marketing plans for the target products and for ABD-focused farm tourism. This will ensure that the development of farmers' investments in production and marketing of traditional varieties is commensurate with their levels of financial, technical and organizational capacities, and with the nature, magnitude and reliability of market conditions. This will build upon the experiences of enterprise development planning, generated through the CHARMP2 project. Particular attention will be paid to ensuring that women are able to participate in and benefit from such initiatives in an equitable manner, recognising the key roles that they currently play, for example, in the design and fabrication of ABD-based products such as abaca weavings.

277. Aspects to be covered by the business and marketing plans will include the following:

- Technical, organizational and financial capacities: based on specific capacity building needs analyses (CBNA), actions will be identified and budgeted to develop the capacities of farmers and their organizations to meet market demands in terms of production and product development, to interact effectively with market actors, including price negotiation; and to plan and manage finances.
- Financial planning: investment needs will be identified and, on the basis of reviews of production capacity and the market analyses proposed under Output 2.3.2, cash flow and investment projections will be developed, and needs and strategies for obtaining finance will be defined.
- Marketing: target markets will be identified, and the levels of insertion into each will be planned, ensuring that provision is made to balance the realization of current marketing opportunities with the limitation of exposure to the risk of market failures.

278. The project will invest in developing the human capacities required in the target areas for the functioning of the proposed market-based incentive systems, including:

- Training both individual farmers and producer organisations in business development and management, production and marketing; this training will include the approach of Farmer Field/Business Schools, based on the FFS approach proposed under Outcome 2.1;
- Training LGU and NGO staff in supporting the development of local enterprises, including the role of brokers or intermediaries between farmers and market opportunities, bringing farmers in specific regions together to develop economies of scale and critical masses to facilitate market insertion, and developing and promoting local or regional "brands" based on geographical locations and their characteristics.

279. In order to accelerate market insertion, the project will support producers by investing directly in the development of specific products, including the following:

- Organic rice sampler (e.g. 2kg pack with four different rice varieties at 500 grams each) for echo store and other niche markets (All 3 sites)
- Banana chips from rejects of Fair Trade "Soging Genelon"/balangon" (Lake Sebu)
- Organic sweet potato, yam, taro chips sampler (e.g. variety of chips in one pack) - Lake Sebu
- Initial set of labels and packaging materials (all sites)

**Component 3: Dissemination of information, awareness raising and preparations for scaling up**

280. Activities under this component will focus on creating conditions for the scaling up to national level of the experiences generated at local level under component 2, within the overall favourable enabling environment created under component 1.

**Outcome 3.1: Increased awareness among policy-makers, practitioners and consumers about the full socio-economic value of agro-biodiversity.**

281. Policy development relies on policy-makers' capacity to make informed and balanced policy decisions. Knowledge and information activities under component 3 will ensure that policy-makers have easy access to up-to-date, scientifically validated information. The compilation and dissemination of information gathered from project sites, specifically targeted at policy-makers, will maximize the positive feedback effect from successful pilot activities to enhanced policy development.

282. The specific nature of the activities under this output will be confirmed on the basis of updated KP surveys to be undertaken at project start. These will complement the initial KP survey undertaken during the PPG phase, which confirmed the importance of focusing awareness-raising on the cultural value of ABD and on the environmental contribution of traditional upland practices.

***Output 3.1.1 Information on the full value of ABD and management options compiled and disseminated among policy-makers based on pilot results and existing national level information (including other initiatives)***

283. The project will use a range of mechanisms for transmitting information to policy makers, including the following:

- Information and policy guidance documents formulated in appropriate language and formats, with clear "take-home" messages on the implications of the information presented, in terms of potential benefits for the areas of interest of the actors in question, and specific recommendations for action;
- Compendia of reference information on ABD and options for its management and conservation;
- Websites containing summarized information and recommendations, with links to sites and downloads with more detailed information. These websites will be linked to existing websites of partner institutions in order to maximized visibility and accessibility.
- Symposia and congresses in which results and policy recommendations will be presented and subject to discussion among policy-makers and other key stakeholders.

***Output 3.1.2 Consumer awareness campaign implemented showcasing the nutritional, cultural, ecological value of traditional varieties***

284. The success of market-based mechanisms under component 2 crucially relies on an increased awareness among the broader public, specifically the consumers of agricultural products, about the multiple benefits obtainable from indigenous and endemic varieties, especially regarding the nutrition and health related value of corresponding products.

285. The project will target selected consumers (identified on the basis of the market studies proposed under Output 2.3.2) for marketing/awareness-raising campaigns based initially on the ABD products of the three target sites, focusing on benefits such as their nutritional, cultural and ecological value. This will be carried out in partnership with private sector entities (e.g. Echostore, supermarkets, RTFC, etc.), with additional participation by entities including DA, AMAS, BAR, PLGU and SUCs. Marketing tools to be used to this end will include:

- a) Marketing collaterals e.g. brochures;
- b) Displays and visual merchandising for ABD products for participating stores (speciality stores and possibly supermarkets);
- c) Attendance and presentations in trade fairs and exhibits;
- d) Website development, linked directly to the sites of participating private sector actors, particularly retailers, and also the sites of key government institutions and NGOs.

**Outcome 3.2 Conditions created for further replication and scaling up of ABD promotion in other parts of core provinces and regions**

286. The creation of conditions for replication and scaling-up will maximise cost-effectiveness, in terms of the magnitude of the long-term impact achieved with the resources available. This scaling-up will be based initially on the experiences and results generated in the three target sites, and will rely upon partnerships with private- and public-sector actors at national level, and at regional and local levels elsewhere in the country, as vehicles for their channelling and replication.

***Output 3.2.1 ABD considerations included into knowledge sharing programmes in target areas for upscaling (other parts of core provinces and regions, and elsewhere)***

287. In addition to the direct support to the development and consolidation of farmers' capacities for managing ABD in an adaptive manner, proposed under Component 2, the project will achieve a further replication effect among a wider population of farmers by collaborating with key partners to insert ABD management considerations into their existing knowledge sharing initiatives. These partners will include, for example, ATI, BAR, LGUs, SUCs, PA Management Boards and NCIP, and the project will target a number of different initiatives of these actors, which work through diverse modalities ranging from more conventional agricultural extension, to Farmer Field Schools, horizontal Farmer to Farmer exchanges, and community-based action research. It is intended that a further 4,000 farmers will be targeted in this way, resulting in increases in their knowledge, awareness and capacities to maintain ABD in a dynamic manner.

***Output 3.2.2 Partnerships with private sector established to facilitate the introduction of agro-biodiversity products into larger markets***

288. Going beyond the site-specific marketing work and corresponding private sector partnerships proposed under Outcome 2.4, the project will support the exploration of partnerships between ABD producers and private sector actors at a wider level; over a longer time scale, this will result in more widespread market insertion, involving a wider range of traders and retailers, and also of producers and suppliers. To this end, the project will systematize and disseminate the pilot-level experiences of ABD marketing, with a focus on demonstrating to wider traders and retailers the nature and levels of interest in ABD products that is generated in the pilots, and the potential for market growth and profit generation. In turn, private companies will provide valuable assistance to the communities in providing much broader market access and supply chain facilities, as well as specific expertise for example on packaging, marketing and target group identification for the emerging indigenous variety products.

***Output 3.2.3 Collaborative arrangements/outreach with actors in other provinces/regions (NGOs/Government)***

289. Replication elsewhere in the country will additionally be promoted through collaborative agreements with LGUs, line agencies and/or NGOs. The project will disseminate information to such actors in other parts of the country regarding the experiences generated in the project target areas, which will serve to raise awareness among them regarding the potential benefits that could similarly be generated among their own target populations, and on the basis of this the project will seek agreements with these actors to include dynamic ABD conservation activities in their work plans. The project will thereby take advantage of the knowledge transfer mechanisms of these other actors for the replication of its model, including initiatives such as the school on the air, conventions of leagues of LGUs and network conference of NGO, as well as their field-level extension systems.

## **2.5 GLOBAL ENVIRONMENTAL BENEFITS AND SOCIOECONOMIC BENEFITS**

290. Agro-biodiversity conservation and the adoption of sustainable ABD management practices have crucial roles to play in protecting biodiversity in wider production landscapes, reducing the pressure from agricultural production on biodiversity in general. This makes agro-biodiversity conservation an important building-block for the conservation of overall global biodiversity and the creation of GEBs. The wealth and uniqueness of agro-biodiversity in the Philippines translates into a particularly significant potential for GEBs to be attained through agro-biodiversity conservation.

291. The project will contribute to the conservation of globally significant agricultural biodiversity. It will directly support the *in-situ* conservation and sustainable use of several indigenous rice varieties and complementary vegetable and fruit crops in rice-based farming systems. Specifically, in the target areas, it will maintain the conservation status of traditional varieties in 17 target barangays covering 300ha (as measured by the numbers of varieties grown). The precise varieties in each barangay will be identified at project start, but as an indication, the numbers of varieties in the target municipalities as a whole are as follows:

- Hungduan: 24 rice, 1 sweet potato, 3 taro, 1 yam
- Hingyon: 17 rice, 5 taro, 5 sweet potato, 0 yam
- Lake Sebu: 20 rice, 9 taro, 1 sweet potato, 5 yam

292. The clear focus on rice-based farming systems reflects the central importance of rice for agrobiodiversity in the Philippines, which is also part of the centre of diversity of rice. The prioritization of rice will also narrow the project objective and thereby allow for targeted and efficient activities maximizing GEB creation in the context of this comparably small project. The set of key target species for conservation will be complemented by a group of indigenous vegetable and fruit varieties that are of clear global significance, as for example signified by the Philippines being recognized as centre of diversity or centre of origin for these species. Keeping with the project's focus, selected species will already or potentially be part of rice-based farming systems, either as a suitable rotation crop or as a promising diversification crop. The sustainable supply of planting materials will rely on an already comparably advanced system of seed banks existing in the Philippines. Another criterion for key target species selection will be particularly high potential for creating market demand by conforming to prevailing consumer dietary preferences, increasing opportunities for product and market development.

293. Furthermore, the combination of pilot activities with corresponding policy development and mainstreaming and a strong potential for replication and scaling up will facilitate the broader adoption of agro-biodiversity conserving practices across the Philippines, contributing to the conservation of globally significant indigenous and endemic species well beyond the limits of the actual project sites.

294. In addition to ABD, the project will contribute to the conservation of non-crop biodiversity present in the rice terraces and in the associated ecosystems that make up the target landscapes. Studies based on a combination of inventories and focus group discussions identified a total of 280 plant species (trees, shrubs, herbs, grasses, epiphytes, vines, domestic plants and aquatic plants) and fungi in the target landscapes in Hungduan, of which 58 were endemic and 4 were threatened, together with 93 species of fauna (birds, mammals, reptiles, amphibians, and insects), of which 10 were endemic and 4 were threatened<sup>32</sup>.

295. These global benefits will be closely associated with the delivery of significant socioeconomic benefits. As explained in Section 1.1, ABD is of local/national as well as global importance: it has historically formed the basis for resilient agro-ecosystems providing crucial ecosystem services including the provision of food and nutrition, water and soil regulation, as well as performing a cultural role, especially in indigenous communities. These cultural aspects are particularly significant for women, for example in Ifugao women have a role in practically all stages of rice production but are particularly recognized for their skills to select the good quality seeds to be grown for subsequent harvests: likewise, in South Cotabato T'boli women play a crucial role in farming (including seed keeping) and in crafts including abaca weaving. The maintenance of traditional agroecosystems featuring a wide diversity of crop varieties and conserving the equilibria of ecological interactions between crops, pests and control agents also has high potential to assist farmers to withstand and adapt to the impacts of climate change. This adaptive capacity will be furthered through the project's use of non-vertical approaches to knowledge generation, focused on strengthening farmers' abilities to develop solutions to their needs based on farmer-led analysis and experimentation.

296. The conservation of ABD will therefore directly contribute to livelihood sustainability, food security and the position of women; as the same time, the generation by the project of net socioeconomic benefits for local communities will serve as an added incentive for their active participation in the project and for their support to the proposed conservation strategies.

297. The socioeconomic benefits to be delivered by the project will include the following:

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<sup>32</sup> Assessment of Agricultural Biodiversity of Pilot Sites of Globally Important Agricultural Heritage Systems, Ifugao Rice Terraces, at Hunguan, Ifugao, Philippines. Project Management Office, GIAHS, DENR, Cordillera Administrative Region, August 2, 2011

- Enhanced and expanded knowledge among local level decision makers and community members on the application of dynamic ABD conservation practices and their relation to cultural heritage (Outcome 2.3). End of project targets:
  - 1,000 farmers in 17 target barangays with enhanced knowledge of how to adapt traditional management systems to changing circumstances.
  - 450 secondary students (50 in each of 3 year levels in 3 municipalities) and 120 tertiary students (30 in 2 classes in 2 colleges/universities) receiving classes on ABD.
- Increased opportunities for target communities to derive economic, livelihood and food security benefits from agro-biodiversity conservation, resulting in increased sustainability of agro-biodiversity and ecosystem conservation practices (Outcome 2.4). End of project targets:
  - 350 farmers (covering 238ha), in all 17 barangays, applying producer labels based on ABD considerations to a total of 55t of rice per year, and as a result will have increased their income from sale of traditional varieties by 10%.

298. At the same time, the project will take steps to ensure the maintenance of the food security and nutrition benefits associated with traditional varieties, specifically the risk of increased market opportunities leading farmers to sell more of their production of traditional varieties rather than consuming them. The target (Outcome 2.4) will be that farmers maintain the quantities of traditional rice varieties that they consume or use for social obligations, rather than selling, at least baseline levels.

299. In addition to these biodiversity and socioeconomic benefits, the project will generate significant incidental benefits in terms of sustainable land management. The rice terraces themselves are highly sustainable in these terms, characterised by low erosion rates, efficient processes of nutrient conservation and cycling, and the maintenance of ecological equilibria between crops and associated soil fauna<sup>33</sup>. The rice terraces themselves form part of landscape-wide mosaics, including elements such as the *muyong* forests, which permit the maintenance of sustainable hydrological flows and ecological equilibria.

300. The wide range of ecosystem services provided by traditional and heritage agriculture in Asian rice production systems is shown in Figure 5.

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<sup>33</sup> Biodiversity and Sustainability of Wetland Rice Production: Role and Potential of Microorganisms and Invertebrates (P.A. Roger, K.L. Heong & P.S. Teng). In: The Biodiversity of Microorganisms and Invertebrates: Its Role in Sustainable Agriculture. Edited by D.L. Hawksworth. © CAB international 1991.

**Figure 5. Relationships between six agro-ecological intensification systems, and the ecosystem services that they are documented to benefit, in Asian rice production systems<sup>34</sup>.**

ECOSYSTEM SERVICES	Conservation agriculture	Integrated Farming System	Organic agriculture	Trad'l & heritage agriculture	System of rice intensification (SRI)	Integrated pest management (IPM)
Diet diversity	●	●	●	●		
Carbon sequestration	●	●	●	●		
Cultural services		●		●		
Energy provision		●				
Genetic diversity			●	●		
Mitigation of GHGs	●	●	●	●		●
Pest control		●	●	●	●	●
Soil structure, fertility, erosion control	●	●	●	●	●	●
Resilience to climate disturbance				●	●	
Water quality	●	●		●	●	
Water quantity	●			●	●	●
Weed control		●	●	●	●	
Wild biodiversity & habitat provisioning			●	●		

## 2.6 COST EFFECTIVENESS (alternative strategies and methodologies considered)

301. One approach could have been to pay farmers to maintain crop diversity on their farms, with a focus solely on conservation. This would have been expensive and not replicable. Instead, the project is focused on developing sustainable incentives, both market-based and non-market.

302. Another alternative would have been to focus exclusively on further strengthening the *ex situ* conservation of genetic material in gene banks managed by research and academic institutions. A number of institutions in the Philippines do indeed maintain large *ex situ* collections of traditional varieties of agricultural crops. This constitutes a vital mainstay of gene conservation programmes, and an important safeguard against the risk of on farm populations being lost due to the threats described in Section 1.7. However, resource limitations for field prospecting mean that *ex situ* conservation on its own cannot be relied upon to capture the full diversity of ABD resources; neither does it permit populations to evolve, or new varieties to emerge, as they would normally do in on-farm conditions as a result of natural crossing or breeding and selection by farmers, and would therefore risk the eventual loss of inter- and intra-population diversity due to processes of viability loss in storage. The project approach therefore seeks sustainability and cost-effectiveness by recognising *in situ* and *ex situ* conservation as complementary and mutually interdependent strategies.

303. Cost-effectiveness will also be furthered by a “layered” approach to targeting farmers for capacity development. A “core” population of 1,000 farmers will be targeted directly by the project in the 17 target barangays (Output 2.3.2); while a further 4,000 farmers will be targeted indirectly by the project’s support to the inclusion of ABD considerations included into the knowledge sharing programmes of partners in target areas for upscaling (other parts of core provinces and regions, and elsewhere) (Output 3.2.1), resulting in impacts on their knowledge, attitudes and practices with a lower level of investment per farmer..

## 2.7 INNOVATIVENESS

304. At both local and national levels, the project will be innovative inasmuch as it will bring together different approaches to conservation that have conventionally been compartmentalised (*ex situ*

<sup>34</sup> The Multiple Goods and Services of Asian Rice Production Systems. FAO (in prep).



conservation with dynamic on-farm management; a farm/livelihood-focused approach with a landscape-wide approach; and a culture-focused approach with the use of economic, market-based instruments), in an integrated and complementary manner.

305. This approach will also be innovative from a global perspective. Of particular significance is the fact that the project will build on the emerging global initiative of Globally Important Agricultural Heritage Sites (GIAHS), integrating and complementing this model with additional elements required to ensure social, cultural, productive and economic feasibility and sustainability.

## SECTION 3 – FEASIBILITY (FUNDAMENTAL DIMENSIONS FOR HIGH QUALITY DELIVERY)

### 3.1 ENVIRONMENTAL IMPACT ASSESSMENT

306. Following FAO's *Environmental Impact Assessment (EIA): Guidelines for FAO Field Projects*<sup>35</sup>, the proposed Project is classified under category C<sup>36</sup>, and therefore does not require a full scale EIA.

### 3.2 RISK MANAGEMENT

#### 3.2.1 Risks and mitigation measures

307. In general, the vulnerability of the project to risks will be mitigated by its multifaceted approach. Although it builds on and aims to put into practice the GIAHS model, its success does not depend on the uptake of this model among farmers and in markets; rather, it will be open to a range of market-based instruments including organic certification, geographical indication and “first party” labelling. Similarly, the success of the project is not dependent exclusively on the success of the market-based model as a whole (although under present conditions indications are favourable regarding the potential of this approach) but rather uses this as a complement to traditional incentives for ABD conservation based on traditional knowledge, preferences and practices. Traditional knowledge (TK) is not however set in stone: rather, the project recognises the need for TK to evolve and adapt to changing sociodemographic, economic and biophysical (including climatic) circumstances, thereby mitigating the risks posed by such changes. The project will also mitigate the risks of unforeseen threats affecting the viability of on-farm ABD conservation and management strategies by adopting a whole-landscape approach, which will cover the different elements of the landscape, and the human and economic factors, that influence ABD directly or indirectly.

Risk	Rating	Mitigation Strategy
Government budgetary constraints at national and local level	M	The project will address this risk by strengthening farmers' capacities for knowledge generation and farmer-to-farmer knowledge transfer, as complements to Government extension programmes that are hampered by budgetary constraints; and by promoting the involvement of the private sector in the development and application of market-based incentives to complement the Government's weak capacities in this regard..
Low level of participation and support from stakeholders	L	The project will mitigate this risk by employing a highly participatory and consultative approach, increasing the understanding and national/local ownership of the project objectives and activities and addressing stakeholder concerns early and comprehensively. Participation and ownership is especially important at the community level and a prerequisite for successful implementation. In addition to participatory practices, the clear emphasis on the economic opportunities for local farmers provided by the project activities will serve to mitigate the risk of inadequate stakeholder support. PPG processes have contributed to mitigating this risk in the case of the Local Government Units (LGUs) covering the target areas, representatives of which were fully involved in and

<sup>35</sup> See <http://www.fao.org/docrep/016/i2802e/i2802e.pdf>

<sup>36</sup> Category C projects should have minimal or no potential negative environmental or social impacts, either individually or cumulatively. They should not be controversial in terms of the interests of key stakeholders. According to FAO's guidelines (see previous footnote), in these projects no further environmental and/or social analysis or assessment is required.

Risk	Rating	Mitigation Strategy
		consulted on project design and have expressed firm commitment to the project.
Insufficient consumers' "willingness to pay"	L	<p>Studies carried out during the PPG phase confirmed that:</p> <ul style="list-style-type: none"> <li>- Most consumers are willing to pay for Eco labelled products (around 26% of respondents were willing to pay a price premium of &gt;21% for Eco labelled products) but the willingness varies depending on the level of price premium. These include products certified to conserve agro-biodiversity, indigenous varieties including rice, cultural heritage (e.g. handwoven products from abaca), certified organic rice, etc.</li> <li>- Certification fetches higher price. The majority of respondents are willing to pay price premium for Eco labelled products that range from 10% to 20%.</li> <li>- There is however significant price elasticity: more than 30% of respondents cited high price of organic product as one of the reasons why they don't purchase it.</li> <li>- Modelling results show that gender, age, income and being an organic consumption consumer significant affect the level of price premium.</li> </ul> <p>In recognition of the sensitivity of market behaviour to these factors, the project will support further detailed market valuation analyses of specific traditional varieties, products and "labels", as the basis for the business and marketing plans proposed under Output 2.3.3 below, confirming the types of product and/or certification scheme which are likely to yield highest returns on investment (taking into account market prices in relation to production, marketing and transaction costs), and identifying the specific markets to be targeted (based on factors including accessibility, marketing and transport costs, price levels, and demand volumes, as well as likely trends in these factors) (Output 2.4.3) and will also place emphasis on developing the capacities of producers to interact effectively with markets (Output 2.4.4).</p>
Limited capacity of local/national institutions for implementing project activities	L	The project will include activities for targeted capacity strengthening specifically preparing local and national institutions for their respective responsibilities during project implementation. Key implementation partners have been selected in accordance to their proven expertise and capacity. Implementation of project activities will be additionally assisted by a broad spectrum of supporting entities including other government agencies, universities and research institutions, civil society organizations as well as FAO HQ and country office.
Climate change	L	Climate change, particular fluctuations in the timing and intensity of rains and the occurrence of extreme rainfall events, is likely to undermine the functioning of traditional agricultural management systems. The focus of the project on supporting farmers in maintaining a wide diversity of crop varieties will buffer these risks by providing them with fall-back options in the case of failure of specific varieties in this way. Furthermore, the project will place a strong emphasis on developing farmers' capacities to experiment,

Risk	Rating	Mitigation Strategy
		innovate and adapt their traditional practices to evolving conditions, rather than “setting in stone” traditional knowledge.
Private sector involvement	M	Emphasis will in addition be placed on ensuring participation and support of private sector stakeholders, through the provision of technical expertise aimed at raising awareness and developing capacities for taking advantage of market opportunities for ABD and ABD-related products. sector actors and thereby adapt to evolving market conditions. Market studies to date, including those carried out during the PPG phase, indicate that diverse private sector outlets exist for the ABD products from the target areas. The project will develop partnerships across this wide range of private sector actors, in order to spread the risk of the failure of individual outlets. Under Output 2.4.4, it will also develop capacities among the producers themselves to interact with private sector actors and thereby adapt to evolving market conditions.
Coordination between ministries and with local institutions	M	<p>The project will implement various mechanisms to promote effective coordination between ministries and with local institutions:</p> <ul style="list-style-type: none"> <li>- A multi-institutional Project Steering Committee, including representatives from the Department of Agriculture, the NPD, the Department of Environment and Natural Resources (DENR), PhilRice, NCIP, the Department of Trade and Industry (DTI), and NCCA,</li> <li>- Ad hoc Technical Working Groups involving relevant bureaus of DA, DTI, NCCA, NCIP and the Department of Education.</li> <li>- Provincial Coordination Committees involving Provincial and Municipal LGUs, Provincial Offices for Planning, Agriculture, Environment, IP Affairs and Cultural Affairs, as well as provincial representatives of DENR , DA and NCIP.</li> </ul>

## SECTION 4 – IMPLEMENTATION AND MANAGEMENT ARRANGEMENTS

### 4.1 INSTITUTIONAL ARRANGEMENTS

#### a) *General institutional context and responsibilities*

308. The main institutional stakeholders in the project, together with their roles and responsibilities, are presented in detail in Section 1.10. The two lead sector institutions of primary relevance to the project are the Department of Agriculture (home to the Bureau of Agriculture Research, BAR, which will be the lead agency of the project) and the Department of Environment and Natural Resources (DENR), together with their offices at regional/local levels. Other entities that will be involved in the project will include NCCA, DTI, NCIP, Universities, ATI, the Department of Education, the Council for Higher Education and NGOs, as well as Provincial and Municipal level Local Government Units (LGUs and MLGUs). LGUs will play a particularly important role in recognition of their autonomous responsibilities for social development and environmental management at provincial and municipal levels. The specific forms of involvement of these different institutional stakeholders in project implementation are proposed in Section 4.2 below.

#### b) *Coordination with other ongoing and planned related initiatives*

309. The project will coordinate all its activities closely with three related, GEF-financed projects:

- a) *Conservation and Adaptive Management of Globally Important Agricultural Heritage Systems (GIAHS)* implemented by FAO;
- b) *Partnerships for Biodiversity Conservation: Mainstreaming in Local Agricultural Landscapes (“Biodiversity Partnerships Project” or BPP)* implemented by UNDP; and the
- c) *New Conservation in the Philippines Project (NEWCAPP)* also implemented by UNDP.

310. The FAO GIAHS project promotes conservation and sustainable utilization of agricultural biodiversity harboured in traditional agricultural systems including recognition of traditional agriculture and the role of indigenous peoples and local communities in the conservation of biodiversity for food and agriculture of global significance. GIAHS Initiative<sup>37</sup> well as biodiversity issues and therefore can serve as valuable sources of information and knowledge to inform and improve the proposed GEF project.

311. The significance of the GIAHS initiative as the basis for the national level NIAHS recognition, which in turn will serve as the basis for the certification mechanisms envisioned by the proposed GEF intervention, has already been extensively discussed in the previous sections. Collaboration with GIAHS, learning from its experiences and building on its achievements while avoiding any sort of project activity duplication, will be a central aspect of the proposed project.

312. Similarly, the BPP complements the planned project activities in a mutually beneficial way. The BPP does not primarily address agro-biodiversity itself, but focuses largely on the pressures from agriculture on biodiversity, especially in protected areas where BPP sites are located. The main objective of BPP is to “demonstrate how Local Government Units (LGUs), with enhanced capacities, and working together with local and national partners, can plan and manage economic activities and growth in ways that meet landscape-level biodiversity conservation and sustainable use objectives in critical bio-geographic regions.” The proposed project will closely coordinate its activities with the BPP in order to maximize opportunities for synergies and to learn from the BPP’s experience. Even though the BPP follows objectives distinct from the proposed project, some of its approaches at the community level are similar to the envisioned activities of this project. Most importantly, BPP is experimenting with certification mechanisms for biodiversity friendly practices, which will be complementary to the certification of traditional varieties conducive to agro-biodiversity conservation planned under component 2 of the proposed project.

313. The proposed project will coordinate its efforts with NEWCAPP, which focuses on the promotion and protection of indigenous peoples’ rights, empowering local indigenous communities to

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<sup>37</sup> The successful implementation of GIAHS project creating impacts at country have prompted FAO management and member states to adopt GIAHS in the FAO Programme of Work and Budget.

actively contribute to the conservation of biodiversity within Indigenous Community Conservation Areas (ICCAs). As indigenous communities play an important role in the few remaining traditional agricultural systems in the Philippines, the proposed project will benefit from a close exchange of information and experiences with NEWCAPP.

314. The regional GIZ-funded project Better Rice Initiative Asia is a collaborative project involving GIZ, Bayer Crop Science Programme, and the International Rice Research Institute. In the Philippines, the Agricultural Training Institute (ATI) is the key Government partner working with rice farmers. The project, which operates in Western and Eastern Visayas and Central Luzon, aims to promote good agricultural practices, especially in relation to crop protection, and also includes rice-based nutrition programmes. The knowledge products generated through the Better Rice Initiative project in the Central Luzon region (adjacent to CAR, where this project will operate) may be helpful for some of the farmers targeted by this project (especially in the lower and middle elevation areas in the case of Ifugao), who are using chemicals with little regard for safety. The ATI will be a key link institution as it will be working with both projects.

## 4.2 IMPLEMENTATION ARRANGEMENTS

### *a) Roles and responsibilities of the executing partners*

315. The Food and Agriculture Organization of the United Nations (FAO) will be the GEF Agency responsible for supervision and provision of technical guidance during project implementation. In addition, FAO will act as financial and operational Executing Agency, and will deliver procurement and contracting services to the project using FAO rules and procedures, as well as financial services to manage GEF resources.

316. The **Executing Partner/Lead Coordinating Agency (LCA)** of the project will be the Bureau of Agricultural Research (BAR) of the Department of Agriculture (DA). The Director of BAR will assume the role of **National Project Director (NPD)**, to be supported by a **Project Management and Coordination Unit (PMCU)**, which will be established to support the lead coordinating agency and collaborating institutions for the execution and delivery of project outputs and the achievement of project outcomes, under the overall oversight of a multi-stakeholder **Project Steering Committee (PSC)** (see below for roles and responsibilities of NPD, PMCU and PSC). The LCA, supported by PMCU, shall be responsible for the overall coordination, foster cooperation with other government line agencies and active partnership with the LGUs, NGOs, and other concerned institutions, as well as ensuring that the project is coordinated and implemented for maximum outputs as indicated in the approved Project Document.

317. Other project partners will play primary and/or secondary roles in the implementation of project components and outputs. These roles and responsibilities with regard to specific outputs will be confirmed at project start, which will include regional/local offices of DA and DENR and their attached bureaus/agencies (BPI, ATI, PhilRice) including technical units/divisions of DA, DENR, NCCA, DTI, NCIP, Universities/Academes, Department of Education, the Council for Higher Education and NGOs, as well as Provincial and Municipal level Local Government Units (LGUs and MLGUs). The delivery of outputs will be achieved through letters of agreements (LoAs) which will be elaborated and signed between the FAO and collaborating partners (service provider). The service provider will then be administratively managed by the FAO Philippines. Funds received by the service provider under a LoA will be used to execute the project activities in conformity with the FAO's rules and procedures. The respective LoAs are listed under the "Contracts" budget line of the project budget.

### *b) FAO's role and responsibilities, as the GEF Agency (and as an executing agency, when applicable), including delineation of responsibilities internally within FAO*

318. FAO will be the GEF Agency of the Project as well as the financial and operational executing agency. As the financial and operational executing agency FAO will provide procurement and contracting services and financial management services of GEF resources. As the GEF Agency FAO will supervise and provide technical guidance for the overall implementation process. Administration of the

GEF grant will be in compliance with the rules and procedures of FAO, and in accordance with the agreement between FAO and the GEF Trustee. As the GEF agency for the project, FAO will:

- Administer funds from GEF in accordance with the rules and procedures of FAO;
- Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers and the rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to all project activities and outputs;
- Carry out at least one supervision mission per year; and
- Report to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, on project progress and provide financial reports to the GEF Trustee.

319. Based on a request from the Government of The Philippines, FAO will also be the financial and operational executor of the GEF resources including financial management, procurement of goods and contracting of services following FAO rules and procedures. As the financial executor, FAO will provide six-monthly financial reports including a statement of project expenditures to the NPD and other partners of the PMCU and the PSC. In accordance with the present project document, progress in the financial execution of the project, and the Annual Work Plan and Budget approved by the PSC, FAO will prepare budget revisions to maintain the budget current in the financial management system of FAO. The budget revisions will be provided to the LCA and the PSC to facilitate project planning and execution.

320. The FAO Representative in the Philippines will be **the Budget Holder (BH)** and responsible for the management of the GEF resources. As a first step in project start-up, the FAO Representation in the Philippines will establish an interdisciplinary Project Task Force within FAO to guide the implementation of the project (see Section 9).

321. Specifically, working in close collaboration with the LTO, the BH will:

- (i) clear and monitor annual work plans and budgets;
- (ii) schedule technical backstopping and monitoring missions;
- (iii) authorize the disbursement of the project's GEF resources;
- (iv) give final approval of procurement, project staff recruitment, LoAs, and financial transactions in accordance with the FAO's clearance/approval procedures;
- (v) review procurement and subcontracting material and documentation of processes and obtain internal approvals;
- (vi) be responsible for the management of project resources and all aspects in the agreements between the FAO and the various executing partners;
- (vii) provide operational oversight of activities to be carried out by project partners;
- (viii) monitor all areas of work and suggest corrective measures as required;
- (ix) submit to the GEF Coordination Unit, the TCID Budget Group semi-annual budget revisions that have been prepared in close consultation with the LTO (due in August and February);
- (x) be accountable for safeguarding resources from inappropriate use, loss, or damage and
- (xi) be responsible for addressing recommendations from oversight offices, such as Audit and Evaluation.

322. The **FAO Lead Technical Unit**. The Land and Water Division (NRL) is the Lead Technical Unit, will be accountable for the technical accountability, quality of the project implementation, support, the multidisciplinary nature of the project, facilitating coordination, coherence and adherence to technical standards and knowledge-sharing with other relevant programmes/projects within FAO. The LTU will likewise support the LTO, Project Task Force (PTF) and PMCU as regard corporate technical policies and standards to be applied in the project as well as to address any changing needs that may arise during the course of project implementation.

323. **The FAO Lead Technical Officer (LTO):** Under the general technical oversight of the LTU, the LTO will provide technical guidance to the project team to ensure delivery of quality technical outputs. The LTO will coordinate the provision of appropriate technical backstopping from all the

concerned FAO units represented in the Project Task Force responding to requests from the NPD and the PMCU. The Project Task Force is thus composed of technical officers from the participating FAO units and of operational officers and is chaired by the BH. The LTO, supported by the LTU when needed, will be responsible for:

- review and give no-objection to TORs for consultancies and contracts to be performed under the project and to CVs and technical proposals short-listed by the PMCU for key project positions, goods, minor works, and services to be financed by project resources;
- supported by the FAO Representation in The Philippines, review and clear final technical products delivered by consultants and contract holders financed by GEF resources before the final payment can be processed;
- assist with review and provision of technical comments to draft technical products/reports on request from the PMCU during project execution;
- review and approve project progress reports submitted by the PMCU to the FAO Representation in The Philippines;
- support the FAO Representative in reviewing, revising and giving no-objection to AWP/B submitted by the PMCU and to be approved by the Project Steering Committee;
- prepare the annual Project Implementation Review report, supported by the FAO Representation in The Philippines and inputs from the PMCU, to be submitted for clearance and completion by the FAO GEF Coordination Unit (TCI) which will subsequently submit the PIR to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The LTO must ensure that PMCU has provided information on co-financing provided during the course of the year for inclusion in the PIR;
- field annual (or as needed) project supervision missions;
- review and revise TORs for the mid-term review, participate in review mission including the mid-term workshop with all key project stakeholders, development of an eventual agreed adjustment plan in project execution approach, and supervise its implementation supported by the FAO.
- review and revise TORs for the final evaluation, participate in the final project closure workshop with all key project stakeholders and the development of and follow up on recommendations on how to insure sustainability of project outputs and results after the end of the project.

324. Within FAO, a multidisciplinary Project Task Force (PTF) will be established by the BH which is mandated to ensure that the project is implemented in a coherent and consistent manner and complies with the organization's goals and policies, as well as with the provision of adequate levels of technical, operational and administrative support throughout the project cycle. The PTF consists at least of the BH, Lead Technical Unit (NRL), LTO and the GEF Coordination Unit.

325. The **FAO GEF Coordination Unit (TCI)** will review and approve project progress reports, annual project implementation reviews, financial reports and budget revisions. The GEF Coordination Unit will provide project oversight, organize annual supervision missions, and participate as a member in the FAO Project Task Force and as an observer in the project steering committee meetings, as necessary. The GEF Coordination Unit will also assist in the organization, as well as be a key stakeholder in the mid-term *evaluation*/review and the final evaluation. It will also contribute to the development of corrective actions in the project implementation strategy in the case needed to mitigate eventual risks affecting the timely and effective implementation of the project. The GEF Coordination Unit will, in collaboration with the FAO Finance Division, request the transfer of project funds from the GEF Trustee based on six-monthly projections of funds needed. The Investment Centre Division Budget Group (TCID) will provide final clearance of any budget revisions.

326. The FAO Finance Division will provide annual Financial Reports to the GEF Trustee and, in collaboration with the GEF Coordination Unit and the TCID Budget Group, call for project funds on a six-monthly basis from the GEF Trustee.

*c) Project technical, coordination and steering committees*



327. The FAO will be the GEF implementing and executing agency. In the framework of this project, the FAO will recruit an administrator/operational expert who will be in charge of the operations of the project.

328. A **Project Steering Committee (PSC)** will be established to provide oversight of the planning and implementation of the project objectives and outcomes

329. . This will be chaired by the Secretary of Agriculture (or his/her delegate), and its members may include the NPD, the Department of Environment and Natural Resources (DENR), PhilRice, NCIP, the Department of Trade and Industry (DTI), NCCA, representatives of the two Provincial LGUs covering the target sites, the and the FAO Representative in the Philippines (or their delegates), as well as the NPC as Secretary. The composition, responsibilities and rules of operation of the Committee will be confirmed during its first meeting.

330. The PSC will meet minimally twice a year and its specific responsibilities will be:

- (i) Overall oversight of project progress and achievement of planned results as presented in six-monthly Project Progress Reports;
- (ii) Taking decisions in the course of the practical organization, coordination and implementation of the project;
- (iii) Facilitating cooperation between FAO and project participating partners (DA, DENR, NCIP, DTI, NCCA, PLGUs and others);
- (iv) Advising the PMCU on other on-going and planned activities facilitating collaboration between the Project and other programmes and initiatives related to the project;
- (v) Ensuring that co-financing support is provided in a timely and effective manner; and
- (vi) Reviewing and approving six-monthly Project Progress Reports and AWP/B.

331. **Technical Working Groups (TWGs)** will be established on an *ad hoc* basis, with participation (depending on the issues that it is proposed to address on each occasion) of actors such as specific relevant bureaus of DA, DTI, NCCA, NCIP and the Department of Education. The TWGs will advise the PSC, and the PMCU on on-going and planned activities that might have potential risks and/or trends of impacts of change from the technical, scientific and socioeconomic perspectives. The TWGs, to the extent possible, as project resources allow, may also be involved in technical monitoring and evaluation of project progress and outputs, and identification of possible solutions and/or changes in project activities when technical issues arise in the course of project implementation.

332. **Provincial Coordination Committees (PCC)** will be established in each of the two target provinces, to advise the local staff of the PMCU on other on-going and planned activities at provincial and municipal levels, to facilitate collaboration between the Project and other programmes, projects, and initiatives of sector agencies and research institutions, and to oversee and advise on the adequacy of project mechanisms for stakeholder participation. The PCC will be chaired by the Provincial Governor or his/her designee and will include the following as members: the Municipal Mayors concerned, the Provincial Offices for Planning, Agriculture, Environment, IP Affairs and Cultural Affairs, as well as provincial representatives of DENR, DA and NCIP. Other provincial offices of line agencies will participate on an on call basis. The Project Steering Committee (PSC) and the Provincial Governments may agree to designate existing multisectoral bodies (e.g. Agriculture Committees of Provincial Development Councils) at the provincial level to assume the function of the PCC.

333. **Stakeholder Committees (SC).** Stakeholder committees will be established in each of the target sites. In each site SC will be established at both the Municipal and Village levels to provide advice on direction and coordination. At the municipal level the role of SC may be assumed by existing multisectoral bodies, provided that the key sectors relevant to the project are represented (i.e. similar to the sectors cited at the Provincial levels). The SC at the village level will include representatives from barangay councils, local communities, women's associations/networks, public school teachers, farming and livestock associations, municipal governments, and the private sector. The role of the

village level SC may also be assumed by the Barangay Development Council or a relevant committee thereof (e.g., agriculture and natural resources) The mandate of the SCs at both levels will be.

- (i) Provide advice on relevant policies, actions and measures in particular in relation to the strengthening of local stakeholder organizations;
- (ii) Provide new ideas and thinking on better options for ABD management and conservation; and
- (iii) Promote coordination and communications between and among local communities and the community-based private sectors.

### *Organizational structure*

334. The **National Project Director** (the Director of BAR and therefore representative of the Lead Coordinating Agency of the project), will be responsible for orienting and advising the NPC on Government policy and priorities on a regular basis, including field visits to project sites where necessary. The NPD will also be responsible for maintaining regular communication with other key partner institutions, and ensuring that their interests are communicated effectively to the NPC, thereby allowing him/her to reflect them in project plans and operations. The NPD will in addition participate in the PSC.

335. A **Project Management and Coordination Unit (PMCU)** will be established to support the LCA for ensuring the delivery of the project outputs and the achievement of project outcomes. The PMCU will be composed of a National Project Coordinator (NPC), Programme Officer-Knowledge Management Specialist and support staff. The PMCU will be responsible for providing technical and administrative support to LCA and to FAO. The PMCU will be hosted by DA BAR and focus at all times on supporting the LCA in developing capacities on project partners and other stakeholders for sustaining project outputs and impacts in the long term.

336. The following are some of the key functions of the PMCU:

- Provide technical and operational support to the project;
- Liaise with government agencies and regularly advocate on behalf of the project;
- Prepare the Annual Work Plan and Budget (AWP/B);
- Be responsible for day-to-day implementation of the project in line with the AWP;
- Ensure a results-based approach to project implementation, including maintaining a focus on project results and impacts as defined by the results framework indicators;
- Monitor project progress;
- Be responsible for the elaboration of FAO Project Progress Reports (PPR) and the annual Project Implementation Review (PIR); and
- Facilitate and support the mid-term review and final evaluation of the project.

337. The PMCU will also include a series of national consultants to provide short-term inputs to the project, and will be supported by a Programme Assistant responsible for ensuring the smooth running of the daily operations of the unit.

338. The PMCU will be led by a full-time **National Project Coordinator (NPC)**, appointed specifically for this purpose during the lifetime of the project, will also function as Policy/Institutional Development Specialist. The NPC will report directly to the Director of BAR in his/her role as National Project Director (NPD), to the BH on operational issues and to the LTO on technical issues. As executive head of the PMCU, the NPC will ensure overall consistency of vision in the actions proposed under the different components of the project, in coordination and with support project partners. Specifically, the NPC will:

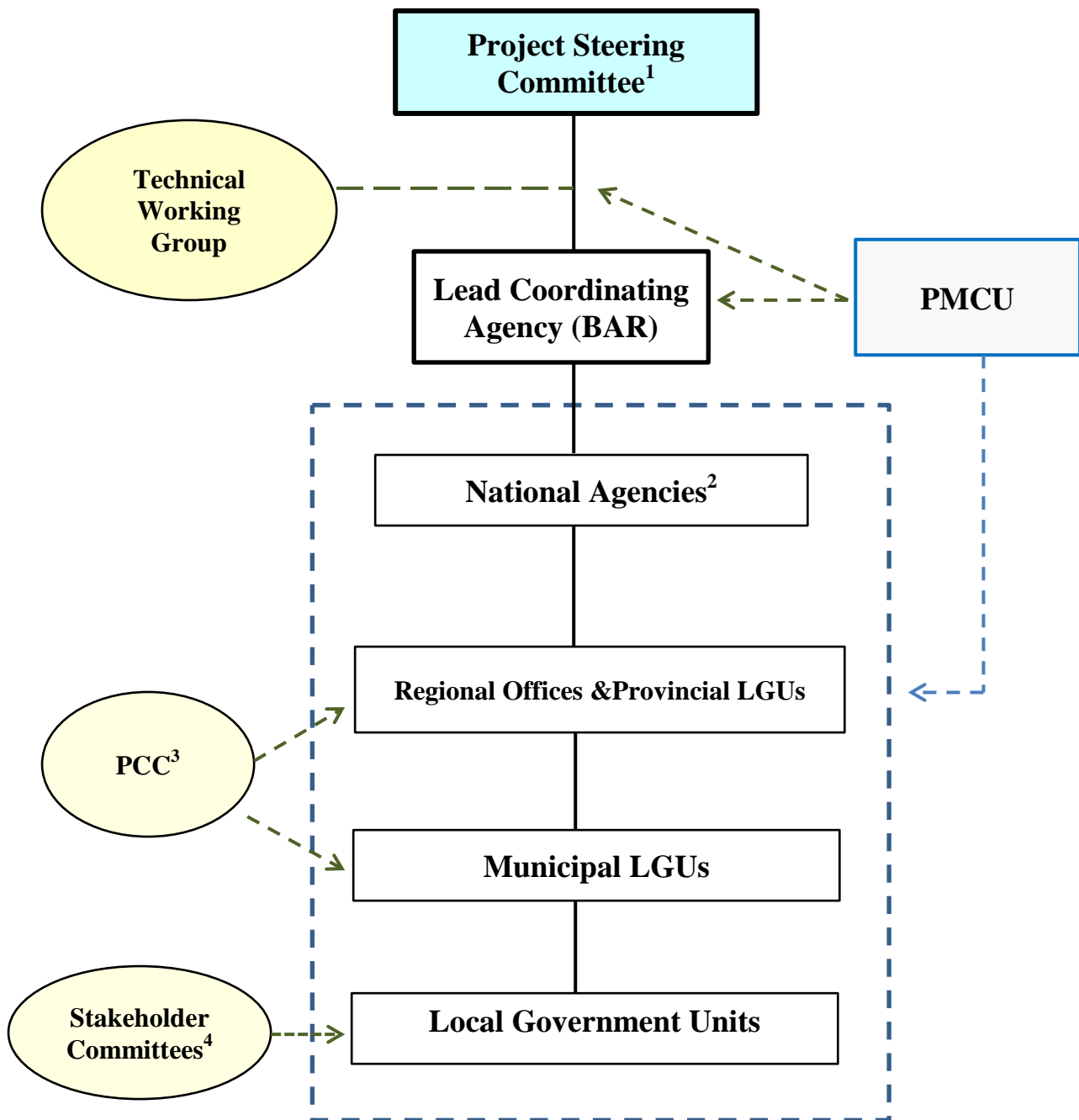
- Prepare requests to FAO for disbursements of project funds, in consultation with the National Project Director
- Ensure the logistical, administrative and financial effectiveness of the PMCU in project execution

- Provide monitoring, supervision and guidance to other members of the PMCU, and to project partners at all levels
- Coordination with key institutional stakeholders of the project, and the donor agencies that are supporting them
- Help identify consultant candidates and work with the BH to ensure their timely recruitment
- Help organize and supervise consultant inputs;
- Be responsible for overall conceptual, methodological, operational and strategic oversight of the project, ensuring the effective and timely delivery of the outputs.
- Act as Secretary of the PSC.

339. In addition to the NPC, the PMCU will consist of the following members, each appointed specifically to support the implementation of the project for all or part of its period of duration:

- Programme Officer/Knowledge Management/Monitoring and Evaluation/Communication Specialist
- Programme Assistant
- 2 Provincial Coordinators/Agroecosystem Specialists
- 2 Programme Assistants at provincial level
- 3 Enterprise Development Coordinators at municipal levels
- Community Facilitators in Ifugao and South Cotabato

**Figure 6: Institutional Arrangement for Project Implementation**



Notes:

1. DA, DENR, NCIP, DTI, NCCA, NPD, PLGUs
2. BPI, BMB, PhilRice, ATI, others
3. Provincial Coordination Committees (PLGUs, MLGUs, key sectoral agencies, CSO, private sector)
4. Communities, women's groups, schools, farmer organizations, MLGUs, private sector

### **4.3 FINANCIAL PLANNING AND MANAGEMENT**

340. The total cost of the project will be USD 13,701,955, to be financed through a USD 2,182,631 GEF grant and USD 11,519,324 in co-financing. The table below shows the cost by component and outputs and by sources of financing and the table in Section 4.3.1 below shows the sources and type of confirmed co-financing. The FAO will, as the GEF Agency, only be responsible for the execution of the GEF resources and the FAO co-financing.

#### 4.3.1 Financial plan (by component, outputs and co-financier)

Outcome	DA/BAR	DA/ PhilRice	DA/BSW M	DA/ATI	DAR-BPI	DENR/CA R	DENR Region 12	DENR BMB	NCIP	FAO ITPGRFA	FAOPH
	2,172,214	1,136,364	88,335	90,909	113,636	3,794,369	16,206	27,838	2,272	170,000	287,800
1.1			18,335		45,455				2272		
1.2											
2.1	406,739		35,000			3,636,176	12,341			170,000	
2.2	1,368,286	1,088,987			22,726		3,865	27838			
2.3	58,768		35,000	52,273							
2.4	283,330										
3.1					45,455						
3.2				38636							
PM	55,091	47,377				158,193					287,800

Outcome	WAHF	Hingyon MLGU	Hungduan MLGU	Ifugao PLGU	South Cotabato PLGU	Lake Sebu MLGU	Total Co- financing	% Co- financing	GEF	% GEF	Total
<b>Total</b>	100,000	1,118,863	475,680	815,681	1,014,270	94,887	<b>11,519,324</b>	84.07	<b>2,182,631</b>	15.93	<b>13,701,955</b>
1.1	25,000						<b>91,062</b>	36.37	<b>159,341</b>	63.63	<b>250,403</b>
1.2	25,000			23,864			<b>48,864</b>	36.63	<b>84,545</b>	63.37	<b>133,409</b>
2.1	12,500	1,089,865		15,000	485,705	20,455	<b>5,883,781</b>	96.06	<b>241,307</b>	3.94	<b>6,125,088</b>
2.2	12,500						<b>2,524,202</b>	95.96	<b>106,157</b>	4.04	<b>2,630,359</b>
2.3	12,500	21,045	289,773	692,726	227,272		<b>1,389,357</b>	74.07	<b>486,298</b>	25.93	<b>1,875,655</b>
2.4	12,500	7,953	185,907	75,000	301,293	74,432	<b>940,415</b>	60.50	<b>613,929</b>	39.50	<b>1,554,344</b>
3.1				9,091			<b>54,546</b>	20.42	<b>212,562</b>	79.58	<b>267,108</b>
3.2							<b>38,636</b>	18.12	<b>174,572</b>	81.88	<b>213,208</b>
PM							<b>548,461</b>	84.07	<b>103,920</b>	15.93	<b>652,381</b>

#### **4.3.2 GEF inputs**

341. The requested GEF grant will be allocated mainly in support of the following:

- Covering the costs of studies and meetings to develop a favourable framework of policy instruments to support dynamic ABD conservation
- Developing and applying training and awareness-raising modules for policy-makers regarding the importance of ABD, the strategies available for its management and conservation, and the importance of inter-institutional and cross-sector coordination
- Facilitation of multi-stakeholder dialogue and provision of technical support to the mainstreaming of ABD considerations into LGU plans and programmes.
- Facilitation of processes of strengthening of community-based governance structures
- Establishment of community-based gene banks (physical structures and the arrangements and capacities for their management)
- Support (facilitation and provision of inputs and meeting costs) to processes of consolidation, development and sharing of farmers' knowledge of ABD, its conservation and its management, including the participatory mapping of ABD in the target barangays
- Support to the development of programmes and materials needed to introduce ABD issues into educational syllabi.
- Support to the development of tools, equipment and facilities for improving productivity and sustainability, and reducing post-harvest losses
- Facilitation of processes for the recognition of the distinctive ABD and cultural importance of target sites and products
- Detailed market analyses to assess the specific marketability of indigenous varieties as a premium market product
- Provision of capacity development support for business planning, product development and marketing, to increase farmers' abilities to seize commercial opportunities from target ABD species/varieties
- Compilation and dissemination of information on the full value of ABD and management options among policy-makers based on pilot results and existing national level information
- Design, advisory support and facilitation of a consumer awareness campaign implemented showcasing the nutritional, cultural, ecological value of traditional varieties
- Training and materials to support the incorporation of ABD considerations into knowledge sharing programmes in target areas for upscaling
- Facilitation of the establishment of partnerships with private sector to enable the introduction of ABD products into larger markets
- Facilitation and logistical support for workshops and materials to allow outreach collaboration with actors in other municipalities, provinces and regions.

#### **4.3.3 Government inputs**

342. National agencies and local Governments have committed to providing counterpart financing for all three project components. Inputs from national agencies are principally focused on policy dialogue under Component 1, and for dissemination activities under Component 3, as well as to research and development and the piloting of field methodologies. Most of the inputs from LGUs correspond to Component 2, particularly in relation to planning, extension and market support.

343. Government support will include the following:

- The use of existing services (e.g. equipment, office space, training modules, publications, infrastructure), including the following:
  - Training modules and publications for farmer conservation schools and farmer business schools subject to further refinements
  - Office space and equipment used for project workshops, trainings and meetings,
  - Storage facilities for back up ex situ conservation of agrobiodiversity resources found in project sites
  - Facilities for production of clean planting materials e.g. abaca in Lake Sebu
  - Field equipment for field surveys, back up agricultural research

- Media equipment and facilities for information campaigns
- School facilities for the pretesting of cultural heritage and environment modules that embed ABD information
- Agency vehicles that will be used for the project field visits
- Staff counterpart time.
- Grant resources, from regular programmes as well as project resources with goals and objectives similar and or complementary to those of the project, for example:
  - Agricultural extension and research programmes under DA PHILRICE , and BPI, ATI and BAR, for upland agriculture and IP communities
  - Marketing support programmes under DA for heirloom rice and other commodities
  - Agricultural product research under DA BAR on indigenous agricultural species
  - Landscape level and on-farm soil and water conservation systems design services under DA BSWM
  - Biodiversity conservation and reforestation activities in sub watersheds and micro watersheds where the ABD project will be directly implemented, as well as in regions/sub regions with high replication potential. These come mostly from the BMB and DENR regional offices.
  - Cultural heritage conservation and IKSP protection programs by NCCA, NCIP and LGUs
  - Capacity development (knowledge sharing and exchanges, training, policy advocacy and technical support) from WAHF, RIHN and other GIAHS global/regional networks.

344. These inputs will be provided in the following geographic areas:

- The three target municipalities/sites for direct implementation
- The two target regions (CAR and SOCKSARGEN), particularly in areas with high IP presence and remaining forests and agroforests.
- Key biodiversity areas in selected regions/sub regions with high presence of IPs (regions 2, 4b, 10, 11, 13) and old upland communities (region 7).

345. As primary agency with responsibility for the well-being of indigenous communities, the National Commission on Indigenous Peoples (NCIP) will encourage cooperation and coordination of government agencies on programmes and projects for successful sustainable development in IP communities. It will therefore provide crucial inputs to the project, as a member of the Steering Committee, as well as co-lead for the policy component dealing with IKSP on agrobiodiversity, and also in general for overseeing and ensuring the adequacy of the project's consideration of the concerns of the indigenous peoples in the project's target areas.

#### **4.3.4 FAO inputs**

346. FAO will provide technical assistance, support, training and supervision of the execution of activities financed by GEF resources. The GEF project will be complemented and co-financed by several projects and activities implemented by the FAO Representation in the Philippines, funded by the FAO Technical Cooperation Programme and by various donors through trust fund arrangements, as follows:

- 1) Regional Rice Initiative (US\$87,800 allocated for the Philippines)
- 2) International Treaty on Genetic Resources for Food and Agriculture (ITPGRFA)

#### **4.3.5 Other co-financiers inputs**

347. Although the private sector has not provided a formal letter quantifying its cofinancing commitment to the project, it will play a vital role in project implementation through providing market outlets for ABD varieties and their products, in supporting the development of marketing and packaging materials and in showcasing ABD products as trade fairs and elsewhere.



348. The World Agricultural Heritage Foundation will be providing \$100,000 cofinancing (50:50 grant and in kind). This will contribute to both the policy aspects of the project under Component 1, and the technical aspects under Component 2.

#### **4.3.6 Financial management of and reporting on GEF resources**

349. Financial management and reporting in relation to the GEF resources will be carried out in accordance with FAO's rules and procedures.

350. All financial reporting shall be in US dollars. Within one month of the end of each six month, i.e. on or before 31 July and 31 January, the FAO Representation in the Philippines shall submit six-monthly statements of expenditure of GEF resources to the PMCU and the PSC. The purpose of the financial statement is to list the expenditures incurred on the project on a six monthly basis so as to monitor project progress and to reconcile outstanding advances during the six month period. The financial statement shall contain information that allows for a financial overview of the execution of the project.

351. FAO shall prepare annual financial reports on the use of the GEF resources to be submitted with the 2<sup>nd</sup> six monthly Project Progress Report to the PSC, showing amount budgeted for the year, amount expended since the beginning of the year, including un-liquidated obligations (commitments) as follows: Details of project expenditures on an output-by-output basis, reported in line with project budget lines as set out in the project budget included in this Project Document Appendix 3, as at 31 December each year.

352. An annual budget revision will be prepared by the FAO Representation in the Philippines and inserted in the GRIMS in collaboration with the PMCU for clearance by the LTO, and the FAO GEF Coordination Unit. The financial execution will be monitored by the LTO and the FAO GEF Coordination Unit.

353. Financial reports for submission to the donor (GEF) will be prepared in accordance with the provisions in the Financial Procedures Agreement with the GEF Trustee and submitted by the FAO Finance Division.

354. Responsibility for cost overruns. The BH shall utilize the GEF project funds in strict compliance with the project document. The BH shall be authorized to make variations not exceeding 20 per cent on any total output budget line or any cost category line of the project budget provided that the total allocated for the specific budgeted project component is not exceeded and the reallocation of funds does not impact the achievement of any project output as per the project Results Framework Appendix 1. Any variations exceeding 20 per cent on any total output budget line or any cost category line, which may be necessary for the proper and successful implementation of the project, shall be subject to prior consultations with the LTO and the FAO-GEF Coordination Unit. In such a case, a revision to the FAO-GEF budget in FPMIS should be prepared by the BH and approved by the LTO and the FAO-GEF Coordination Unit. Cost overruns shall be the sole responsibility of the BH.

#### **4.4 PROCUREMENT**

355. The Budget Holder, in close collaboration with the Project Coordinator, the LTO and the Budget and Operations Officer will procure the equipment and services provided for in the detailed budget in Appendix 3, in line with the Annual Work Plan and Budget and in accordance with FAO's rules and regulations.

356. Prior to commencement of procurement, the BH, in close consultation with the Project Coordinator and the LTO, will complete the procurement plan for all services and equipment to be procured by FAO.

357. The procurement plan shall be updated by the BH every 12 months and submitted to and cleared by the LTO with the AWP/B and annual financial statement of expenditures report for the next instalment of funds.

## **4.5 MONITORING AND REPORTING**

358. Monitoring and evaluation of progress in achieving project results and objectives will be done based on the targets and indicators established in the Project Results Framework (Appendix 1 and described in section 2.3 and 2.4). The project Monitoring and Evaluation Plan has been budgeted at USD 111,063 (see Table 7). Monitoring and evaluation activities will follow FAO and GEF monitoring and evaluation policies and guidelines.

### **4.5.1 Oversight and monitoring responsibilities**

359. At the initiation of implementation of the GEF Project (PY1), a short-term M&E Specialist will design and set up a project progress monitoring system, in close consultation with the PMCU. Participatory mechanisms and methodologies for systematic data collection and recording will be developed in support of outcome and output indicator monitoring and evaluation. During the inception workshop (see section 4.5.3 below), M&E related tasks to be addressed will include: (i) presentation and clarification (if needed) of the project Results framework with all project stakeholders; (ii) review of the M&E indicators and their baseline; (iii) drafting the required clauses to include in consultants' contracts to ensure they complete their M&E reporting functions (if relevant); and (iv) clarification of the respective M&E tasks among the Project different stakeholders. One of the main outputs of the workshop will be a detailed monitoring plan agreed to by all stakeholders based on the monitoring and evaluation plan summary presented in section 4.5.4 below.

360. The day-to-day monitoring of the Project implementation will be the responsibility of the PMCU driven by the preparation and implementation of an AWP/B followed up through six-monthly PPRs. The Project Coordinator will closely support the PMCU in the mentioned tasks. The preparation of the AWP/B and six-monthly PPRs will represent the product of a unified planning process between main project partners. As tools for results-based-management (RBM), the AWP/B will identify the actions proposed for the coming project year and provide the necessary details on output targets to be achieved, and the PPRs will report on the monitoring of the implementation of actions and the achievement of output targets. Specific inputs to the AWP/B and the PPRs will be prepared based on participatory planning and progress review with local stakeholders and coordinated through the PMCU and facilitated through project planning and progress review workshops. An annual project progress review and planning meeting should be held with the participation of the PMCU. The AWP/B will be developed in a manner consistent with the project's Results Framework to ensure adequate fulfilment and monitoring of project outputs and outcomes.

361. Following the approval of the Project, the project's first year AWP/B will be adjusted (either reduced or expanded in time) to synchronize it with an annual reporting calendar. In subsequent years, the work plan and budget will follow an annual planning and reporting cycle as specified in section 4.5.3 below.

### **4.5.2 Indicators and information sources**

362. To monitor project outputs and outcomes including contributions to global environmental benefits and adaptation benefits, specific indicators have been established in the Project Results Framework (see Appendix 1). The Project Results Framework indicators and means of verification will be applied to monitor both project performance and impact. Following FAO monitoring procedures and progress reporting formats, data collected will be sufficiently detailed to track specific outputs and outcomes, and flag project risks early on. Output target indicators will be monitored on a six-monthly basis, and outcome target indicators will be monitored on an annual basis, if possible, or as part of the mid-term review and the final evaluation. The baseline and target for these indicators are established in the Project Results Framework and will be fine-tuned and included in the M&E plan to be designed by the short-term M&E specialist in PY1. Key indicators at the outcome level include:

### **4.5.3 Reporting schedule**

363. Specific reports that will be prepared under the M&E program are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing Reports; and (vii) Terminal Report. In addition, assessment of the BD Monitoring Evaluation Tracking Tools (METTs) against the

baseline (completed during project preparation) will be required at the midterm review and at the final project evaluation.

364. **Project Inception Report.** After FAO approval of the project and signature of the GCP Agreement an inception workshop will be held. Immediately after the workshop, the PMCU will prepare a project inception report in consultation with the LCA, implementing partners and the FAO Representation in the Philippines. The Inception Report will include defined institutional roles and responsibilities coordinating mechanisms, definitive work plan and timeframe, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B, a detailed project monitoring plan based on the monitoring and evaluation plan summary presented in section 4.5.4 below. The draft inception report will be circulated to FAO and the Project Steering Committee for review and comments before its finalization, no later than three months after project start-up. The report should be cleared by the FAO BH, LTO and the FAO GEF Coordination Unit and uploaded in FPMIS.

365. **Annual Work Plan and Budget (AWP/B).** The PMCU will submit to the FAO Representation in the Philippines a draft Annual Work Plan and Budget no later than 10 January. The AWP/B should include detailed activities to be implemented by project outputs and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The draft AWP/B is circulated to and reviewed by the FAO Representation in the Philippines, PMCU incorporates eventual comments and the final AWP/B is send to the PSC for approval and to the FAO for final no-objection and upload in FPMIS by the FAO GEF Coordination Unit.

366. **Project Progress Reports (PPR):** The PMCU will prepare six-monthly PPRs and submit them to the FAO Representation in the Philippines no later than July 31 (covering the period January through June) and 31 January (covering the period July through December). The 1<sup>st</sup> semester six months report should be accompanied by the updated AWP/B, for review and no-objection by FAO. The PPR are used to identify constraints, problems or bottlenecks that impede timely implementation and take appropriate remedial action. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework Appendix 1). The FAO Representation in the Philippines will review the progress reports and collect and consolidates eventual FAO comments from the LTU, LTO, and the FAO GEF Coordination Unit and provide these comments to the PMCU. When comments have been duly incorporated the LTO will give final approval and submit the final PPR to the FAO GEF coordination Unit for final clearance and upload in FPMIS.

367. **Annual Project Implementation Review (PIR):** The LTO supported by the LTU and the FAO Representation in the Philippines and with inputs from the PMCU, will prepare an annual PIR covering the period July (the previous year) through June (current year) to be submitted to the FAO GEF Coordination Unit for review and approval no later than 31 July. The FAO GEF Coordination Unit will upload the final report on FAO FPMIS and submit it to the GEF Secretariat and Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. The FAO GEF Coordination Unit will provide the updated format when the first PIR is due. The FAO Representation in the Philippines to furnish copy of PIR to the GEF Operational Focal Point office on a regular basis, and other similar reports that maybe requested.

368. **Technical Reports:** Technical reports will be prepared as part of project outputs and to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by PMCU to the FAO Representation in the Philippines who will share it with the LTO and the LTU for review and clearance and to the FAO GEF Coordination Unit for information and eventual comments, prior to finalization and publication. Copies of the technical reports will be distributed to the PSC and other project partners as appropriate. The final reports will be posted on the FAO FPMIS by the LTO.

369. **Co-financing Reports:** The PMCU will be responsible for collecting the required information and reporting on in-kind and cash co-financing. The PMCU will submit the report to the FAO Representation in the Philippines in a timely manner on or before 31 July covering the period July (the previous year) through June (current year).

370. **GEF Tracking Tool:** Following the GEF policies and procedures, the tracking tool for BD focal area will be submitted at three moments: (i) with the project document at CEO endorsement; (ii) at the project's mid-term evaluation; and (iii) with the project's terminal evaluation or final completion report.

371. **Terminal Report:** Within two months before the end date of the GCP Agreement, the PMCU will submit to the FAO Representation in the Philippines a draft Terminal Report. The main purpose of the final report is to give guidance at ministerial or senior government level on the policy decisions required for the follow-up of the Project, and to provide the donor with information on how the funds were utilized. The terminal report is accordingly a concise account of the main **products, results, conclusions and recommendations** of the Project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for insuring sustainability of project results. Work is assessed, lessons learned are summarized, and recommendations are expressed. This report will specifically include the findings of the final evaluation as described in section 4.6 below. A final project review meeting should be held to discuss the draft terminal report before it is finalized by the PMCU and approved by the FAO LTO, LTU and the FAO GEF Coordination Unit.

#### 4.5.4 Monitoring and evaluation plan summary

372. The monitoring and evaluation plan will serve two functions: first, periodic assessment of project implementation and performance of activities and, second, evaluation of their outcomes in terms of relevance and effectiveness. Both will contribute to improved decision making and management, by keeping the project on track towards achieving the human development and global environmental goals/objectives and by feeding knowledge from experiences and lessons learnt into planned activities.

373. Monitoring will take place at two levels: project execution and project performance.

374. **Project Execution:** Monitoring at project execution level will involve collection of information on actual implementation of project activities compared to those scheduled in the work plan, including the delivery of quality outputs in a timely manner, identify problems and constraints (technical, human resource and financial), make clear recommendations for corrective actions, identify lessons learned and best practices.

375. Day-to-day monitoring of implementation progress will be the responsibility of the Project Coordinator, who reports directly to the National Project Director/LCA and FAO. It is envisaged that the Project Coordinator will utilize M&E system that will be designed and agreed in PY1. The system will allow the Project Coordinator to identify key milestones and outputs from each of the main components of the project as defined in the work plan. Each activity will have allocated a percentage score based on an evaluation of its contribution to the completion of each component.

376. **Project Performance:** Performance evaluation will assess the project's success in achieving its outcomes. Project performance will be monitored closely by FAO and by the Project Steering Committee through semi-annual project progress reports (PPRs), annual project implementation reviews (PIRs), technical reports, and technical supervision missions. The overall achievement of the project's outcomes will be evaluated at the end of the project through an independent terminal evaluation (see section 4.6).

**Table 7. Monitoring activities, responsible parties, time frame and indicative budget**

Type of M&E Activity	Responsible Parties	Time-frame	Indicative budget
Inception Workshop	PMCU, supported by the FAO LTU, BH, and the FAO GEF Coordination Unit	Within two months of project start up	17,045

Type of M&E Activity	Responsible Parties	Time-frame	Indicative budget
Project Inception Report	PMCU, cleared by FAO LTU, BH, and the FAO GEF Coordination Unit	Immediately after workshop	
Field-based impact monitoring	PMCU, participating executing partners and other relevant institutions.	Continually	
Supervision visits and rating of progress in PPRs and PIRs	PMCU, FAO Philippines, FAO LTU and FAO GEF Coordination Unit	Annual or as required	14,018
Project Progress Reports	PMCU and Project Coordinator (supported by the Project Bilingual Assistant) with inputs from other partners	Six-monthly	
Project Implementation Review report	Inputs provided by the Project Coordinator, assisted by the Project Bilingual Assistant.  FAO Philippines and LTUs supported by the PMCU. PIRs cleared and submitted by the FAO GEF Coordination Unit to the GEF Secretariat	Annual	
Co-financing Reports	PMCU	Annual	
Technical reports	PMCU, /LTU	As appropriate	
Mid-term Review	External Consultant, in consultation with the project team including the FAO GEF Coordination Unit, the LTU, and other partners	At mid-point of project implementation	40,000
Final evaluation	External Consultant, FAO independent Evaluation Office in consultation with the project team including the FAO GEF Coordination Unit, the LTU, and other partners	At the end of project implementation	40,000
Terminal Report	PMCU, FAO Philippines, LTUs, TSCR report Unit	At least two months before the end date of the GCP Agreement	
Total			111,063

#### 4.6 PROVISION FOR EVALUATIONS

377. A mid-term review will be undertaken by an independent consultant towards the middle of the second project year to review progress and effectiveness of implementation in terms of achieving project objective, outcomes and outputs. Findings and recommendations of this review will be instrumental for bringing improvement in the overall project design and execution strategy for the remaining period of the project's term if necessary. FAO will arrange for the review in consultation with project management. The review will, *inter alia*:

- (i) review the effectiveness, efficiency and timeliness of project implementation;
- (ii) analyse effectiveness of partnership arrangements;
- (iii) identify issues requiring decisions and remedial actions;
- (iv) propose any mid-course corrections and/or adjustments to the implementation strategy as necessary; and
- (v) highlight technical achievements and lessons learned derived from project design, implementation and management.

378. An independent Final Evaluation (FE) will be carried out three months prior to the terminal review meeting of the project partners. The FE would aim to identify the project impacts and sustainability of project results and the degree of achievement of long-term results. This Evaluation

would also have the purpose of indicating future actions needed to expand on the existing Project in subsequent phases, mainstream and up-scale its products and practices, and disseminate information to management authorities to assure continuity of the processes initiated by the Project.

379. The FAO LTO will prepare the first draft of the Terms of Reference for the mid-term review and the final evaluation and consult with and incorporate comments from MAG/PMCU, the FAO budget holder, the FAO Lead Technical Unit, and the FAO GEF Coordination Unit. Subsequently, in the case of the final evaluation, the TORs will be sent to the FAO Office of Evaluation for finalization, in accordance with FAO evaluation procedures and taking into consideration evolving guidance from the GEF Evaluation Office. The TORs and the reports will be discussed with and commented upon by the project partners. Critical issues to be included in the TORs for the evaluation in the midterm review and the final evaluation will in particular be the ones captured by the outcome indicators.

#### **4.7 COMMUNICATION AND VISIBILITY**

380. Due to its cross-sector nature, the project will require participation and buy-in by multiple stakeholders at national and local levels, and its success will therefore depend on effective communication and a high level of visibility.

381. A significant base has been established in this regard during the PPG phase, in the form of numerous consultation meetings with agencies of central Government, as well as provincial and municipal LGUs, including high profile launch and integration workshops near the beginning and end of the design process. This approach will be continued into the implementation phase. A national inception workshop will be held in the second quarter of Year 1, in order to maintain the profile raised during the PPG phase and ensure concrete participation and buy-in by partners in the definition of detailed operational aspects of the project's implementation. This will be followed by provincial level inception workshops in the third quarter of Year 1, with the same aim but focused on provincial, municipal and community-level actors.

382. The National Project Coordinator will play a key role in maintaining fluid and regular communication about the project with national stakeholders at all levels, but most importantly among high level actors in agencies of central Government, aimed at maintaining their interest in and commitment to the project throughout its entire lifetime. This will be achieved through personal bilateral communication with these actors (the selection criteria for the individual to fill this post will include the ability to communicate effectively in this way) and also through the National Project Director, taking advantage of his/her strategic position to channel messages regarding the project to other Government stakeholders. Given their broad stakeholder base, the Project Steering Committee, Provincial Coordination Committees and the Stakeholder Committees (see Section 4.2) will also serve as vehicles for communication and raising visibility regarding the project and its aims and approaches.

## SECTION 5 – SUSTAINABILITY OF RESULTS

### 5.1 SOCIAL SUSTAINABILITY

*Local socioeconomic benefits link to GEB including food security, gender equality and mainstreaming, and indigenous people*

383. The generation by the project of global environmental benefits, in terms of the enhanced conservation status of globally important agricultural biodiversity, will be accompanied by, and closely linked to, the generation of significant social benefits. The project will build upon and strengthen the long-standing cultural traditions of indigenous people in both target areas, based on the cultivation of diverse traditional varieties of different crops. As explained in Section 1.3, in the indigenous peoples in the target areas, traditional varieties play important roles in rituals and in systems of reciprocal social relations based on gifts of agricultural produce, which contribute to the maintenance of social cohesion. The reinforcement by the project of the appreciation by local communities of the value of traditional ABD will furthermore contribute to the consolidation of traditional governance systems and to stemming the process of cultural dilution and emigration that is affecting younger members of the communities. The maintenance of the diversity of traditional ABD varieties also contributes to the diversity of farmers' food security and livelihood support systems, and therefore to their resilience to demographic and biophysical factors such as climate change, and to their nutritional levels, given the superior nutritional characteristics of many traditional varieties relative to introduced HYVs. The strengthening of cultural traditions centred on ABD also opens up opportunities for local communities to generate income through farm-based tourism, which has the potential to benefit diverse sectors of the population (including typically elders, as raconteurs of traditional knowledge, young people as guides and women through the provision of services and the sale of goods).

384. ABD conservation has the potential to contribute specifically to the status of women, who have traditionally play important roles in practically all stages of rice production, but are particularly recognized for their skills to select the good quality seeds to be grown for subsequent harvests. Among the T'boli indigenous people, certain women are believed to be gifted with the ability to dream the design of their weaving, and are referred to as "dream weavers"; the project has the potential to reinforce the traditional standing and influence of such women.

385. The project will therefore be highly compatible with social and cultural conditions among the local communities, generating significant benefits that will help to ensure its social sustainability. Extensive consultations have been carried out during the PPG phase with community members, indigenous organizations and LGUs, and these have confirmed their acceptance of and commitment to the project. Social sustainability will further be ensured during the life of the project through the existence of agreed channels for participation and consultation of local communities regarding the implementation of the project; and by an approach to capacity development that will focus not on vertical training of exogenous approaches, but rather on the recognition, consolidation and (where necessary) adaptation of traditional practices, any externally-devised approaches that are needed to complement existing knowledge being subject to participatory validation by community members.

### 5.2 ENVIRONMENTAL SUSTAINABILITY

386. The environmental sustainability of the project and its impacts will be ensured by virtue of its integrated approach to farm and landscape management. At farm level, the promotion of the use of traditional varieties will focus on low-input agricultural production systems, including organic agriculture, which will minimize the risk of the generation of negative environmental impacts as a result of the application of artificial fertilisers, herbicides and/or pesticides, typically associated with the farming systems used for the production of HYVs. The avoidance of such inputs will help to protect aquatic ecosystems and their capacity to provide goods and services for local people (such as fish and other aquatic wildlife, and drinking water), and to maintain the ecological balance of farming systems, especially the role of natural pest control agents. .

387. The landscape-wide focus of the project will be particularly important in ensuring environmental sustainability. Of particular significance will be the focus of the project on protecting the flow of

ecosystem services between different elements of the landscape, for example the role of the *muyong* forests in ensuring the stability of water supplies to the rice terraces in Ifugao; and the recognition that livelihood support systems of local people depend on the existence of a diverse, stable and healthy mosaic of environments from which they obtain different goods and services.

388. The maintenance of diverse varieties and production systems also offers farmers enhanced resilience to environmental change and variability, by providing them with diverse “fall back” options should individual elements of the systems fail. The project will specifically aim to develop farmers’ abilities to adapt their traditional knowledge to such changing conditions.

### **5.3 FINANCIAL AND ECONOMIC SUSTAINABILITY**

389. PPG analyses indicate that the production and commercialization of traditional varieties by farmers offer significant opportunities for income generation, given the reported willingness among consumers to pay price premiums for ABD products (see section 1.5). ABD-based systems are also less demanding of external inputs than systems based on high-yielding varieties, and therefore reduce farmers’ dependence on financial services, making them more accessible and sustainable. These crop-related financial benefits will also be complemented by other associated income generation opportunities such as farm-based tourism, with which some experience exists yet whose significant potential has yet to be realized.

### **5.4 SUSTAINABILITY OF CAPACITIES DEVELOPED**

390. Establishing ways for farmers and farming communities to derive economic profits from agro-biodiversity conservation also creates a self-sufficient incentive structure financed through the market which is sustainable over time. Once in place, conservation incentives are self-sufficient and not dependent on continued project support. In addition, the related policy development work under project component 1 will embed the demonstrated approaches into the broader policy framework and political agenda of the Philippines, firmly establishing agro-biodiversity conservation as a central aspect of policy-making and implementation. The mutually reinforcing effect of closely interlinked policy development and pilot activities will further strengthen the sustainability of project results.

391. The capacity development approaches to be applied by the project will promote local participation and the recognition of the value of traditional knowledge and practices, with an emphasis on raising local awareness of their value while at the same time supporting processes of reflection and innovation to enable them to adapt to changing circumstances. These approaches will maximize participants’ identification with and ownership of the ABD management and conservation strategies that will be promoted, which will in turn serve to maximize the levels of uptake, retention and adaptability (and therefore sustainability) of their knowledge and other capacities.

### **5.5 APPROPRIATENESS OF TECHNOLOGY INTRODUCED**

392. The use of appropriate technologies, in the form of traditional agricultural crop varieties and production systems that have been developed and validated by the local communities themselves, and are therefore highly compatible with socioeconomic, cultural and biophysical conditions, is fundamental to the project’ approach. Under Output 2.4.1, the project will also support the development and introduction of additional technologies in the form of tools, equipment and facilities for improving productivity and sustainability, and reducing post-harvest losses. These technologies (which may include for example hand tools for reducing labour costs for cultivation and weeding, facilities for producing clean planting material, composters, rice mills and drying facilities adapted for traditional varieties, and rainwater harvesting/micro-irrigation equipment) will be defined on a barangay-specific manner through participatory analyses in order to maximize their appropriateness to local conditions and their acceptance by farmers.

### **5.6 REPLICABILITY AND SCALING UP**

393. The exploration of opportunities for replication and scaling up will already constitute an integral part of the project during the implementation phase. The demonstrated market-based incentive structures will not only easily lend themselves for replication in other suitable communities and expansion to include a larger number of species and varieties, but the mechanism will in fact be strengthened by broader adoption as larger markets are being developed and a greater variety of



certified products becomes available to consumers. Scaling up will increase consumer awareness and recognition, expanding opportunities for economic profits from conservation practices. In this sense, scaling up will increase the positive effects of project activities in the pilot communities as well as the follow-up communities. In order to maximize these scaling up benefits and seize related new opportunities, partnerships with relevant private sector actors will already be explored and established during the project duration. Embedding the project activities into the broader policy framework (*see Sustainability*) will create an enabling policy environment as well as the necessary legal conditions to further facilitate the scaling up process.

## APPENDIX 1. ENDORSEMENT LETTER



Republic of the Philippines  
Department of Environment and Natural Resources  
Visayas Avenue, Diliman, Quezon City, 1100  
Tel. Nos. (632) 929-66-26 to 29 • (632) 929-62-52  
929-66-20 • 929-66-33 to 35 • 929-70-41 to 43

13 August 2013

**MS. BARBARA COONEY**

GEF Executive Coordinator

**Food and Agriculture Organization of the United Nations**

Via delle Terme di Caracalla, 00153, Rome, Italy

**Subject: Endorsement for "RicePlus" Dynamic Conservation  
and Sustainable Use of Agro-biodiversity in rice-based  
farming Systems of the Philippines**

Dear **Ms. Cooney**:

In my capacity as GEF Operational Focal Point for the Philippines, I confirm that the above project proposal (a) is in accordance with the government's national priorities and our commitment to the relevant global environmental conventions; and (b) was discussed with relevant stakeholders, including the global environmental convention focal points.

I am pleased to endorse the preparation of the above project proposal with the support of the GEF Agency listed below. If approved, the proposal will be prepared and implemented by the Department of Environment and Natural Resources and Department of Agriculture. I request the GEF Agency to provide a copy of the project document before it is submitted to the GEF Secretariat for CEO endorsement.

The total financing from GEFTF being requested for this project is US\$ 2,499,481 inclusive of project preparation grant (PPG), if any, and Agency fees for project cycle management services associated with the total GEF grant. The financing requested for the Philippines is detailed in the table below.

Source of Funds	GEF Agency	Focal Area	Amount (in US\$)			
			Project Preparation	Project	Fee	Total
GEFTF	FAO	Biodiversity	100,000	2,182,631	216,850	2,499,481

I consent to the utilization of Philippines's allocations in GEF-5 as defined in the System for Transparent Allocation of Resources (STAR).

Very truly yours,

  
**ATTY. ANALIZA REBUELTA-TEH**  
Undersecretary  
Chief of Staff

Copy furnish:  
Convention Focal Point for UNCBD

## APPENDIX 2. RESULTS MATRIX

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
<b>Project Objective/ Impact</b> To enhance, expand and sustain the dynamic conservation practices that sustain globally significant agro-biodiversity in traditional agroecosystems of the Philippines	Numbers of traditional varieties grown in target barangays (as a measure of their conservation status)	Traditional ABD varieties in target municipalities <sup>38</sup> : - <b>Hungduan</b> : 24 rice, 1 sweet potato, 3 taro, 1 yam - <b>Hingyon</b> : 17 rice, 5 taro, 5 sweet potato, 0 yam - <b>Lake Sebu</b> : 20 rice, 9 taro, 1 sweet potato, 5 yam	Numbers per barangay maintained at baseline levels over 300ha of traditional agroecosystems in 17 target barangays	- Rice production data of the LGU MAO - Participatory monitoring by community - LGU	Continued commitment in Government institutions at national, provincial and municipal levels and in local communities to the conservation of ABD
	Numbers of additional traditional varieties grown in target barangays <sup>39</sup>	N/A	An average of 5 additional traditional varieties grown in each of the 17 target barangays	- Rice production data of the LGU MAO - Participatory monitoring by community - LGU	Adverse climatic events do not damage in situ gene resources or lead to undermining by emergency introduction of other varieties
<b>Outcome 1.1:</b> Strengthened policy and legal framework defining a national approach to ABD and guiding the design and implementation of corresponding activities at national and local level	Numbers of target policy instruments (see Output 1.1.1) embedded in programmes with corresponding budget assignment	Target policies exist but are not implemented due to lack of corresponding instruments	4 target policy instruments (see Output 1.1.1) are embedded in programmes with corresponding budget assignment	- Agency Plans as stated in the next Mid Term Devt Plan (2017 – 2022) - Policy and Institutions Specialist - Agencies responsible for development of each policy instrument	Continued policy commitment of key Government actors
<b>Output 1.1.1:</b> Key policy instruments favouring ABD conservation developed at national and local level	Numbers of policy instruments developed favouring ABD conservation	At least 5 policy provisions that potentially promote ABD conservation exist but lack instruments to permit their implementation	Policy instruments (e.g. administrative orders, joint memorandum circulars) developed for: - 1 key agriculture sector policy	- Draft policy instruments - Technical reports of studies and consultations Policy and Institutions Specialist	

<sup>38</sup> Baseline for numbers of varieties per barangay to be determined at project start

<sup>39</sup> Due to exchange of varieties between barangays

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
			<ul style="list-style-type: none"> <li>- 1 key environment sector policy</li> <li>- 1 key culture-related policy<sup>40</sup></li> <li>- 1 key indigenous people related policy</li> </ul>	<ul style="list-style-type: none"> <li>- Agency responsible for development of each policy instrument</li> </ul>	
	Numbers and nature of recommendations generated to guide policy development		<p>Recommendations generated through studies to guide policy development for:</p> <ul style="list-style-type: none"> <li>- Customized crop loans and insurance for ABD production</li> <li>- Facilitating organic agriculture certification in remote upland areas</li> <li>- Incorporating ABD and biodiversity friendly agriculture into protocols for agricultural land use as envisioned by the NBSAP</li> <li>- Integrating the role of ABD-in and enhancing benefits from eco agri based tourism development at the local levels</li> </ul>	<ul style="list-style-type: none"> <li>- Technical Reports on concerned topics</li> <li>- Results of consultations</li> <li>- Agencies concerned (DA, DENR, DOT)</li> </ul>	

<sup>40</sup> **NCCA/DA/DENR/NCIP:** Accelerated adoption of NIAHS as a category in current guidelines for Cultural Heritage conservation

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
<b>Output 1.1.2:</b> Specific guidelines supporting the piloting of approaches to ABD management and conservation in the target areas	Coverage of special orders and MOAs to guide the piloting of approaches to ABD management in the target areas	No instruments have been formulated yet	Special orders (SOs) and memoranda of agreement (MOA) exist to guide the piloting of approaches to ABD management and conservation in the target areas	Review of SOs and MOA	
<b>Outcome 1.2:</b> Enhanced institutional coordination and capacity to effectively address cross-sectoral issues of agro-biodiversity.	Number and type of instruments into which inter-disciplinary ABD considerations are incorporated	Recognition of the value of ABD is limited only to certain special research programs of government; DA recognizes importance of ABD and is proposing to consolidate programmes on the issue	Interdisciplinary integration and coordination regarding ABD reflected in: -Plans of local multisectoral <sup>41</sup> councils of 3 MLGUs and 2 PLGUs -At least 1 PA Area Plan per target region (DENR) - At least 1 Ancestral Domain Area Development Plan (NCIP) Specific support programme of DA to Indigenous Peoples (IP)	- Review of plans of local development councils, PA area plans, Ancestral Domain Area Plan and IP support programme - Lead Agency	Willingness to coordinate and assign corresponding staff resources on the part of relevant institutions
<b>Output 1.2.1:</b> Strengthened capacities and mechanisms for addressing interdisciplinary aspects of ABD conservation	Number of existing inter-institutional coordination mechanisms in the agendas of which ABD issues and good management practices and needs are taken up	Ecosystems management including general BD conservation is considered in inter-institutional coordination mechanisms (e.g. PDC RDCs, regional NCI) but ABD is not yet included in the discourse	Inter-institutional coordination regarding ABD included in agendas of existing coordination mechanisms: -5 LDCs/AFCs (3	- Review of agenda and proceedings of meetings of mechanisms - Lead Agency	

<sup>41</sup> Local Development Councils (LDCs) and/or local Agriculture and Fisheries Councils (AFCs)

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions		
			MLGU and 2 PLGU) -3 Municipal Development Councils (MDCs) -2 Provincial Development Councils (PDCs) -2 Regional Development Councils (RDCs) -National Convergence Initiative (NCI)  Bilateral agreements between DA/DENR, and DA/NCIP incorporate ABD concerns				
	Numbers of staff trained in inter-disciplinary issues related to on-farm ABD conservation and related ecosystem management:	Forestry/conservation professionals are principally focused on BD conservation in PAs  Agricultural professionals are principally focused on ex situ conservation of ABD rather than on-farm approaches	Numbers of staff:	Training reports/workshop reports			
			Institution			Natio- nal	Target regions
			DENR			5	16
			DA			5	16
			P/MLG Us			0	21
			Others <sup>42</sup>			9	29
		19	82				
<b>Outcome 2.1:</b> Conservation <sup>43</sup> and sustainable use of ABD is supported by planning and governance mechanisms	Numbers of types of plans and programmes into which ABD concerns are embedded	Planning frameworks are currently inadequate for supporting ABD conservation	ABD concerns embedded in Comprehensive Development Plans (CDPs), Executive	Review of CDPs, ELAs, thematic programme documents and enforcement plans/norms	Commitment by national and local government units (provincial and municipal levels), and		

<sup>42</sup> Other line agencies (e.g. NCIP, NCCA), NGOs and SUCs

<sup>43</sup> Including provisions for ecological sustainability at ecosystem level

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
			Legislative Agendas (ELAs) and thematic programmes for agricultural, natural resource management and tourism in 3 MLGUs and 2 PLGUs		members of local communities
	Numbers of MLGUs and communities in which formalized provisions for enforcement are in place	Governance frameworks are currently inadequate for supporting ABD conservation	Formalized provisions for enforcement in place in 3 MLGUs and 9 communities (as models for the 17 target barangays), specifically addressing threats affecting ABD	Review of CDPs, ELAs, thematic programme documents and enforcement plans/norms	
<b>Output 2.1.1:</b> Local Government (LGU) plans and programmes in pilot municipalities providing for ABD conservation	Numbers of target MLGUs in which agriculture development plans, ordinances and programmes are included	<p>Current LGU strategic plans in Ifugao are concerned with the rice terraces (location of ABD) but silent on ABD conservation itself.</p> <p>Ifugao Agriculture staff are very familiar with traditional varieties and practices.</p> <p>LGU strategic plans for all sites plan to convert gradually to organic agriculture.</p>	<p>- ABD conservation and sustainable use are included in agriculture development plans, ordinances and programmes in all three target MLGUs.</p> <p>- ABD conservation and sustainable use are reflected in the updating process for land use and socioeconomic plans in all three MLGUs</p> <p>- Provincial level principles and safeguards developed to guide and harmonize agency interventions in the high ABD target</p>	<p>- Review of CDPs, ELAs, thematic programme documents and enforcement plans/norms</p> <p>Policy and Institutions Specialist</p>	

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
			areas <sup>44</sup> (including for R&D in Ifugao)		
<b>Output 2.1.2:</b> Community level planning and governance frameworks in pilot communities incorporating ABD considerations	Numbers of target barangays in which plans and customary norms are in place incorporating consideration of ABD.	Community traditional norms in pilot municipalities encourage maintenance of small plots of traditional varieties; in Ifugao women's roles include maintenance of seed selection practices.  Leaders are aware of threats to ABD, but no proactive plans exist for their long term conservation	Plans and customary norms cover all 17 target barangays <sup>45</sup> : - Providing for or enhancing the incorporation of ABD considerations into agricultural and forest management and tourism - Regulating the commercialization of ABD by individuals in IP communities	- Community development plans - Minutes of Tribal Council meetings - ADSDPP	
<b>Outcome 2.2:</b> Traditional varieties are maintained in community gene banks <sup>46</sup>	Numbers of ABD varieties/ farmer selections maintained in gene banks, supported by ex situ collections	Some individual initiatives (e.g. private museum in Lake Sebu municipality) hold a very limited number of varieties without adequate storage conditions. One seed bank exists in Hingyon. Some varieties are included in <i>ex situ</i> collections in universities.	All traditional ABD varieties/farmer selections present in the 3 target municipalities are maintained in gene banks, and supported by <i>ex situ</i> collections	- LGU Annual Reports - Special Agricultural Reports	Continued commitment by members of local communities  Collections are not damaged by extreme climatic events
<b>Output 2.2.1:</b> Community-based gene management systems and networks supported by <i>ex situ</i> collections	Numbers of pilot municipalities in which community gene banks and seed stores have been established.	There are community seedbanks in CAR established as emergency seed supply in times of disaster but these are only for a few varieties (both HYVs and TRV)	One community gene bank and one seed store established in each pilot municipality, supported by agreements, rules and procedures for	- Highlights of community meetings - Inspection of gene bank and seed bank facility - LGU Annual Reports	

<sup>44</sup> In the case of Ifugao, these will be incorporated into the Master Plan; conformity of agency actions with these principles and safeguards will be promoted through the capacity and awareness development proposed under Components 1 and 3

<sup>45</sup> The planning units may be defined in terms of ancestral domains

<sup>46</sup> Through modalities selected by the communities (e.g. community-maintained genebanks centralized in one facility in the community, or in the municipality; or through a network of farmers continuously maintaining the traditional varieties in their households, with at least two households maintaining each variety to ensure duplication)



Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
			their management and backed up by <i>ex situ</i> collections	- Special Agricultural Reports	

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
<b>Outcome 2.3:</b> Enhanced and expanded knowledge among local level decision makers and community members on the application of dynamic ABD conservation practices and their relation to cultural heritage	Numbers of LGU policy makers, planners and extension personnel in the core LGUs aware of the value of ABD and specific management options to ensure their conservation and sustainable use	LGU members especially, agricultural extension and NRM staff, are typically aware of general environmental issues but not of the full importance of, or management options for, biodiversity (including ABD). <i>Baseline values of knowledge will be detailed through KP studies in Year 1</i>	21 LGU policy makers, planners and extension personnel in the core LGUs aware of the value of ABD and specific management options to ensure their conservation and sustainable use	- KP studies (at start and end) - Review of content of extension programmes - DA BAR - DA ATI	Willingness of community members to participate in knowledge generation and sharing  Commitment and support of relevant sectors and authorities to promoting knowledge on ABD among students
	Levels of knowledge among target farmers on how to adapt traditional management to changing circumstances	Farmers have retained traditional knowledge of traditional varieties and management practices, but lack knowledge of management options that would permit them to adapt to changing circumstances. <i>Baseline values of knowledge will be detailed through KP studies in Year 1.</i>	KP surveys show enhanced knowledge among 1,000 farmers in 17 target barangays of how to adapt traditional management systems to changing circumstances	- KP survey report - Highlights of community meetings - DA BAR - DA ATI	
<b>Output 2.3.1:</b> ABD resources, agroecosystems <sup>47</sup> and their management practices mapped, characterized and documented in the pilot areas	Numbers of barangays covered by participatory inventories and analyses of ABD resources, agroecosystems and their management practices	No systematic mapping or characterization of ABD done to date	17 target barangays covered by participatory inventories and analyses of ABD resources, agroecosystems and their management practices	- Results of participatory inventories - Highlights of community meetings - DA BAR	
<b>Output 2.3.2:</b> Knowledge sharing <sup>48</sup> on ABD	Numbers of MLGUs where extension/	Knowledge holders in the pilot barangays have maintained	Extension and communication	- Extension and Communi-cation	

<sup>47</sup> Ecosystems in agricultural landscapes whose management has implications for on-farm ABD (e.g. through environmental services/impacts or as hosts of wild crop varieties)

<sup>48</sup> Including extension, farmer/conservation field schools, farmer to farmer exchanges, participatory action research

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
management <sup>49</sup> and conservation practices for farmers in pilot and neighbouring communities	communi-cation guides/mod-ules have been developed	some knowledge on ABD conservation and sustainable use systems however knowledge sharing is minimal due to declining interest of younger farmers. Farmer based extension modules are being developed by a few NGOS (SEARICE and MASIPAG) and the University of the Philippines. The DA CHARM project has piloted an extension module on heirloom rice	guides/modules in ABD conservation and sustainable use developed for LGU agricultural extension facilitators as well as farmer facilitators in 3 MLGUs	Guides & /Modules s - Highlights of community meetings - DA ATI - DA PLGU	

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<sup>49</sup> Including sustainable agriculture practices compatible with ABD conservation, such as integrated pest management, integrated nutrient management, rainwater harvesting and soil/water conservation

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
	Numbers of farmers involved in knowledge sharing on management and conservation practices for target ABD varieties	Farmers in selected towns in CAR have been trained on improved cultural practices for one TRV	1,000 farmers in 17 core barangays have been involved in knowledge sharing on management and conservation practices for target ABD varieties	Records of knowledge sharing events	
<b>Output 2.3.3:</b> Inclusion of ABD issues in primary, secondary and tertiary education and IKSP programmes in the pilot provinces	Numbers of secondary and tertiary students receiving classes on ABD	Students in pilot schools participate in special training on heritage arts (song, dance, weaving etc.) but not on ABD concerns	450 secondary students (50 in each of 3 year levels in 3 municipalities) and 120 tertiary students (30 in 2 classes in 2 colleges/universities) are receiving classes on ABD	<ul style="list-style-type: none"> <li>- Highlights of consultation with Elders and IK bearers</li> <li>- Pilot curricula and modules</li> <li>- Training kits for teachers</li> <li>-</li> </ul>	
	Numbers of ethno-linguistic groups having authored IKSP documents	Sporadic documentation of ABD resources initiated by individuals in pilot provinces but are not yet part of formal documentation of IKSP	Indigenous Knowledge Systems and Practices (IKSP) documents authored by 2 ethno linguistic groups include ABD	NCIP reports	
<b>Outcome 2.4:</b> Improved opportunities for local communities to derive economic, livelihood and food security benefits from agro-biodiversity conservation, resulting in increased sustainability of agro-biodiversity and ecosystem conservation practices	Numbers of farmers applying producer labels based on ABD considerations, and quantity of rice labelled	<ul style="list-style-type: none"> <li>-No farmers are currently third party certified.</li> <li>-A few ABD varieties in Ifugao were certified by a PLGU-initiated system but this was not sustained.</li> </ul> First party producer labels are only applied by a limited number of farmers, only in Ifugao.	350 farmers <sup>50</sup> (covering 238ha), in all 17 barangays, apply producer labels based on ABD considerations to a total of 55t of rice per year	Focus group discussions	Continued willingness to pay for ABD products and ecosystems/landscapes associated goods and services  Farmers have adequate physical access to markets
	Levels of income from sale of traditional varieties	Average per farm annual production and sale of	A total of 350 farmers in 17 have increased	Focus group discussions	

<sup>50</sup> Out of a total of 1,000 farmers in the target barangays

Results Chain	Indicators	Baseline				End of Project Target	Means of Verification and Responsible Entity	Assumptions
		traditional rice varieties in the 17 target barangays (kg/farmer/year and US\$/farmer/year):				their income from sale of traditional varieties by 10%		
			Produced	Sold	Net inco			
		Hunguan	492	182	135			
		Hingyon	450	99	93			
		Lake Sebu	1381	732	243			
	Quantities of traditional rice varieties that farmers consume or use for social obligations, rather than selling, relative to baseline levels <sup>51</sup>	Quantities of farm-produced traditional rice varieties retained for home use (consumption or social obligations)				Farmers maintain the quantities of traditional rice varieties that they consume or use for social obligations, rather than selling, at least baseline levels	Focus group discussions prior to mid-term and final evaluations	
		Municipalit	Kg/house-					
		Hungduan	310					
		Hingyon	351					
		Lake Sebu	649					
Output 2.4.1: Access to tools, equipment and facilities <sup>52</sup> for improving productivity and sustainability, and reducing post-harvest losses	Numbers of target barangays with access to tools, equipment and facilities required for improving productivity and sustainability, and reducing post-harvest	Target technologies and baseline to be determined at project start				All 17 target barangays have access <sup>53</sup> to tools, equipment and facilities required for improving productivity and sustainability, and for reducing post-harvest	Field inspections and focus group discussions Agroecosystems Specialist  Enterprise specialist	

<sup>51</sup> Safeguard indicator, to check that the proposed focus on market-based incentives for traditional varieties does not result in farmers switching their home consumption patterns to less nutritious non-traditional varieties, to allow them to sell more of their traditional varieties that they would otherwise have consumed

<sup>52</sup> To be defined on a *barangay*-specific manner through participatory analyses, but could include for example hand tools for reducing labour costs for cultivation and weeding, facilities for producing clean planting material, composters, rice mills and drying facilities adapted for traditional varieties, and rainwater harvesting/micro-irrigation equipment. Investment costs will be supported by co-financing from relevant existing programmes of DA.

<sup>53</sup> As a result of development/adaptation of tools or equipment, and/or improved access to existing facilities, such as shared processing/drying service facilities

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
	losses		losses, subject to and in line with their identification of needs at project start.	DA BAR DA PhilMech	
<b>Output 2.4.2:</b> Recognition of distinctive ABD and cultural importance of target sites and products	Numbers of target municipalities including NIAHS recognised sites	-Hungduan is already designated as a GIAHS site -No sites are yet designated as NIAHS (two of the target sites are included in a compendium of 75 initial NIAHS candidate sites covering 5 regions <sup>54</sup> )	1 target municipality includes NIAHS-recognized sites -		
	Numbers of target barangays with community registries of traditional varieties under the Plant Variety Protection Act (PVPA)	-None	6 target barangays (2 per municipality) with community registries of traditional varieties under the Plant Variety Protection Act (PVPA) covering around 2,000ha of traditional farming area	Government certification of Community Registry	

<sup>54</sup> The other site, Lake Sebu, was not included in the five regions covered by the compendium

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
	Numbers of traditional varieties in target barangays registered with National Seed Industry Council	-None	3 traditional varieties are registered with National Seed Industry Council -	NSIC registries	
	Area covered by GI certification	-	Active heirloom rice production areas, covering 5,000ha in 3 municipalities in Ifugao, are covered by GI certification (which includes requirements for NIAHS designation and traditional varieties) <sup>55</sup> , covering around 20 varieties in each province	GI certifications	
	Area covered by organic certification (OA) in target municipalities	-Ifugao has received a national award for good practice in promoting organic agriculture production/certification	2 farmer groups (1 in each target province) observing internal control systems for organic certification, on around 80ha of traditional agriculture systems <sup>56</sup> .	OA Certifications	
<b>Output 2.4.3:</b> Detailed market analyses conducted to assess the specific marketability of indigenous varieties as a premium market product (building on general	Number of traditional varieties for which market studies carried out	Enterprise development plans have been done for rice in Hungduan and Hingyon (none for Lake Sebu), but did not cover evaluation of specific market outlets	Market studies carried out for 3 traditional varieties per municipality (9 total)		

<sup>55</sup> GI certification would apply to specified areas (to be defined), and only to traditional production systems meeting the ABD-based criteria.

<sup>56</sup> Area for demonstration of third party organic certification system for traditional crop (rice) varieties, applying improved methods for support services to remote communities

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
analysis under 3.1.1) <b>Output 2.4.4:</b> Capacity development for business planning, product development and marketing, to increase farmers' abilities to seize commercial opportunities from target ABD species/varieties	Number of producer groups with business and marketing plans to maximize opportunities for product development and revenue creation from target ABD varieties	Some producer groups in Hungduan and Hingyon have business and marketing plans but none for Lake Sebu	17 producer groups in the three target municipalities, covering 350 farmers, have developed business and marketing plans to maximize opportunities for product development and revenue creation from target ABD varieties	Review of business and marketing plans developed Enterprise Specialist	
	Numbers of people to who have received training on business development and management, and enterprise development support	At least 75 farmers were trained under the 5 farmer business schools conducted in Hungduan and Hingyon Ifugao under CHARMP2  In Lake Sebu, at least 50 tinalak weavers received enterprise development support in terms of product designs and development but none for farmers producing traditional rice varieties	Training on business development and management, and enterprise development support provided in the three target municipalities to: -350 farmers -4 NGO staff members 10 LGU agriculture technicians	No of farmers indicated in the training attendance sheet Enterprise Specialist Copy of market analysis reports Enterprise Specialist	



Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
	Numbers of new products developed from traditional varieties in target municipalities	At least 3 new products developed from root crops and traditional rice varieties in Hungduan and Hingyon. New products developed through processing and improved packaging materials.  Some new designs and products have been developed for tinalak but none for traditional rice varieties in Lake Sebu	3 new products <sup>57</sup> developed from traditional varieties in each of the 3 target municipalities	Number of products developed Enterprise Specialist	
<b>Outcome 3.1:</b> Increased knowledge and awareness among policy-makers and practitioners about the full socio-economic value of agro-biodiversity.	Numbers of policy makers aware of ABD and practices that conserve them	Less than 15 policy makers and planners at national level and less than 20 local officials countrywide are aware of the value of ABD	Policy makers and planners aware of the value of ABD and practices that conserve them: -50 from at least 15 national agencies 50 local officials in 32 LGUs <sup>58</sup>	KP surveys of policy makers, planners and local officials Knowledge Management Specialist	Receptiveness among policy-makers and practitioners
<b>Output 3.1.1</b> Information on the full value of ABD and management options compiled and disseminated among policy-makers based on pilot results and existing national level information (including other initiatives)	Numbers of policy makers and planners who have received information on ABD and management options	Only limited information campaigns carried out to date on ABD and management options, mostly by SUCs and NGOs	100 policy makers and planners from 15 national agencies and 120 local officials in 35 LGUs have received information on ABD and management options through information and policy guidance documents, compendia and	Information and education campaign materials addressed to target audience such as ATI and Regional Offices of DA, DENR and NGO networks	

<sup>57</sup> For example organic rice sampler, banana chips from rejects of Fair Trade, organic sweet potato, yam, taro chips sampler

<sup>58</sup> 21 LGUs in core provinces (excluding the 3 core municipalities), and 11 in outreach target provinces

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions				
			websites, symposia and congresses and NISM						
<b>Output 3.1.2:</b> Consumer awareness campaign implemented showcasing the nutritional, cultural, ecological value of traditional varieties	Percentage of consumers willing to pay higher price for Eco labelled products promoting ABD conservation	Numbers of consumers willing to pay different levels of price premiums for Eco labelled products promoting ABD conservation <sup>59</sup> :	Increased numbers of consumers are willing to pay higher price for Eco labelled products promoting ABD conservation:	Consumer survey					
						Price premium (%)	% of consumers	Price premium (%)	% of consumers
						<10	35	<10	20
						10-20	39	10-20	44
						21-40	16	21-40	21
						>40	10	>40	15
<b>Outcome 3.2:</b> Conditions created for further replication and scaling up of ABD promotion in other parts of core provinces and regions	Numbers of farmers covered by commitments and action plans developed by regional organizations, LGUs and other organizations	Commitments on outreach cannot be established until project start.	Commitments and action plans developed by at least 4 regional organizations and at least 12 LGUs and other organizations covering communities in provinces and regions with high ABD, with a target population of up to 4,000 farmers	Highlights of meetings between Project and letters of agreements with targeted agencies such as ATI and Regional Offices of DA, DENR and NGO networks	Willingness among institutions in target replication areas to support upscaling				
<b>Output 3.2.1:</b> ABD considerations included into knowledge sharing programmes <sup>60</sup> in target areas for upscaling (other parts of core	Numbers of farmers covered by knowledge sharing programmes into which ABD considerations have been incorporated.	At least one pilot Farmer Field School for improved practices of one traditional rice variety in CAR, by the DA CHARM Project	ABD considerations have been incorporated into knowledge sharing programmes covering 4,000 farmers in other parts of core provinces	Modules on ABD adapted to agricultural context of other targeted region  Reports of ATI					

<sup>59</sup> Baseline values to be confirmed at project start and target values adjusted proportionally

<sup>60</sup> The knowledge sharing (extension, FFS, F2F, CPAR etc.) initiatives of relevant existing programmes and institutions e.g. ATI, BAR, LGUs, SUCs, PA Management Boards, NCIP

Results Chain	Indicators	Baseline	End of Project Target	Means of Verification and Responsible Entity	Assumptions
provinces and regions, and elsewhere)			and regions and elsewhere	and Regional Offices of DA, DENR and NGO networks	
<b>Output 3.2.2:</b> Partnerships with private sector established to facilitate the introduction of agro-biodiversity products into larger markets	Numbers of private sector actors with which partnerships have been established creating increased market opportunities for ABD products nationwide	At least 4 organisations, foundations and associations (Rice Terraces Farmers Cooperative, Echosi Foundation Rice Inc., COWHEAD and LASIWWAI) are providing marketing and quality control assistance to farmers in the target areas; private sector actors (Japanese organic snack house, Banaue Greenview Lodge, Peoples Lodge, Cherish Arts, supermarkets (e.g. JSGaisano) and Eight Wonder Inc. purchase ABD products (all except from JSGaitano from the target areas)	Partnerships with 2 additional private sector actors creating increased market opportunities for ABD products nationwide (identities of actors to be confirmed through negotiations during the implementation phase)	Attendance sheets/forms in trade fairs and products sold/carried in display centres  Sales generated in trade fairs and display centres	
<b>Output 3.2.3:</b> Arrangements for outreach collaboration with actors in other municipalities, provinces and regions (NGOs/Government)	Number of target regions in which regional level outreach workshops have been held	None exist	Regional level outreach workshops held in the 2 target regions, with participation of actors from other regions in the country with high upscaling potential <sup>61</sup>	Results of outreach workshops	

<sup>61</sup> Including those prioritized in the compendium of candidate NIAHS sites

### APPENDIX 3. WORK PLAN (RESULTS BASED)

Note: the institutions shown in the third column have ultimate responsibility, but in practice the delivery of project outputs will be the responsibility of the technical staff members of the Project Management Unit (PMU), in close coordination with and in support of the national partner agencies. The Term “BAR” (Bureau of Agricultural Research) below refers to the direct role of BAR while “BAR-PMU” specifically to the role of the BAR-based PMU. The terms “DA” or “DENR” refers to any of the regional offices and key bureaus of the DA or DENR respectively, depending on the particular need by a particular site at any point of time . In some cases, the specific Bureau is identified. It is assumed that in most activities, project personnel will be working closely with community organizations /institutions as well as Local Governments, thus there is no specific reference to the role of communities and farmers in the table

Outputs	Activities	Ultimately responsible institution/ entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
<b>PROJECT START UP</b>	Recruit PMU members of PMU team	FAO, BAR																
	Orient PMU members	FAO, BAR																
	National Inception workshop	FAO , BAR & BAR-PMU																
	Local level inception workshops	FAO, BAR-PMU, PLGUs & MLGUs																
	MOA among participating agencies	FAO, BAR-PMU, PLGUs, MLGUs																
	FPIC	BAR PMU – with NPIC																
	Entry into first (3) pilot barangays	BAR-PMU-PMU with MLGUs																
<b>Output 1.1.1:</b> Key policy instruments favouring ABD conservation developed at national and local level	Develop Agric Policy instruments	BAR PMU with DA (USec Policy Office, BPI, BSWM																
	Develop IP related and Heritage Policy instruments	BAR-PMU, with DA, DENR, NCCA and NCIP																
	Develop ENR related policy instruments	BAR- PMU , with DENR- BMB, DA and NCIP																
	Policy studies as input to policy dialogue	BAR-PMU, with BPI, BSWM ,PHILRICE ,PLGUS USec Policy Office, BSWM, BAFPS PCIC, DENR and																

Outputs	Activities	Ultimately responsible institution/ entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
		NCIP																
<b>Output 1.1.2:</b> Specific guidelines for the implementation of policies (developed under Output 1.1.1) formulated for the three pilot project areas	Special orders for national agencies	DA, DENR and NCIP with BAR PMU																
	Special orders for LGU staff	,LGUs and MLGUs with BAR -PMU																
	Enter into MOA with key agencies for project collaboration	BAR-PMU , with DA USEC Policy and concerned Agencies																
<b>Output 1.2.1:</b> Strengthened capacities and mechanisms for addressing interdisciplinary aspects of ABD conservation	Conduct TNA on interdisciplinary capacity	BAR-PMU partners SUCs																
	Develop orientation modules	BAR-PMU, BPI, PHILRICE DENR BMB																
	Execute orientation modules	BAR-PMU, with DA/ATI and DENR BMB																
	Amend bilateral MOAs to embed interdisciplinary approach	BAR-PMU with agencies concerned																
<b>Output 2.1.1:</b> Local Government (LGU) plans and programmes in pilot municipalities providing for ABD conservation	Determine gaps in current local plans	BAR-PMU , with PLGUs , MLGUS , DA DENR, NCIP and partner SUCs and CSOs																
	Local multi stakeholder policy dialogue including determination of management options	BAR PMU with PLGU ,MLGU, DA and DENR ,																
	Adopt specific recommendations for local plans and policies	BAR PMU , with PLGU MLGU DA DENR and NCIP																
<b>Output 2.1.2:</b> Community level planning and governance frameworks in pilot communities	Conduct start up community dialogue with community elders/leaders	BAR PMU , with MLGUs and NCIP																
	Participatory assessment of relevant gaps in ecosystems and farming systems and ABD	BAR PMU with , MLGU PLGU, DA DENR NCIP and																

Outputs	Activities	Ultimately responsible institution/ entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Incorporating ABD considerations	resources	partner SUCs and CSOs.																
	Review of mgt practices options for the community	BAR PMU , with MLGUs PLGU, DA DENR and NCIP, partner SUCs and CSOs																
	Conduct participatory planning	BAR, PMU with MLGUs PLGU, DA DENR ,NCIP, partner SUCs and CSOs																
<b>Output 2.2.1:</b> Community-based gene management systems and networks supported by <i>ex situ</i> collections	Preparation of agreement to establish Community Gene Banks (CGB) in 3 municipalities and 9 barangays, and CSBs in 9 barangays	BAR PMU , with MLGUs PLGU and DA																
	Adoption of agreement to establish CGB and modality of CGB operation in 3 municipalities and 9 barangays, and in CSBs in 9 barangays	BAR PMU , with MLGUs, PLGU																
	Identification of site/s and/or farming households to be involved in the CGB and CSB	BAR PMU , with MLGUs and PLGU																
	Agreement on roles in CGB management and CSB	BAR-PMU, with MLGUs																
	Construction of 12 facilities for CGB in 3 municipalities and 9? Barangays and CSBs in 9 barangays	BAR PMU , with MLGUs																
<b>Output 2.3.1</b> ABD resources, agroecosystems and their management practices mapped, characterized and documented in the pilot areas	Participatory preparation, pre-testing and finalization of mapping/inventory instruments for ABD resources, agroecosystems and ABD management practices	BAR PMU , with MLGUs , DA and DENR																
	Participatory mapping/inventory of agroecosystems and ABD	BAR PMU , with , MLGUs , DA and DENR																

Outputs	Activities	Ultimately responsible institution/ entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	resources in 17 barangays																	
	Participatory mapping of ABD management practices in 17 barangays	BAR PMU , with MLGUs, BLGUs																
	Participatory identification of farms where ABD resources will be characterized	BAR PMU , with MLGUs																
	Agreement with ABD resource owners in 9 barangays to characterize the ABD materials in their fields	BAR PMU , with MLGUs																
	Participatory characterization and preliminary evaluation of ABD resources in 9 barangays using formal and farmers' description methods	BAR PMU , with MLGUs																
	Establishment/setting up of a database management system including roles and modality in 3 municipalities and 9 barangays	BAR-PMU , with MLGUs PLGU , DA and DENR																
	Documentation of results of ABD resources and agroecosystem mapping/inventory, management practices, characterization and evaluation in 3 municipalities and 9 barangays	BAR- PMU , with MLGUs, PLGU , DA DENR and NCIP																
<b>Output 2.3.2:</b> Knowledge sharing on ABD management and conservation practices for farmers in pilot neighbouring communities	Validate preliminary assessment of knowledge needs	BAR-PMU , with ATI, PLGUs and MLGUs																
	Develop extension modules	BAR- PMU , with ATI, PLGUs and MLGUs , DA																
	Equip LGU extension personnel	BAR- PMU , with PLGUs and MLGUS																
	Facilitate farmer level knowledge sharing	BAR PMU , with MLGUs and PLGUs																
	Fine tune extension module	BAR PMU , with ATI ,																

Outputs	Activities	Ultimately responsible institution/ entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	based on experience	DA																
<b>Output 2.3.3:</b> Inclusion of ABD issues in primary, secondary and tertiary education and IKSP programmes in the pilot provinces	Conduct dialogue between IKSP holders and educators	BAR PMU , with DA, NCIP, NCCA and DEPED																
	Develop pilot education modules	BAR- PMU , with DEPED and NCIP																
	Train faculty and pre-test	BAR PMU , with DEPED and NCIP																
	Fine tune modules based on experience	BAR PMU , with DEPED and NCIP																
	Incorporate ABD in IKSP documentation process	BAR- PMU , with NCIP, NCCA MLGUs and PLGUs																
	Support the communication of ABD in IKSP through community learning initiatives	BAR- PMU , with PLGUs and MLGUs , NCIP and NCCA																
<b>Output 2.4.1:</b> Access to tools, equipment and facilities for improving productivity and sustainability, and reducing post-harvest losses	Participatory determination/identification of needs for and availability of tools, equipment and facilities in 9 barangays	BAR -PMU , with PHILRICE MLGUs, BLGUs																
	Design, development or adaptation of tools, equipment and facilities	BAR- PMU , with PHILMECH, PHILRICE																
	Testing of tools and equipment	BAR PMU , with PHILMECH, PHILRICE																
	Formulation and agreement on improving access to existing facilities	BAR PMU , with PHILMECH, PHILRICE and farmers																
<b>Output 2.4.2:</b> Recognition of distinctive ABD and cultural importance of target sites and products,	3 Multi-stakeholder workshops for NIAHS	BAR PMU , with NCCA, NCIP and MLGUs																
	2 Multi-stakeholder workshops for GI																	
	Preparation of requirements and application for geographic	BAR, with DTI and LGUs																



Outputs	Activities	Ultimately responsible institution/ entity	Year 1				Year 2				Year 3				Year 4			
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
	indications																	
	Development and Production of producer labels	BAR, with DTI, DOST, ECHOSI and LGUs																
<b>Output 2.4.3:</b> Detailed market analyses conducted to assess the specific marketability of indigenous varieties as a premium market product (building on general analysis under 3.1.1)	Market Study Design and consultation, Data Collection and processing	BAR with DA agencies ( AMAS ) and DTI																
	Data Analysis and Write up	BAR PMU																
	Market Study Presentation and Workshops	BAR PMU																
<b>Output 2.4.4:</b> Capacity development for business planning, product development and marketing, to increase farmers' abilities to seize commercial opportunities from target ABD species/varieties	Community consultations, organization and strengthening of producer groups	BAR-PMU, with LGUs, ATI DA and NCIP																
	Farmer Business Schools (training on planning, finance, marketing, operations, etc.)	BAR-PMU , with LGUs, ATI, BDS, NCIP and DA-AMAS																
	Skills training (new products) and packaging (existing and new products) for product development	BAR PMU , with LGUs, ATI, BDS, DA-AMAS, DOST, DTI and Echosi Foundation																
	Trade Fairs, Selling Missions, market testing	BAR PMU , with LGUs, ATI, BDS, DA-AMAS, DOST, DTI and Echosi Foundation																
<b>Output 3.1.1:</b> Information on the full value of ABD and management options compiled and disseminated among policy-makers based on pilot results and	Identify other municipalities and provinces and regions with high ABD	BAR PMU with LGUs, DA DENR,NCIP and partner SUCs and CSOs																
	Prepare multi stage communication plan	BAR PMU with DA DENR -BMB and NCIP																

existing national level information (including other initiatives)	Launch communication campaign for targeted audience	BAR PMU with PLGUs, DA DENR, NCIP and partner SUCs and CSCOs																
<b>Output 3.1.2:</b> Consumer awareness campaign implemented showcasing the nutritional, cultural, ecological value of traditional varieties	Design of website including information about the nutritional, cultural and ecological value of traditional varieties and specific products developed from the project	BAR PMU with DENR BMB and partner SUCs and CSOs																
	Development of “merchandising module” for showcasing products developed to be used in trade fairs, echo village stores, COWHEAD store, municipal, provincial and regional display centres	BAR PMU with DA, DTI and partner business groups																
	Brochures and promotional collaterals developed and updated	BAR PMU with DA , DENR BMB and partner SuC s and CSOs																
	Project website linked and updated to other website of partners (e.g. DA-AMAS, DTI, DOST-PCAARD, etc.)	BAR PMU																
<b>Output 3.2.1:</b> ABD considerations included into knowledge sharing programmes in target areas for upscaling (other parts of core provinces and regions, and elsewhere)	Prioritize other municipalities and provinces and regions with high ABD	BAR PMU with DA and DENR SUC and CSO partners																
	negotiate collaboration with targeted institutions in areas with high ABD	BAR PMU																
	adapt pilot modules to region specific needs	BAR PMU																
<b>Output 3.2.2:</b> Partnerships with private sector established to facilitate the introduction of agro-biodiversity products into larger markets	Use of merchandising modules developed to showcase the products and provide information on the value of traditional varieties (e.g. COWHEAD store, echovillage stores)	BAR PMU with LGUs, DA , DTI and partner business groups																
	Project website linked to	BAR PMU with DA																

	private sector websites and regularly updated (e.g. Echostore, Philippine Amalgamated Supermarkets Association – PAG-ASA)	and DTI																
	Private sector participation in trade fairs and selling missions	BAR PMU with DA and DTI																
Output <b>3.2.3:</b> Arrangements for outreach collaboration with actors in other municipalities, provinces and regions (NGOs/Government)	Conduct provincial workshops within pilot regions	BAR PMU with DA, DENR NCIP and partner SUCs and CSOs																
	Conduct workshop in other regions	BAR PMU with DA , DENR NCIP and partner SUCs and CSOs																

## APPENDIX 4. RESULTS BUDGET

### Budget by output

Oracle code and description	Unit	#	Cost	Component 1			Component 2					Component 3			PM	GEF	REMARKS
				1.1	1.2	Total	2.1	2.2	2.3	2.4	Total	3.1	3.2	Total			
<b>5011 Salaries</b>															<b>103,920</b>	<b>103,920</b>	
Operations and Finance Assistant	months	48	2,165			-					-			-	103,920	103,920	
<b>5013 Contracts</b>				<b>87,453</b>	<b>43,771</b>	<b>131,224</b>	<b>76,357</b>	<b>38,040</b>	<b>15,710</b>	<b>153,956</b>	<b>384,063</b>	<b>52,895</b>	<b>77,983</b>	<b>130,878</b>	<b>0</b>	<b>646,165</b>	
Coordinator and policy/institutional specialist	months	48	3,409	43,636	21,818	<b>65,454</b>	13,090	6,545	19,635	26,180	65,450	13,090	19,635	32,725		163,629	
Program Officer	months	48	1,818	8,726	4,363	<b>13,089</b>	11,344	5,672	17,016	22,688	56,720	6,982	10,473	17,455		87,264	
Program Assistant	months	48	1,772	8,047	4,068	12,115	10,785	5,254	17,352	22,812	56,203	7,239	9,499	16,738		85,056	
Provincial Coordinator/ Agroecosystem Specialist (2)	Months	84	1,364	7,636	3,818	<b>11,454</b>	13,746	6,873	20,619	27,492	68,730	13,746	20,619	34,365		114,549	
Senior Enterprise Specialist	months	42	1,364	7,638	3,819	<b>11,457</b>	8,020	4,010	12,030	16,040	40,100	2,292	3,438	5,730		57,287	
Enterprise development coordinator	months	42	909	5,090	2,545	<b>7,635</b>	5,344	2,672	8,016	10,688	26,720	1,528	2,292	3,820		38,175	
Ifugao municipal facilitator (2)	months	84	795	4,454	2,227	<b>6,681</b>	9,354	4,677	14,031	18,708	46,770	5,346	8,019	13,365		66,816	
SC municipal facilitator	months	42	795	2,226	1,113	<b>3,339</b>	4,674	2,337	7,011	9,348	23,370	2,672	4,008	6,680		33,389	
<b>5014 Consultancies</b>				<b>32,242</b>	<b>21,576</b>	<b>53,818</b>	<b>21,763</b>	<b>49,745</b>	<b>34,918</b>	<b>136,597</b>	<b>343,023</b>	<b>86,857</b>	<b>32,101</b>	<b>8,958</b>	<b>0</b>	<b>515,799</b>	
External Evaluator	months	2	40,000	8,000	4,000	<b>12,000</b>	10,400	5,200	15,600	20,800	52,000	6,400	9,600	6,000		80,000	
Policy consultancies / studies	months	8	4,545	24,242	12,121	<b>36,363</b>	-	-	-	-	-	-	-	-		36,363	
Methodological and analytical consultancies (eco-systems/governance)	months	6	4,545	-	5,455	<b>5,455</b>	7,272	3,636	10,908	-	21,816	-	-	-		27,271	
University-based teams or TA teams for valuation of ABD	consultancy month	3	6,818	-	-	-	4,091	-	16,364	-	20,455	-	-	-		20,455	
Gene bank construction costs	gene banks	9	4,545	-	-	-	-	40,909	-	-	40,909	-	-	-		40,909	
Consultant teams for field recognition work	months	6	5,682	-	-	-	-	-	34,091	-	34,091	-	-	-		34,091	
Mapping and documentation of ABD resources	barangays	17	568	-	-	-	-	-	9,659	-	9,659	-	-	-		9,659	

Oracle code and description	Unit	#	Cost	Component 1			Component 2					Component 3			PM	GEF	REMARKS
				1.1	1.2	Total	2.1	2.2	2.3	2.4	Total	3.1	3.2	Total			
Business consultant: TOR1 market analyses	months	3	5,682	-	-	-	-	-	8,523	8,523	17,046	-	-	-		17,046	
Business consultant: TOR2 strategic advice on business development and marketing	months	3	5,682	-	-	-	-	-	8,523	8,523	17,046	-	-	-		17,046	
Training Consultant	months	5	5,682	-	-	-	-	-	4,205	14,205	28,410	-	-	-		28,410	
Education consultant	months	3	5,682	-	-	-	-	-	7,045	-	17,045	-	-	-		17,045	
Design, development or adaptation and testing of tools, equipment and facilities	package	1	11,364	-	-	-	-	-	-	11,364	11,364	-	-	-		11,364	
Consultancies on technology design and development	months	2	2,727	-	-	-	-	-	-	5,455	5,455	-	-	-		5,455	
Heritage planning consultant	months	2	5,682	-	-	-	-	-	-	11,364	11,364	-	-	-		11,364	
Costs of certification	package	2	19,659	-	-	-	-	-	-	39,318	39,318	-	-	-		39,318	
Consultants to advise on product development	person months	3	5,682	-	-	-	-	-	-	17,045	17,045	-	-	-		17,045	
Consultants to design awareness campaign	months	5	5,682	-	-	-	-	-	-	-	-	11,364	17,046	28,410		28,410	
Launch communication campaign for targeted audience	package	3	15,531	-	-	-	-	-	-	-	-	46,592	-	46,592		46,592	
Design of website including information about the nutritional, cultural and ecological value of traditional varieties and specific products developed from the project	months	1	5,682	-	-	-	-	-	-	-	-	5,682	-	5,682		5,682	
Development of "merchandising module" for showcasing products developed to be used in trade fairs, echo village stores, COWHEAD store, municipal, provincial and regional display centres	months	2	5,682	-	-	-	-	-	-	-	-	11,364	-	11,364		11,364	

Oracle code and description	Unit	#	Cost	Component 1			Component 2					Component 3			PM	GEF	REMARKS
				1.1	1.2	Total	2.1	2.2	2.3	2.4	Total	3.1	3.2	Total			
Project website linked and updated to other website of partners (e.g. DA-AMAS, DTI, DOST-PCAARD, etc.)	man days	48	227	-	-	-	-	-	-	-	-	5,455	5,455	10,910		10,910	
<b>5021 Travel</b>				<b>27,688</b>	<b>13,844</b>	<b>41,532</b>	<b>62,164</b>	<b>8,974</b>	<b>4,574</b>	<b>39,647</b>	<b>165,359</b>	<b>11,208</b>	<b>48,318</b>	<b>59,526</b>	<b>0</b>	<b>266,417</b>	
Coordinator and policy/institutional specialist	months	24	526	1,262	631	1,893	1,642	821	2,463	3,284	8,210	1,010	1,515	2,525		12,628	Every other month at 5 days per travel
Program Officer	months	24	526	1,262	631	1,893	1,642	821	2,463	3,284	8,210	1,010	1,515	2,525		12,628	Every other month at 5 days per travel
Program Assistant	months	8	526	420	210	630	548	274	822	1,096	2,740	336	504	840		4,210	Semestral travel at 5 days per travel
Provincial Coordinator/ Agroecosystem Specialist (2)	months	84	526	2,946	1,473	4,419	5,304	2,652	7,956	10,608	26,520	5,304	7,956	13,260		44,199	Monthly travel at 5 days per month
Senior Enterprise Specialist	months	21	1,052	2,946	1,473	4,419	3,094	1,547	4,641	6,188	15,470	884	1,326	2,210		22,099	Every other month at 10 days per travel
Enterprise development coordinators	months	16	1,052	2,244	1,122	3,366	2,358	1,179	3,537	4,716	11,790	674	1,011	1,685		16,841	On the 3rd and 4th years to travel quarterly at 10 days per travel for upscaling
Ifugao municipal facilitator (2)	months	16	526	562	281	843	1,178	589	1,767	2,356	5,890	674	1,011	1,685		8,418	On the 3rd and 4th years to travel quarterly at 5 days per travel for upscaling
SC municipal facilitator	months	8	526	280	140	420	590	295	885	1,180	2,950	336	504	840		4,210	On the 3rd and 4th years to travel quarterly at 5 days per travel for upscaling

Oracle code and description	Unit	#	Cost	Component 1			Component 2					Component 3			PM	GEF	REMARKS
				1.1	1.2	Total	2.1	2.2	2.3	2.4	Total	3.1	3.2	Total			
Lead Coordinating Agency	months	6	511	306	153	459	398	199	597	796	1,990	246	369	615		3,064	Monitoring visits, 2x year of 3 pax at 5 days each for 3 years
Travel for each workshop (8 people)	workshops	8	1,818	9,696	4,848	14,544	-	-	-	-	-	-	-	-		14,544	Airfare and/or hiring of van during policy instrument development workshops
DSA for each large workshop (8 people)	days	8	455	2,424	1,212	3,636	-	-	-	-	-	-	-	-		3,636	Manila DSA rate for partners @ 2 days per workshop during policy instrument development workshops
DSA for each roundtable workshop (4 people)	workshops	16	227	2,424	1,212	3,636	-	-	-	-	-	-	-	-		3,636	4 policy instruments and 4 policy related initial studies with each study needing 2 small round table discussions (15 pax) with 4 pax from out-of-town
Travel	fares	8	500	400	200	600	520	260	780	1,040	2,600	320	480	800		4,000	National Project Steering Committee meetings (10 people), 2X a year with 1 in project site
DSA	days	16	182	290	145	435	378	189	567	756	1,890	232	348	580		2,905	
Travel	fares	40	23	90	45	135	118	59	177	236	590	72	108	180		905	Provincial Project Steering Committee meetings (15 people), 2X a
DSA	days	40	34	136	68	204	178	89	267	356	890	110	165	275		1,369	

Oracle code and description	Unit	#	Cost	Component 1			Component 2					Component 3			PM	GEF	REMARKS
				1.1	1.2	Total	2.1	2.2	2.3	2.4	Total	3.1	3.2	Total			
																	year
DSA	days	210	34	-	-	-	7,159	-	-	-	7,159	-	-	-		7,159	LDU Training,
Travel (air) to South Cotabato	air fares	14	227	-	-	-	3,182	-	-	-	3,182	-	-	-		3,182	5-days per
Bus travel to Ifugao	fares	14	23	-	-	-	318	-	-	-	318	-	-	-		318	workshop
Car hire for Ifugao and S. Cotabato	days	70	114	-	-	-	7,955	-	-	-	7,955	-	-	-		7,955	inclusive of 2
																	days travel, 5
																	LGUs (2 PLGUs
																	and 3 MLGUs)
																	for 2 facilitators,
																	1 workshop on
																	Yr. 1 and 2
																	workshops for
																	Yrs. 2-4 (7 for 4
																	years)
Travel for LGU cross visits	fares	25	227	-	-	-	5,682	-	-	-	5,682	-	-	-		5,682	5 pax per LGU
DSA	days	25	170	-	-	-	4,261	-	-	-	4,261	-	-	-		4,261	(2 prov. and 3
																	mun.)
DSA	days	216	34	-	-	-	3,682	-	3,682	-	7,364	-	-	-		7,364	Community
Travel (air) to South Cotabato	air fares	14	227	-	-	-	1,591	-	1,591	-	3,182	-	-	-		3,182	training, 5-days
Bus travel to Ifugao	fares	14	23	-	-	-	159	-	159	-	318	-	-	-		318	per workshop
Car hire for Ifugao and S. Cotabato	days	180	114	-	-	-	10,227	-	10,227	-	20,454	-	-	-		20,454	inclusive of 2
																	days travel, 5
																	LGUs (2 PLGUs
																	and 3 MLGUs)
																	for 2 facilitators,
																	1 workshop on
																	Yr. 1 and 2
																	workshops for
																	Yrs. 2-4 (7 for 4
																	years)
DSA	days	50	34	-	-	-	-	-	1,705	-	1,705	-	-	-		1,705	ABD
Travel (air) to South Cotabato	fares	3	227	-	-	-	-	-	682	-	682	-	-	-		682	documentation,
Bus travel to Ifugao	fares	3	23	-	-	-	-	-	68	-	68	-	-	-		68	travel for
																	resource
																	persons
DSA	days	5	511	-	-	-	-	-	2,557	-	2,557	-	-	-		2,557	Training of
Car hire for Ifugao and S. Cotabato	days	4	114	-	-	-	-	-	455	-	455	-	-	-		455	MLGU-based
Travel to in-situ sites (rent of	days	4	114	-	-	-	-	-	455	-	455	-	-	-		455	core facilitators



Oracle code and description	Unit	#	Cost	Component 1			Component 2					Component 3			PM	GEF	REMARKS
				1.1	1.2	Total	2.1	2.2	2.3	2.4	Total	3.1	3.2	Total			
van)																	
DSA	days	60	34	-	-	-	-	-	2,045	-	2,045	-	-	-		2,045	Dialogue between IKSP holders and educators
Car hire for Ifugao and S. Cotabato	days	9	114	-	-	-	-	-	1,023	-	1,023	-	-	-		1,023	
DSA	days	60	33	-	-	-	-	-	1,980	-	1,980	-	-	-		1,980	Pilot education modules development
Car hire for Ifugao and S. Cotabato	days	9	114	-	-	-	-	-	1,023	-	1,023	-	-	-		1,023	
Car hire for Ifugao and S. Cotabato	days	9	114	-	-	-	-	-	-	1,023	1,023	-	-	-		1,023	Participatory needs assessment for tools and facilities in 9 barangays
Car hire for Ifugao and S. Cotabato	days	6	114	-	-	-	-	-	-	682	682	-	-	-		682	Multi-stakeholder workshops for NIAHS
DSA	days	30	34	-	-	-	-	-	-	1,023	1,023	-	-	-		1,023	
DSA	days	30	34	-	-	-	-	-	-	1,023	1,023	-	-	-		1,023	Multi-stakeholder workshops for GI
Travel	fares	66	23	-	-	-	-	-	-	-	-	-	1,506	1,506		1,506	Inter-municipal workshops within pilot province
DSA	days	66	68	-	-	-	-	-	-	-	-	-	4,500	4,500		4,500	
Travel	fares	66	23	-	-	-	-	-	-	-	-	-	1,500	1,500		1,500	Inter-provincial workshops within pilot regions
DSA	participants	66	68	-	-	-	-	-	-	-	-	-	4,500	4,500		4,500	
Travel	fares	66	227	-	-	-	-	-	-	-	-	-	15,000	5,000		15,000	Inter-regional workshops among other sites with high upscaling potential
DSA	participants	66	68	-	-	-	-	-	-	-	-	-	4,500	4,500		4,500	
<b>5023 Training</b>				<b>8,282</b>	<b>3,516</b>	<b>11,798</b>	<b>74,087</b>	<b>2,862</b>	<b>3,647</b>	<b>244,971</b>	<b>475,567</b>	<b>1,844</b>	<b>11,760</b>	<b>13,604</b>	<b>-</b>	<b>500,969</b>	
National Inception workshop	workshops	1	5,682	568	284	852	738	369	1,107	1,476	3,690	454	675	1,129		5,671	
Local level inception workshops	workshops	2	5,682	1,136	568	1,704	1,478	739	2,217	2,956	7,390	910	1,365	2,275		11,369	

Oracle code and description	Unit	#	Cost	Component 1			Component 2					Component 3			PM	GEF	REMARKS
				1.1	1.2	Total	2.1	2.2	2.3	2.4	Total	3.1	3.2	Total			
FPIC	processes	3	4,545	-	-	-	2,728	1,364	4,092	5,456	13,640	-	-	-		13,640	
Food for large policy workshops (40-50 people)	workshops	8	477	2,546	1,273	3,819	-	-	-	-	-	-	-	-		3,819	
Roundtable policy workshops (15 pax)	workshops	16	205	2,182	1,091	3,273	-	-	-	-	-	-	-	-		3,273	
National Project Steering Committee meetings (10 people)	meetings	8	136	110	55	165	142	71	213	284	710	88	132	220		1,095	
Provincial Project Steering Committee meetings (15 people)	meetings	16	170	272	136	408	354	177	531	708	1,770	218	327	545		2,723	
Round table technical meetings (10 people)	meetings	16	136	218	109	327	284	142	426	568	1,420	174	261	435		2,182	
Orientation on interdisciplinary aspects related to on-farm ABD conservation and related ecosystem management	training days	1	1,250	1,250	-	1,250	-	-	-	-	-	-	-	-		1,250	
LGU workshops	workshops	35	1,705	-	-	-	59,659	-	-	-	59,659	-	-	-		59,659	
Community workshops	workshops	103	169	-	-	-	8,704	-	8,704	-	17,408	-	-	-		17,408	
Action planning for module design	workshops	1	205	-	-	-	-	-	205	-	205	-	-	-		205	
Module design by technical task force with planning	workshops	4	859	-	-	-	-	-	3,436	-	3,436	-	-	-		3,436	
Resource Persons	days	20	1,091	-	-	-	-	-	1,818	-	21,818	-	-	-		21,818	
Training of MLGU-based core facilitators	workshops	1	852	-	-	-	-	-	852	-	852	-	-	-		852	
Training of farmer facilitators	workshops	2	477	-	-	-	-	-	955	-	955	-	-	-		955	
Knowledge sharing/training among farmers	workshops	240	852	-	-	-	-	-	2,273	102,273	204,546	-	-	-		204,546	
Dialogue between IKSP holders and educators	workshops	3	1,136	-	-	-	-	-	3,409	-	3,409	-	-	-		3,409	
Pilot education modules development	workshops	3	1,136	-	-	-	-	-	3,409	-	3,409	-	-	-		3,409	
Participatory needs assessment for tools and facilities in 9 barangays	workshops	9	114	-	-	-	-	-	-	1,023	1,023	-	-	-		1,023	
Multi-stakeholder workshops for	workshops	3	3,068	-	-	-	-	-	-	9,205	9,205	-	-	-		9,205	

Oracle code and description	Unit	#	Cost	Component 1			Component 2					Component 3			PM	GEF	REMARKS
				1.1	1.2	Total	2.1	2.2	2.3	2.4	Total	3.1	3.2	Total			
NIAHS																	
Multi-stakeholder workshops for GI	workshops	2	3,977	-	-	-	-	-	-	7,955	7,955	-	-	-		7,955	
Preparation of requirements and application for geographic indications	workshops	3	1,136	-	-	-	-	-	-	3,409	3,409	-	-	-		3,409	
Development and Production of producer labels	products	68	227	-	-	-	-	-	-	15,455	15,455	-	-	-		15,455	
Market Study Design and consultation, Data Collection and processing	barangays	17	682	-	-	-	-	-	-	11,591	11,591	-	-	-		11,591	
Market Study Presentation and Workshops	workshops	17	398	-	-	-	-	-	-	6,761	6,761	-	-	-		6,761	
Community consultations, basic organizational strengthening of producer groups	workshops	17	398	-	-	-	-	-	-	6,761	6,761	-	-	-		6,761	
Farmer Business Schools (training on planning, finance, marketing, operations, etc.)	days	20	2,386	-	-	-	-	-	-	47,727	47,727	-	-	-		47,727	
DSA	days	66	102	-	-	-	-	-	-	-	-	-	6,750	6,750		6,750	
Skills training (new products) and packaging (existing and new products) for product development	package	17	455	-	-	-	-	-	-	7,727	7,727	-	-	-		7,727	
Trade Fairs, Selling Missions, market testing	municipalities	3	4,545	-	-	-	-	-	-	13,636	13,636	-	-	-		13,636	
Conduct inter-municipal workshops within pilot province	workshops	2	375	-	-	-	-	-	-	-	-	-	750	750		750	
Conduct inter-provincial workshops within pilot regions	workshops	2	375	-	-	-	-	-	-	-	-	-	750	750		750	
Inter-regional workshops among other sites with high upscaling potential	workshops	2	375	-	-	-	-	-	-	-	-	-	750	750		750	
<b>5024 Expendables</b>				<b>682</b>	<b>341</b>	<b>1,023</b>	<b>886</b>	<b>3,511</b>	<b>8,374</b>	<b>26,658</b>	<b>49,429</b>	<b>57,364</b>	<b>819</b>	<b>58,183</b>	<b>-</b>	<b>108,635</b>	

Oracle code and description	Unit	#	Cost	Component 1			Component 2					Component 3			PM	GEF	REMARKS
				1.1	1.2	Total	2.1	2.2	2.3	2.4	Total	3.1	3.2	Total			
Equipment and supplies for gene bank	sets	9	341	-	-	-	-	3,068	-	-	3,068	-	-	-		3,068	
Training Manuals	materials	3000	11	-	-	-	-	-	7,045	17,045	34,090	-	-	-		34,090	
Production costs of business plans	plans	34	114	-	-	-	-	-	-	3,864	3,864	-	-	-		3,864	
Training Materials (starter kits)	sets	350	11	-	-	-	-	-	-	3,977	3,977	-	-	-		3,977	
Brochures and promotional collaterals developed and updated	sets	5000	11	-	-	-	-	-	-	-	-	56,818	-	56,818		56,818	
Office supplies	sets	5	1,364	682	341	1,023	886	443	1,329	1,772	4,430	546	819	1,365		6,818	
<b>5025 Non-expendables</b>				<b>2,994</b>	<b>1,497</b>	<b>4,491</b>	<b>4,232</b>	<b>2,116</b>	<b>6,348</b>	<b>8,464</b>	<b>21,160</b>	<b>2,394</b>	<b>3,591</b>	<b>5,985</b>	<b>-</b>	<b>31,636</b>	
Desk top Computers	Units	6	1,364	818	409	1,227	1,064	532	1,596	2,128	5,320	654	981	1,635		8,182	
Laptops	Units	15	795	1,194	597	1,791	1,552	776	2,328	3,104	7,760	954	1,431	2,385		11,936	
GPS	sets	3	568	-	-	-	340	170	510	680	1,700	-	-	-		1,700	
LCD	Units	6	1,023	614	307	921	798	399	1,197	1,596	3,990	490	735	1,225		6,136	
Printers (with scanner and copier)	Units	6	136	82	41	123	106	53	159	212	530	66	99	165		818	
Cameras	Units	6	341	204	102	306	266	133	399	532	1,330	164	246	410		2,046	
Communication equipment (mobile)	Units	6	136	82	41	123	106	53	159	212	530	66	99	165		818	
<b>5028 Expenses</b>			1,818	-	-	-	1,818	909	2,727	3,636	9,090	-	-	-		9,090	
Rent of Motorcycles	Units	5	1,818	-	-	-	1,818	909	2,727	3,636	9,090	-	-	-		9,090	
<b>TOTAL</b>				<b>159,341</b>	<b>84,545</b>	<b>243,886</b>	<b>241,307</b>	<b>106,157</b>	<b>486,298</b>	<b>613,929</b>	<b>1,447,691</b>	<b>212,562</b>	<b>174,572</b>	<b>387,134</b>	<b>103,920</b>	<b>2,182,631</b>	

<b>SUBTOTAL Comp 1</b>	<b>243,886</b>
<b>SUBTOTAL Comp 2</b>	<b>1,447,691</b>
<b>SUBTOTAL Comp 3</b>	<b>387,134</b>
<b>SUBTOTAL Project Management</b>	<b>103,920</b>
<b>TOTAL GEF</b>	<b>2,182,631</b>



## Budget breakdown by year

Oracle code and description	GEF	Expenditures per Year			
		Year 1	Year 2	Year 3	Year 4
Operations and Finance Assistant	103,920	25,980	25,980	25,980	25,980
Coordinator and policy/institutional specialist	163,629	40,907	40,907	40,907	40,907
Program Officer	87,264	21,816	21,816	21,816	21,816
Program Assistant	85,056	21,264	21,264	21,264	21,264
Provincial Coordinator/ Agro-ecosystem Specialist (2)	114,549	16,364	32,728	32,728	32,728
Senior Enterprise Specialist	57,287	8,184	16,637	16,637	16,637
Enterprise development coordinator	38,175	5,454	10,907	10,907	10,907
Ifugao municipal facilitator (2)	66,816	9,544	19,091	19,091	19,091
SC municipal facilitator	33,389	4,770	9,540	9,540	9,540
External Evaluator	80,000		40,000		40,000
Policy consultancies / studies	36,363	7,792	10,390	10,390	7,792
Methodological and analytical consultancies (eco-systems/governance)	27,271	3,896	7,792	7,792	7,792
University-based teams or TA teams for valuation of ABD	20,455	3,147	6,294	6,294	4,720
Gene bank construction costs	40,909	9,091	18,182	13,636	
Consultant teams for field recognition work	34,091	5,245	10,490	10,490	7,867
Mapping and documentation of ABD resources	9,659	1,486	2,972	2,972	2,229
Business consultant: TOR1 market analyses	17,046	3,788	3,788	5,682	3,788
Business consultant: TOR2 strategic advice on business development and marketing	17,046	3,788	3,788	5,682	3,788
Training Consultant	28,410	6,313	6,313	9,470	6,313
Education consultant	17,045		5,682	5,682	5,682
Design, development or adaptation and testing of tools, equipment and facilities	11,364	1,033	4,132	4,132	2,066
Consultancies on technology design and development	5,455	496	1,983	1,983	992
Heritage planning consultant	11,364	7,576	3,788		
Costs of certification	39,318		39,318		
Consultants to advise on product development	17,045	2,841	5,682	5,682	2,841
Consultants to design awareness campaign	28,410	5,682	7,576	7,576	7,576
Launch communication campaign for targeted audience	46,592	11,648	11,648	11,648	11,648
Design of website including information about the nutritional, cultural and ecological value of traditional varieties and specific products developed from the project	5,682	5,682			
Development of "merchandising module" for showcasing products developed to be used in trade fairs, echo village stores, COWHEAD store, municipal, provincial and regional display centres	11,364	11,364			
Project website linked and updated to other website of partners (e.g. DA-AMAS, DTI, DOST-PCAARD, etc.)	10,910	2,727	2,727	2,727	2,727
Coordinator and policy/institutional specialist	12,628	3,157	3,157	3,157	3,157
Program Officer	12,628	3,157	3,157	3,157	3,157
Program Assistant	4,210	1,052	1,052	1,052	1,052
Provincial Coordinator/ Agro-ecosystem Specialist (2)	44,199	6,314	12,628	12,628	12,628
Senior Enterprise Specialist	22,099	3,157	6,314	6,314	6,314
Enterprise development coordinators	16,841			8,420	8,420
Ifugao municipal facilitator (2)	8,418			4,209	4,209
SC municipal facilitator	4,210			2,105	2,105
Lead Coordinating Agency	3,064		1,021	1,021	1,021
Travel for each workshop (8 people)	14,544	3,117	4,155	4,155	3,117
DSA for each large workshop (8 people)	3,636	779	1,039	1,039	779
DSA for each roundtable workshop (4 people)	3,636	779	1,039	1,039	779
Travel	4,000	1,000	1,000	1,000	1,000
DSA	2,905	726	726	726	726
Travel	905	226	226	226	226
DSA	1,369	342	342	342	342
DSA	7,159	1,023	2,045	2,045	2,045
Travel (air) to South Cotabato	3,182	455	909	909	909
Bus travel to Ifugao	318	45	91	91	91
Car hire for Ifugao and S. Cotabato	7,955	1,136	2,273	2,273	2,273
Travel for LGU cross visits	5,682	812	1,623	1,623	1,623
DSA	4,261	609	1,218	1,218	1,218
DSA	7,364	1,133	2,266	2,266	1,699
Travel (air) to South Cotabato	3,182	490	979	979	734
Bus travel to Ifugao	318	49	98	98	73

Oracle code and description	GEF	Expenditures per Year			
		Year 1	Year 2	Year 3	Year 4
Car hire for Ifugao and S. Cotabato	20,454	3,147	6,294	6,294	4,720
DSA	1,705	567	1,136		
Travel (air) to South Cotabato	682	228	454		
Bus travel to Ifugao	68	23	45		
DSA	2,557	426	1,279	426	426
Car hire for Ifugao and S. Cotabato	455	76	227	76	76
Travel to in-situ sites (rent of van)	455	76	227	76	76
DSA	2,045		2,045		
Car hire for Ifugao and S. Cotabato	1,023		1,023		
DSA	1,980		660	1,320	
Car hire for Ifugao and S. Cotabato	1,023		1,023		
Car hire for Ifugao and S. Cotabato	1,023		341	682	
Car hire for Ifugao and S. Cotabato	682	455	227		
DSA	1,023	682	341		
DSA	1,023	682	341		
Travel	1,506			1,506	
DSA	6,750			6,750	
Travel	1,500			750	750
DSA	6,750			3,375	3,375
Travel	15,000				15,000
National Inception workshop	5,682	5,682			
Local level inception workshops	11,364	11,364			
FPIC	13,635	6,818	6,817		
Food for large policy workshops (40-50 people)	3,819	818	1,092	1,091	818
Roundtable policy workshops (15 pax)	3,273	701	932	935	701
National Project Steering Committee meetings (10 people)	1,095	273	274	274	273
Provincial Project Steering Committee meetings (15 people)	2,723	681	681	681	681
Round table technical meetings (10 people)	2,182	545	546	546	545
Orientation on interdisciplinary aspects related to on-farm ABD conservation and related ecosystem management	1,250		556	417	277
LGU workshops	59,659	8,524	17,045	17,045	17,045
Community workshops	17,408	2,679	5,356	5,356	4,017
Action planning for module design	205	205			
Module design by technical task force with planning	3,436	1,145	2,291		
Resource Persons	21,818	7,273	14,545		
Training of MLGU-based core facilitators	852	142	426	142	42
Training of farmer facilitators	955	159	160	318	318
Knowledge sharing/training among farmers	204,546	45,283	45,283	68,009	45,283
Dialogue between IKSP holders and educators	3,409		3,409		
Pilot education modules development	3,409		1,136	2,273	
Participatory needs assessment for tools and facilities in 9 barangays	1,023	511	512		
Multi-stakeholder workshops for NIAHS	9,205	6,136	3,069		
Multi-stakeholder workshops for GI	7,955	5,303	2,652		
Preparation of requirements and application for geographic indications	3,409		3,409		
Development and Production of producer labels	15,455	2,576	5,152	5,152	2,575
Market Study Design and consultation, Data Collection and processing	11,591	11,591			
Market Study Presentation and Workshops	6,761	6,761			
Community consultations, basic organizational strengthening of producer groups	6,761	2,253	2,254	2,254	
Farmer Business Schools (training on planning, finance, marketing, operations, etc.)	47,727	11,931	11,932	23,864	
DSA	6,750			6,750	
Skills training (new products) and packaging (existing and new products) for product development	7,727	1,545	3,091	3,091	
Trade Fairs, Selling Missions, market testing	13,636		4,545	4,546	4,545
Conduct inter-municipal workshops within pilot province	750			750	
Conduct inter-provincial workshops within pilot regions	750			375	375
Inter-regional workshops among other sites with high upscaling potential	750				750
Equipment and supplies for gene bank	3,068	682	1,364	1,022	
Training Manuals	34,090	7,575	7,576	11,364	7,575
Production costs of business plans	3,864	966	966	1,932	
Training Materials (starter kits)	3,977	795	1,591	1,591	

Oracle code and description	GEF	Expenditures per Year			
		Year 1	Year 2	Year 3	Year 4
Brochures and promotional collaterals developed and updated	56,818		37,897	18,921	
Office supplies	6,818	1,704	1,705	1,705	1,704
Desk top Computers	8,182	2,044	2,045	2,045	2,044
Laptops	11,936	11,936			
GPS	1,700	1,700			
LCD	6,136	6,136			
Printers (with scanner and copier)	818	818			
Cameras	2,046	2,046			
Communication equipment (mobile)	818	818			
Rent of Motorcycles	9,090	2,272	2,273	2,273	2,272
<b>TOTAL</b>	2,182,631	464,188	647,017	578,776	492,650



## APPENDIX 5. RISK MATRIX

Risk description	Category	Impact	Likelihood	Mitigation actions
Government budgetary constraints at national and local level	M	Limited ability of Government to provide support to farmers and conservation strategies	40%	The project will address this risk by strengthening farmers' capacities for knowledge generation and farmer-to-farmer knowledge transfer, as complements to Government extension programmes that are hampered by budgetary constraints; and by promoting the involvement of the private sector in the development and application of market-based incentives to complement the Government's weak capacities in this regard..
Low level of participation and support from stakeholders	L	Limited uptake and social sustainability of conservation strategies	20-30%	The project will mitigate this risk by employing a highly participatory and consultative approach, increasing the understanding and national/local ownership of the project objectives and activities and addressing stakeholder concerns early and comprehensively. Participation and ownership is especially important at the community level and a prerequisite for successful implementation. In addition to participatory practices, the clear emphasis on the economic opportunities for local farmers provided by the project activities will serve to mitigate the risk of inadequate stakeholder support. PPG processes have contributed to mitigating this risk in the case of the Local Government Units (LGUs) covering the target areas, representatives of which were fully involved in and consulted on project design and have expressed firm commitment to the project.
Insufficient consumers' "willingness to pay"	L	Limited effectiveness of market-based mechanisms for conservation	20-30%	<p>Studies carried out during the PPG phase confirmed that:</p> <ul style="list-style-type: none"> <li>- Most consumers are willing to pay for Eco labelled products (around 26% of respondents were willing to pay a price premium of &gt;21% for Eco labelled products) but the willingness varies depending on the level of price premium. These include products certified to conserve agrobiodiversity, indigenous varieties including rice, cultural heritage (e.g. handwoven products from abaca), certified organic rice, etc.</li> <li>- Certification fetches higher price. The majority of respondents are willing to pay price premium for Eco labelled products that range from 10% to 20%.</li> <li>- There is however significant price elasticity: more than 30% of respondents cited high price of organic product as one of the reasons why they don't purchase it.</li> <li>- Modelling results show that gender, age, income and being an organic consumption consumer significant affect the level of price premium.</li> </ul> <p>In recognition of the sensitivity of market behaviour to these factors, the project will support further detailed market valuation analyses of specific traditional varieties, products and "labels", as the basis for the business and marketing plans proposed under Output 2.3.3 below, confirming the types of product and/or certification scheme which are likely to yield highest returns on</p>

				investment (taking into account market prices in relation to production, marketing and transaction costs), and identifying the specific markets to be targeted (based on factors including accessibility, marketing and transport costs, price levels, and demand volumes, as well as likely trends in these factors) (Output 2.4.3) and will also place emphasis on developing the capacities of producers to interact effectively with markets (Output 2.4.4).
Limited capacity of local/national institutions for implementing project activities	L	Limited institutional sustainability of conservation strategies	20-30%	The project will include activities for targeted capacity strengthening specifically preparing local and national institutions for their respective responsibilities during project implementation. Key implementation partners have been selected in accordance to their proven expertise and capacity. Implementation of project activities will be additionally assisted by a broad spectrum of supporting entities including other government agencies, universities and research institutions, civil society organizations as well as FAO HQ and country office.
Climate change	L	Crop failure and/or destruction of community-based seed banks, resulting in loss of traditional varieties	100%	Climate change, particular fluctuations in the timing and intensity of rains and the occurrence of extreme rainfall events, is likely to undermine the functioning of traditional agricultural management systems. The focus of the project on supporting farmers in maintaining a wide diversity of crop varieties will buffer these risks by providing them with fall-back options in the case of failure of specific varieties in this way. Furthermore, the project will place a strong emphasis on developing farmers' capacities to experiment, innovate and adapt their traditional practices to evolving conditions, rather than "setting in stone" traditional knowledge.
Limited private sector involvement	M	Limited viability and sustainability of market-based incentives for conservation	20-30%	Emphasis will in addition be placed on ensuring participation and support of private sector stakeholders, through the provision of technical expertise aimed at raising awareness and developing capacities for taking advantage of market opportunities for ABD and ABD-related products. sector actors and thereby adapt to evolving market conditions. Market studies to date, including those carried out during the PPG phase, indicate that diverse private sector outlets exist for the ABD products from the target areas. The project will develop partnerships across this wide range of private sector actors, in order to spread the risk of the failure of individual outlets. Under Output 2.4.4, it will also develop capacities among the producers themselves to interact with private sector actors and thereby adapt to evolving market conditions.
Coordination between ministries and with local institutions	M	Failure adequately to address cross-sector aspects of ABD conservation	50%	<p>The project will implement various mechanisms to promote effective coordination between ministries and with local institutions:</p> <ul style="list-style-type: none"> <li>- A multi-institutional Project Steering Committee, including representatives from the Department of Agriculture, the NPD, the Department of Environment and Natural Resources (DENR), PhilRice, NCIP, the Department of Trade and Industry (DTI), and NCCA,</li> <li>- Ad hoc Technical Working Groups involving relevant bureaus of DA, DTI, NCCA, NCIP and the Department of Education.</li> </ul> <p>Provincial Coordination Committees involving Provincial and Municipal LGUs, Provincial Offices for Planning, Agriculture, Environment, IP Affairs and Cultural Affairs, as well as provincial representatives of DENR, DA and NCIP.</p>

## APPENDIX 6. PROCUREMENT PLAN

	ITEMS	QUANTITY	UNIT	UNIT PRICE (\$)	TOTAL PRICE (US\$)	TOTAL PRICE (₱)	DEPLOYMENT
1	Equipment and supplies for gene bank	9	sets	341.00	3,069.00	135,036.00	Pilot Municipal Local Government Units
2	Training Manuals	3,000	materials	11.36	34,080.00	1,499,520.00	DA-ATI Central Office
3	Production costs of business plans	34	business plans	114.00	3,876.00	170,544.00	Pilot Municipal Local Government Units
4	Training Materials (starter kits)	350	sets	11.36	3,976.00	174,944.00	DA-ATI Central Office
5	Brochures and promotional collaterals developed and updated	5,000	sets	11.36	56,800.00	2,499,200.00	Pilot Provincial and Municipal Local Government Units
6	Office supplies	5	sets	1,364.00	6,820.00	300,080.00	Pilot Provincial and Municipal Local Government Units
7	Desk top Computers	6	sets	1,364.00	8,184.00	360,096.00	PMU, Pilot Provincial and Municipal Local Government Units
8	Laptops	15	sets	795.00	11,925.00	524,700.00	9 for PMU, 1 BAR and 5 for LGUs
9	GPS	3	sets	568.00	1,704.00	74,976.00	Pilot Municipal Local Government Units
10	LCD	6	units	1,023.00	6,138.00	270,072.00	PMU, Pilot Provincial and Municipal Local Government Units
11	Printers (with scanner and copier)	6	units	136.00	816.00	35,904.00	PMU, Pilot Provincial and Municipal Local Government Units

12	Cameras	6	units	341.00	2,046.00	90,024.00	PMU, Pilot Provincial and Municipal Local Government Units
13	Communication equipment (mobile)	6	units	136.00	816.00	35,904.00	PMU, Pilot Provincial and Municipal Local Government Units
	<b>TOTAL</b>				<b>140,250.00</b>	<b>6,171,000</b>	

## **APPENDIX 7. TERMS OF REFERENCE (TORS)**

### **1. NATIONAL PROJECT COORDINATOR AND POLICY/INSTITUTIONAL SPECIALIST (NPM /PIS) – 48 PM**

Reporting to the National Project Director (BAR), the Project Coordinator and Policy /Institutions Specialist will serve as Project Coordinator and at the same time serve as Policy and Institutions Specialist. Key qualifications include an educational background in development management and rural development. This would include a Master's degree in agriculture, forestry, public management and social sciences. At least 5 years work experience in managing projects dealing with local natural resources management (CBNRM) and sustainable agriculture. Specific experience working with local governments would be an advantage.

Specific tasks include the following:

1. Prepare project implementation plans and annual work plans of the project, in consultation with key stakeholders among participating line agencies and local government units
2. Establish a project monitoring and evaluation (M&E) system to support project operations and oversee its execution
3. Prepare draft memos of agreement that will govern implementing arrangements among participating agencies as well as TORs for short term TA that will be involved in the project
4. Under the guidance of the NPD, exercise overall supervision of members of the Project Team as well as short term TA
5. With the support of relevant specialists, prepare the implementing strategy and directly oversee activities involving the conduct of policy studies, policy dialogue and preparation of draft policy instruments as envisioned under the Project
6. With the support of relevant specialists, prepare the implementing strategy and provide direct expert technical assistance for the conduct of activities related to the piloting of innovations for the dynamic conservation of ABD. These include the incorporation of ABD concerns in local government and community plans and programs
7. With the support of relevant specialists prepare the implementing strategy and provide technical assistance for laying the groundwork for the dissemination of ABD information and good practices for their dynamic conservation
8. Oversee the documentation of good practices and lessons learned and facilitate their communication and use by the Project Steering Committee and technical working groups providing support to the project

### **2. PROGRAM OFFICER/TRAINING & COMMUNICATIONS SPECIALIST (PO/TCS) – 48 PM**

Reporting to the NPD, the Project Manager and Policy /Institutions Specialist will provide program management services and at the same time serve as Communications /Knowledge Management Specialist. Key qualifications include an educational background in development communications development management and rural development, and related courses. He/ she must have at least 5 years work experience in designing and managing training and/or communications programs in support of rural development projects. Experience in backstopping local natural resources management (CBNRM) and sustainable agriculture would be an advantage. Specific experience working with local governments would be an advantage

Specific tasks include the following:

1. Assist the NPM prepare project implementation plans and annual work plans of the project, in consultation with key stakeholders among participating line agencies and local government units
2. Assist the NPM execute the project monitoring and evaluation (M&E) system, and consolidate various technical reports from different implementing agents and
3. Assist the NPM in maintaining adequate communication and liaison with participating agencies in accordance with memoranda of agreements

4. With the advice and support of relevant specialists, prepare the knowledge management and communication plan for the project and coordinate the implementation of the same in support of the implementation of various activities related to policy development, piloting of ABD conservation and sustainable use; and dissemination of information and good practices in dynamic conservation
5. Lead in the mobilization of; and maintain dynamic liaison with, expert resources from government agencies to provide development communication support for project operations
6. Coordinate technical assistance for laying the groundwork for the dissemination of ABD information and good practices for their dynamic conservation in sites outside the 3 pilot municipalities
7. Lead in the preparation of priority communication materials based on guidance provided by the communication plan

### **3. PROVINCIAL COORDINATORS/AGROECOSYSTEM SPECIALISTS ( 2)**

Reporting to the National Project Coordinator (NPC), the Provincial Coordinators/Agroecosystem Specialist will provide project management services at the provincial and municipal levels and at the same time serve as the local ABD expert. Key qualifications include an educational background in agriculture, forestry, human ecology, development management and rural development. He /she must have at least 5 years work experience in designing and managing training and/or programmes in support of natural resources management. Experience in backstopping local natural resources management (CBNRM) and sustainable agriculture would be an advantage. Knowledge of the local language and specific experience working with local governments would be an advantage

Specific tasks include the following:

1. Lead in the preparation of project implementation plans and annual work plans of the project at the provincial and municipal level, in consultation with key stakeholders among participating line agencies and local government units
2. Coordinate all technical assistance activities at the provincial /municipal levels, ensuring adequate information sharing and communication flow among LGU and non-government stakeholders. Provide oversight to provincial level project personnel (Enterprise specialists and community facilitators)
3. Execute the project monitoring and evaluation (M&E) system at the provincial level to support project operations and oversee its execution
4. Coordinate the provision of expert technical assistance to the LGUs and communities in the conduct of ABD inventory, assessment and documentation, as well as development of methodologies for strengthening community based / LGU assisted initiatives for ABD conservation and sustainable use taking into account the bigger agroecosystem that host the ABD
5. Assist in the development of training modules, education modules and communication materials for ABD inventory and local planning as well good management practices for on farm dynamic conservation taking into account the local cultural context
6. Lead in the documentation of good practices and lessons learned on community based /LGUs assisted ABD conservation and sustainable use

### **4. ENTERPRISE DEVELOPMENT SPECIALIST (SEDS) –**

**Duty Station: Lake Sebu, South Cotabato**

#### ***General:***

The SEDS assigned at the Project Management Office is tasked to facilitate and coordinate the planning, implementation and evaluation of the enterprise development activities in Lake Sebu

#### ***Specific:***

1. Reviews proposals and outputs of short-term consultants and business development providers before submission to program manager for review/perusal and approval

2. Works closely with the short-term consultants in the conduct of market analysis and planning
3. Assists in organizing multi-stakeholder workshops for the validation of market analysis outputs and the conduct of planning using output of the analysis
4. Facilitates consolidation of provincial plans and the preparation of annual work plan and budget targets related to enterprise development activities
5. Coordinates and facilitates the conduct of enterprise development planning for producer organizations and assists in the implementation of enterprise development interventions and to ensure integration with other components of the project
6. Actively seeks for potential partners in the private and public sectors in operationalizing project strategies
7. Coordinates the development, dissemination and updating of website and promotional collaterals
8. Coordinates training needs assessment for enterprise development training/farmer business school
9. Monitors and evaluates progress based on value chain investment plans and annual work plan and budgets
10. Consolidates key insights, gaps and lessons learned in implementation to be used in updating plans
11. Performs other tasks assigned by his/her supervisor.

### **5. COMMUNITY FACILITATORS (3)**

Reporting to the Provincial Coordinators/Agroecosystem Specialist, the community facilitator will facilitate the implementation of project activities at the municipal and community levels in consultation with key stakeholders in the locality. Key qualifications would include an educational background in agriculture, forestry, social science, development management and rural development. He/she must have at least 5 years work experience in community organizing, community facilitation, and designing and managing farmers training and /or communications programs. Experience in backstopping local natural resources management (CBNRM) and sustainable agriculture would be an advantage. Knowledge of the regional /local dialect and specific experience working with local governments would also be an advantage

Specific tasks include the following:

1. Participate in the training of LGU extension officers on facilitating farmer based implementation of good practices for ABD conservation and sustainable use
2. In collaboration with the MLGU officers, facilitate community level planning and monitoring activities in pilot barangays that would strengthen community capacity for ABD conservation and sustainable use
3. Facilitate knowledge sharing and training among farmers using the modules developed for ABD dynamic conservation related to the production and marketing
4. Facilitate the identification and capacity building of farmer leaders who would be tapped to share good practices among farmers to other barangays within the pilot site and neighbouring provinces
5. Document experience in the use of modules for knowledge sharing /training and participate in the fine tuning of said modules. Facilitate local level monitoring and assessment of progress and good practices developed in order to strengthen capacity of LGU extension staff on ABD concerns.

## APPENDIX 8. PILOT SITE SELECTION CRITERIA

As proposed in the PIF, the site selection process was based on extensive information on the prevalence and distribution of biodiversity in the Philippines that was gathered during the first and second revision of the NBSAP. Available similar information specifically on agro-biodiversity is not as comprehensive. However, the project site selection can rely on information closely related to agro-biodiversity that has been collected as part of the assessment of different regions regarding their potential for future NIAHS recognition. The project site selection for this project was oriented at the lists of identified areas with high potential for NIAHS recognition. Furthermore, additional criteria for site selection have been developed to maximize the project impact, the potential for replication and scaling up, and the synergies with baseline and other ongoing activities, while preventing any duplication of efforts. The general criteria for site selection proposed in the PIF were as follows:

- a) Quantity and type of local agro-biodiversity;
- b) Local communities level of familiarity with dynamic conservation practices;
- c) Level of acceptance by farmers and willingness to introduce alternative varieties and practices;
- d) Potential for marketable product development;
- e) Local implementation capacity of farmers as well as local government units;
- f) Geographic relation to project sites of other internationally supported activities.


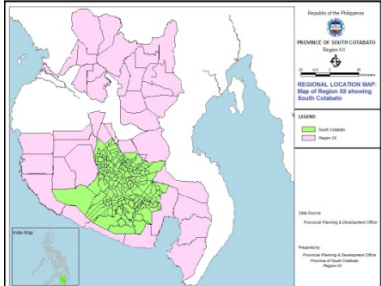
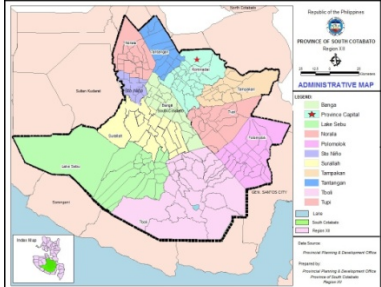
Through workshops held during the PPG phase (June 2014), key stakeholders validated and refined these into a set of criteria that adapted those used for GIAHS and NIAHSs site, as shown below:

Adapted GIAHS/NIAHS criteria	Sub Criteria	Sources of information
High in biodiversity (BD), particularly agro-biodiversity (ABD)	<ol style="list-style-type: none"> <li>a. Presence of BD including priority ABD (covering interspecific and intraspecific diversity). Extent of ABD (# of accessions including those with potential for breeding and direct utilization)</li> <li>b. Threatened ABD, i.e. extent of genetic erosion</li> <li>c. Representativeness – the site can represent other sites in the region, and nearby sites to catch spill-over effects</li> </ol>	<ul style="list-style-type: none"> <li>• Information on germplasm accessions by the following institutions: UPLB, BAR, PHILRICE, BPI, VSU, MASIPAG and SEARICE</li> <li>• Compendium on NIAHS in the Philippines: Information on heritage agriculture in 5 Regions from the ?</li> </ul>
Contribution to the community's food and livelihood security and potential for sustainable local enterprise	<ol style="list-style-type: none"> <li>a. Significance of the ABD in food security and current livelihoods</li> <li>b. Presence of significant market potential, either as primary products or products with value added, and presence of or potential support from markets and private sector</li> </ol>	<ul style="list-style-type: none"> <li>• Local Agricultural production data as reflected in Bureau of Statistics</li> <li>• Provincial and Local Land Use Plans</li> <li>• Reports of relevant projects</li> </ul>
The practices are part of an adaptive local/indigenous knowledge and belief systems	<ol style="list-style-type: none"> <li>a) Presence of traditional local knowledge or indigenous knowledge systems that include ecologically sound agriculture and is passed on from one generation to another</li> </ol>	<ul style="list-style-type: none"> <li>• Compendium on NIAHS in the Philippines (5 regions)</li> <li>• Contributions by local key informants</li> </ul>
The practices are part of value systems and cultural heritage; and	<ol style="list-style-type: none"> <li>a. Presence of overall value systems and social organizations (including indigenous governance systems) that contribute to</li> </ol>	<ul style="list-style-type: none"> <li>• NCIP various documentation of IKSP</li> <li>• NCCA information on</li> </ul>



<b>Adapted GIAHS/NIAHS criteria</b>	<b>Sub Criteria</b>	<b>Sources of information</b>
are supported by social organizations and local stakeholders	sustainability of ecologically sound agricultural practices b. Heritage - indicators c. Extent of recognition and support provided by the local government	cultural heritage • Compendium on NIAHS in the Philippines (5 regions)
The site involves a remarkable landscape that has been maintained for a very long time	Presence of remarkable landscape features resulting from years of human management that enhance sustainability of the agricultural ecosystem	• DENR BMB Site Profiles of NIPAs areas and key non NIPAS areas • Local Land Use Profiles • NCIP various documentation of IKSP • NCCA information on cultural heritage

## APPENDIX 9. SUMMARY INFORMATION ON SELECTED PILOT SITES

Criteria	Ifugao Province	Hungduan, Ifugao	Hingyon, Ifugao	South Cotabato Province	Lake Sebu, South Cotabato
<b>VITAL STATISTICS</b>					
Land Area	262,821 has.	22,911 has.	11,455.96 has.	393,595 has.	70,200 has.
Location and with reference to Manila and provincial and regional capitals, maps (Phil. Map, location with reference to region, municipal maps showing the barangays)	<p>Ifugao, a land-locked area located at the foot of the Cordillera Mountain Range, is bounded on the west by the province of Benguet, Nueva Viscaya on the south, Isabela on the east, and on the north by Mountain Province. It is 322 kilometres north of Manila. Travel time by bus from Manila is from 8-10 hours.</p> <p>As of 1988, the province is politically sub-divided into 11 municipalities and 178 barangays, with Lagawe serving as the provincial capital town.</p> 	<p>Hungduan is divided into 9 barangays. It is 51 kms. from Lagawe, the provincial capital, 354 kms. from Baguio City passing thru Regions 1 &amp; 2 and 356 kms. from Manila. It is divided into 9 barangays.</p>	<p>Hingyon is the smallest municipality of Ifugao with a total land area of 11,455.96 hectares. It is divided into 12 barangays. It is 362 kms. from Manila with a travel time by land of 8 hours.</p>	<p>South Cotabato is located in the southern part of the Island of Mindanao. The province's main access to the sea is through Sarangani Bay in General Santos City. Among its municipalities/city, Lake Sebu has the biggest land area with 891 sq. km., which is about 24% of the province's land area.</p> <p>It is divided into 12 municipalities.</p> <p>The province may be reached by air travel of 1 hour and 15 minutes from Manila through the General Santos airport which is about a 45 minute drive to its capital, Koronadal City.</p>	<p>Lake Sebu is located at the South-western part of the province of South Cotabato. It is approximately 40 kilometres away from Koronadal, the capital town of the Province of South Cotabato. Lake Sebu is approximately 6 hours away from Cotabato City, the Regional Centre of Region XII. It is divided into 19 barangays.</p>  
Climatic patterns, vulnerability to climate change	<p>The province is described as having the dry season from November to April and the rainy season during the rest of the year. The hottest months are March and April while the coolest months are</p>	<p>Temperature ranges from 19 to 32 degrees Centigrade. Rainfall is intense in the early part of May and ends in</p>	<p>Hingyon has a temperate climate with distinct dry (late March to early June) and wet (June to early March) seasons.</p>	<p>South Cotabato belongs to the fourth type of climate, that is, rainfall is more or less evenly distributed throughout the year. The average number of rainy</p>	<p>The climate of Lake Sebu belongs to the 4<sup>th</sup> Climatic type under the Corona's Classification where rainfall is evenly distributed throughout the year. Its temperature ranges from 21° to 30° Celsius. It is relatively cool throughout</p>

Criteria	Ifugao Province	Hungduan, Ifugao	Hingyon, Ifugao	South Cotabato Province	Lake Sebu, South Cotabato
	November up to February.	November which brings about flooding, erosion, landslides and siltation along the roads, footpaths, irrigation canals and rice fields. Dry season occurs from December to April. It is within the Hapao Fault putting it at a very high risk of earthquake related ground figuring and landslides.	It has no fault lines but has landslides along road cuts and tops of terraces and thin weathering profile exposed to rapid erosion by dense run-off drainage gully system on bedrocks with very poor water holding capacities, particularly in steep mountain slopes.	days for the year 2004 is recorded between 122 to 180 days with the months of May, June, July, August and October having the most occurrences.	the day supported by the hydrologic cycle of the lake. The lowest rainfall occurrences are being experienced during the months of March to April. Heavy rains are commonly experienced during the months of June to November. Flooding is not a real threat to lives and properties because of its mountainous terrain, except along river banks and lake shore. And severe erosion could only be found in portions of Brgys. Ned, Lamfugon and Lower Maculan.
LGU Class *	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	1 <sup>st</sup>	1 <sup>st</sup>
Land Use information (forest, A&D), topography (slope, rolling, hilly, etc.)	Of the total land area, 198,246 hectares (79%) is occupied by 9 upland municipalities containing the rice terraces clusters and the remaining 53,532 hectares (21%) is occupied by the 2 lowland municipalities of Lamut and Alfonso Lista. The province is marked by rugged mountains and massive forest except for the rolling lowlands toward the municipalities of Lamut and Alfonso Lista. The terraces are located at high elevation between 800 to 1,500 meters above sea level with a slope range of 50% and above.	Generally mountainous with elevation ranging from 700 to 2,700 meters above sea level. The existing dominant land use is woodland consisting of 4 major types of forest, namely: dipterocarp forest, pine forest, mossy/sub-marginal and bushland. The major types are followed by grassland and other open areas with the least which is agricultural land. Agricultural land areas are composed mostly of terraced	Steep slopes and V-shaped gullies carved by turbulent waters of intermittent streams. 66% of the municipality have a slope of 50% and above. Per PD 705, the whole municipality is classified as forestland.	About 1,313 sq. km. or 35% of the area of South Cotabato is hilly and mountainous with slopes ranging from 30 to 50 percent. These areas are reserved usually for forest trees to attain their ecological balance. Next biggest category is rolling to hilly land which are suitable for agriculture. These lands likewise set the ideal limit for urban expansion. The biggest portion 1,845.53 sq. km. or 49.80% of the provincial total area has an elevation of 0-500 meters above sea level	Lake Sebu is approximately 700 meters above sea level. Its terrain is predominantly rugged as evidenced by the presence of Daguma and Talihi mountain ranges along the eastern portion of the municipality, Mt. Busa in the southeastern portion with an elevation of 2,064 meters; Pitot Kalabao Peak along the central portion with an elevation of 1,600 meters and Mt. Talili in the east portion with an elevation of 1,410 meters.

Criteria	Ifugao Province	Hungduan, Ifugao	Hingyon, Ifugao	South Cotabato Province	Lake Sebu, South Cotabato												
		riceland planted with rice and other crops.															
Part of Watershed	Magat	Magat	Magat	The province had several watersheds: Allah Valley Watershed Forest Reserve (Proclaimed), Banga, Marbel, Tantangan & Makar-Sinawal-Silway Watersheds and Mt. Matutum Protected Landscape (Proclaimed)	Lake Sebu is strategically located in the Upper Catchment of Allah River and plays a crucial role in the Allah Valley Landscape Development Alliance (AVLDA), an affiliation of 4 Municipalities in South Cotabato and 4 Municipalities in Sultan Kudarat including the City of Tacurong that as bound to project the Allah Valley Landscape.												
Total Population (May 2010) Population density, Youth, dependency on agriculture	191,078 Population density per square kilometre: 68.76	9,933 Population density per square kilometre: 43 Dependency ratio: 65 (55 young and 10 old) dependents per 100 persons in the working group	9,795 Population density per square kilometre: 160	827,200 Population density per square kilometre: 245.6	76,170 Population density per square kilometre: 85 <table><thead><tr><th>Category</th><th>Population</th></tr></thead><tbody><tr><td>Students (Pre-school to Tertiary)</td><td>37,734</td></tr><tr><td>Labor Force (15-65)</td><td>41,782</td></tr><tr><td>Dependent Population</td><td></td></tr><tr><td>Young (0-14)</td><td>33,046</td></tr><tr><td>Old (65 over)</td><td>1,608</td></tr></tbody></table> Source: Lake Sebu CLUP of 2014-2023)	Category	Population	Students (Pre-school to Tertiary)	37,734	Labor Force (15-65)	41,782	Dependent Population		Young (0-14)	33,046	Old (65 over)	1,608
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Ethnic Groups	Tuwali, Ayangan, Kalanguya	Tuwali	Tuwali and Ayangan	T'boli, Hiligaynon Ilonggo	T'boli, Hiligaynon Ilonggo, Ubo, Manobo, Blaan												
Proportion of IP in population		98.82% (2013-2016 CPD of Hungduan)	Tuwali – 98% and Ayangan- 1% (MPDO of Hingyon)		IPs constitute 69.28% of the population of which 55.44% are T'boli (2014-2023 CLUP of Lake Sebu)												
LGU IRA for 2014**	Php524,352,270	Php55,520,105	Php36,782,856	Php946,263,858	Php166,362,260												
GIAHS /NIAS CRITERIA																	
1. ABD resources and biodiversity resources																	
National Ranking *	1 <sup>st</sup> among the provinces			within top 10													
Ranking among Municipalities within the	NA	top 5	top 5	NA	top ranking												

Criteria	Ifugao Province	Hungduan, Ifugao	Hingyon, Ifugao	South Cotabato Province	Lake Sebu, South Cotabato																																																												
Province																																																																	
Part of Key Biodiversity Area (KBA) and/or PA	Some of its municipalities are part of PAs: Mt. Data and Mt. Pulag National Parks and Upper Agno River Basin Resource Reserve Tinoc municipality is part KBA: Mt. Pulag National Park and Candidate KBAs, Mt. Data and Agno/Amburayan River Banaue and Mayoyao are part of Mt. Amuyao, Candidate KBA	Adjacent to Banaue which is a Candidate KBA		Polomolok and Tupi of South Cotabato are part of Mt. Matutum Protected Landscape, a KBA	Lake Sebu Watershed Forest Reserve is a Protected Area of 9,900 hectares by virtue of Proclamation No. 65, Series of 1966 and is part of Mt. Busa-Kiamba (KBA) and Kalamansig-Palimbang (Candidate KBA)																																																												
2. Food Security Food / Rice sufficiency	GIAHS shows that the system followed by the IPs in the rice terraces has an adaptive capability and resiliency to environmental change. A research on the multi-functionality of the rice terraces computed for the self-sufficiency ratio thereat and the SSR suggests that the rice terraces can support the total rice requirements of the communities, including seed requirements.	Food Sufficiency Level (%) in 2013 <table><tr><td></td><td>Hungduan</td><td>Hingyon</td></tr><tr><td>Rice</td><td>202.01</td><td>Meagre volume</td></tr><tr><td>Vegetables</td><td>92.28</td><td>of production is</td></tr><tr><td>Fruits</td><td>41.69</td><td>not enough to feed a HH of 5</td></tr></table>			Hungduan	Hingyon	Rice	202.01	Meagre volume	Vegetables	92.28	of production is	Fruits	41.69	not enough to feed a HH of 5	The seven (7) major crops in 2012 in terms of volume of production are 1) maize, 2) palay, 3) pineapple, 4) papaya, 5) banana, 6) mango, and 7) asparagus.	In agriculture areas, the crop production area is 29,660.34 hectares or 33.27% of Lake Sebu 's land area. The most dominant crop is maize. Lake Sebu is the major producer of maize in the province as well as in Region XII in terms of volume of production and area planted.																																																
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% of TRV within rice production areas		240 TRVs in Ifugao, 44 TRVs planted in Hingyon and Hungduan, 6 TRVs no longer planted in Hungduan <table><tr><td colspan="3">In Hungduan &amp; Hingyon</td></tr><tr><td>Crop</td><td colspan="2">Number of Varieties</td></tr><tr><td></td><td>FGD</td><td>HH Survey</td></tr><tr><td>Rice</td><td>39</td><td>44</td></tr><tr><td>Taro</td><td>4</td><td>8</td></tr><tr><td>Sweet Potato</td><td>9</td><td>6</td></tr><tr><td>Yam</td><td>7</td><td>1</td></tr><tr><td>Other Crops (Legumes)</td><td>9</td><td></td></tr></table>		In Hungduan & Hingyon			Crop	Number of Varieties			FGD	HH Survey	Rice	39	44	Taro	4	8	Sweet Potato	9	6	Yam	7	1	Other Crops (Legumes)	9			63 TRVs in Lake Sebu, 20 TRVs planted in Lake Sebu, 43 TRVs no longer planted; 41 TRVs are conserved at PhilRice Genebank <table><tr><td colspan="4">Lake Sebu</td></tr><tr><td>Crop</td><td colspan="3">Number of Varieties</td></tr><tr><td></td><td>Todi (2003)</td><td>FGD</td><td>HH Survey</td></tr><tr><td>Rice</td><td>63</td><td>20</td><td>25</td></tr><tr><td>Taro</td><td>21</td><td></td><td>9</td></tr><tr><td>Sweet Potato</td><td>30</td><td></td><td>5</td></tr><tr><td>Yam</td><td></td><td></td><td>1</td></tr><tr><td>Maize</td><td>12</td><td></td><td></td></tr><tr><td>Abaca</td><td></td><td></td><td>2</td></tr></table>	Lake Sebu				Crop	Number of Varieties				Todi (2003)	FGD	HH Survey	Rice	63	20	25	Taro	21		9	Sweet Potato	30		5	Yam			1	Maize	12			Abaca			2
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Criteria	Ifugao Province	Hungduan, Ifugao	Hingyon, Ifugao	South Cotabato Province	Lake Sebu, South Cotabato
					Banana 1
<b>3. Local Knowledge</b>	<p>CHARM funded – inventory of Indigenous Forestry Management Systems thru the Univ. of the Phil. Cordillera Study Centre</p> <p>Nurturing Indigenous Knowledge Experts thru the Ifugao State University, a multi-phased project aimed to revitalize the indigenous knowledge systems on the rice terraces in the college level. Its 5 phases are: Benchmarking or mapping; Identification of Indigenous knowledge, skills and practices (IKSPs); Writing of the book; Piloting by including a subject on IKSPs in the curriculum of Education, Arts, Nursing and Physical Education; Research on indigenizing the curriculum</p> <p>Ifugao Satoyama Meister Training Program, a training program to help build the capacity of Ifugaos in the conservation of the IRT thru the Ifugao State University</p> <p>Community Learning Centre in Kiangnan (Open Air Museum) thru the Save the Ifugao Terraces Movement showcasing certain unique aspects of the Ifugao culture such as rice cycle, art and crafts, agriculture and architecture</p> <p>Gohang National High School in Banaue, Ifugao as a special high school for the conservation of the Ifugao Rice Terraces</p> <p>Hudhud Chants – consists of narrative chants about the Ifugao life, traditionally performed by the Ifugao community. It is practised during the rice sowing season, at harvest time and at funeral wakes and rituals.</p> <p>Mamengo – female rice seed selector transfers her knowledge to a daughter or another young female</p> <p>Prof. Harold Conklin in the Ifugao Bibliography discusses the history and ethnography of the Ifugao people and has for 40 years devoted his efforts towards the documentation of the Ifugao culture, particularly on the rice terrace.</p>			<p>Documentation of Kulturang SOCSKSARGEN: IP Centre- This is a historical compilation of DepEd Region 12 and the PRIME identified Indigenous Peoples towards recognizing cultural diversity as a major component of Education for Sustainable Development (ESD). The primary objectives of this project is to collect and gather basic historical data of IPs towards the formulation of Learning Guides and Teaching Materials for MTB-MLE specifically the B'laan, Maguindanao, Manobo, T'boli, and Teduray.</p>	<p>T'boli museum in Lake Sebu by Datu Bao Baay (where TRVs are stored, T'nalak weaving process, making of beaded accessories, T'boli crafts and age-old musical instruments are explained)</p> <p>T'boli School of Indigenous Knowledge And Traditions (TSIKAT) that caters to the educational needs of T'boli pupils from Grades 1-6 using indigenous education</p> <p>Sta. Cruz Mission School, Inc. in Lake Sebu for primary, secondary and tertiary levels with an indigenized curriculum catering to the needs of the T'bolis</p> <p><i>Lake Sebu Indigenous Women Weavers. Association, Inc. (LASIWWA):</i> a CSO that has been very successful in educating both the children and the women through the formation of a day care centre for the children of the women weavers. Their emphasis is on the integration of the T'boli culture for a culture sensitive education. As such, they are the 1st school accredited by the DepEd and given a permit as a school for indigenous education. The Ateneo de Davao has also initiated partnership with the LASIWWA for the preparation of an IP curriculum for grades 11 and 12 under the K-12 program of the DepEd.</p>
Department of Education IPED program	<p>Implementation of Republic Act 10533 that enhances basic education by strengthening the curriculum and increasing the number of years for basic education, institutionalized IP education program that supports education initiatives undertaken through formal, non-formal, and informal modalities with emphasis on any of, but not limited to: Indigenous Knowledge Systems and Practices and community history; indigenous languages; Indigenous Learning System (ILS) and community life cycle-based curriculum and assessment; educational goals, aspirations, and competencies specific to the indigenous cultural community (ICC); engagement of elders and other community members in the teaching-learning process, assessment, and management of the initiative; recognition and continuing practice of the community ILS and the rights and responsibilities of the ICC. Since the IP practice is critical in ABD conservation and in order to validate these</p>				

Criteria	Ifugao Province	Hungduan, Ifugao	Hingyon, Ifugao	South Cotabato Province	Lake Sebu, South Cotabato
	<p>practices that will eventually be taught to the students, the DepEd is required to have a social contracting with the elders for the documentation of the IKSPs. There will also be a re-tooling of the teachers through the IPSEO (IPs Education Office) towards the preparation of a more relevant and culturally sensitive curriculum.</p> <p>PRIME – Philippines’ Response to Indigenous Peoples and Muslim Education program focused on the specific needs of Muslim and Indigenous communities and helped in the development of learning materials, a culturally sensitive curriculum and training of teachers.</p>				
<b>4. Supportive Social system and local governance</b> Safeguarding of intangible cultural heritage (ICH): (1) oral traditions, languages, and expressions; (2) performing arts; (3) social practices, rituals, and festive events; (4) knowledge & practices concerning nature & the universe, (5) traditional craftsmanship.	PLGU has several programs to conserve the IRT and support cultural conservation and tourism thru the ICHO – Ifugao Culture and Heritage Office Gotad and Ifugao as organized by the ICHO, in which Ifugaos gather in the capital town to participate in various activities that feature the people, culture, and progress of their land. School of Living Tradition established to support cultural programs and provide funds for the restoration and protection of the identities of Ifugaos	MLGU leadership is mostly IP based LGU received the seal of good housekeeping in 2012 in recognition of its efforts in advancing the principles of accountancy and transparency in local governance, is a Red Orchid Awardee for implementing a 90-100% Tobacco-free Environment in 2014, is an awardee for its simplification of its business permit and licensing system in 2014 and garnered an excellent rating for implementing the Anti-Red Tape Act in 2012.	MLGU leadership is mostly IP based LGU received the seal of good housekeeping in 2012 in recognition of its efforts in advancing the principles of accountancy and transparency in local governance.	PLGU promotes cultural conservation and tourism thru the ACTS – Arts, Culture, Tourism and Sports which, in collaboration with the National Commission for Culture and the Arts (NCCA), has prioritized cultural mapping as one of its main activities in 2015. Another priority is the formulation of their cultural development plan for a more holistic approach to their culture and tourism program. They have engaged the services of consultancy groups for the cultural development plan as well as for the branding of the t’nalak as the icon of South Cotabato.	MLGU leadership is mostly IP based Presence of Tribal Council in the municipality 1st IP Summit for Lake Sebu was organized by the Culture and Arts Council. The five (5) services identified for the IPs are performing arts, cultural education, arts and crafts, collaboration with the tribal leaders and research and documentation. Protocols for documentation for IKSPs to be incorporated in a municipal ordinance.
Recognition of and support to indigenous natural resource management practices	DENR and NCIP Joint AO 01, 2008 – recognition of Sustainable Traditional Indigenous Forest Resources Management Systems and Practices (STIFRMSP) where the <i>muyong</i> system (various forest ecosystems or forest types which have been established and managed effectively by families, clans and communities as part of their cultural practices and traditions that survived until now) is already recognized.				
<b>5. Remarkable Landscape</b>	Better known as a tourist area and home to the 8 <sup>th</sup> Wonder of the World, the Ifugao Rice Terraces. It is an annual magnet to tourists and	Globally Important Agricultural Heritage System (GIAHS) Site	potential Nationally Important Agricultural Heritage System (NIAHS) Site	South Cotabato is a paradise for the adventurer. There are several great attractions scattered all	potential Nationally Important Agricultural Heritage System (NIAHS) Site

Criteria	Ifugao Province	Hungduan, Ifugao	Hingyon, Ifugao	South Cotabato Province	Lake Sebu, South Cotabato
	4 of its municipalities were added to the World Heritage List of UNESCO in 1995. Hungduan is regarded as a Globally Important Agricultural Heritage System (GIAHS) Site.			throughout the province. The most prominent tourism attractions are the cascading Seven Falls, the three scenic lakes – Lake Lahit, Lake Seloton and Lake Sebu, lake resorts and the Zipline Ride in the Municipality of Lake Sebu.	Lake Sebu is acclaimed as the Eco-Tourism Destination of the Southern Philippines and recently ranked number 2 on the Philippine Gem as the emerging tourism destination of the Philippines.



## APPENDIX 10. BRANDS OF TRADITIONAL RICE VARIETIES 2014

Variety/Brand	Label	Type of product (as part of label)	Packed/Produced by	Sourced from	Market outlet sold	Weight	Price (PhP)	Price/kg (PhP)	Average Price per kg. (PhP)
Fresh Start	NICERT certified organic	Heirloom variety			Echo store	2kg	270	135	150
Bios dynamis	OCCP certified	Black rice	Bios dynamis	Cotabato	Echo store	1kg	180	180	
Gilded Grains	NICERT certified organic	Export quality Organic - jasmine gold	Better country community corporation		DA Agribusiness Centre	1kg	160	160	
		Export quality Organic - red gold			DA Agribusiness Centre	1kg	140	140	
Eighth Wonder Kalinga Unoy	Organic*	Export Red rice	Rice Inc.	Kalinga, Ifugao, Mountain Province	Outside Phils.	1lb	USD5.75	556.60	556.60
Eighth Wonder Tinawon Fancy Rice	Organic*	Export fancy rice				1lb	USD5.75	556.60	
Eighth Wonder Ulikan Red	Organic*	Export red rice				1lb	USD5.75	556.60	
Tawid Hill Exotic Rice	Organic*	Brown rice			Echo store	1kg	160	160	120.54
Sun Made	Organic*	brown rice	Mindanao Agri- network (Mancor)	Davao City	Gaisano, NCCC, Rustans's, Shopwise, SM, Echostore salcedo	1 & 5kgs	5=485 echostore salcedo, 5=323 rustans davao, 1= 65.25	Echostore salcedo= 97/kg, SM Makati - 86/kg Davao = 65.25/kg	
Cordillera Heritage Harvest rice	Organic*	brown, red, black	Kalinga	Tabuk City Kalinga	Charmp trade fair in Baguio	1kg	100	100	
Kintoman heirloom rice	Organic*	heirloom rice		Kibungan, Benguet		1kg	95	95	
Kalinga Unoy	Organic*	organic export quality - heritage	Kalinga	Kalinga		1kg	120	120	
Kalinga Jekot	Organic*	organic export quality – heirloom (sticky rice)	Kalinga	Kalinga		1kg	150	150	

Variety/Brand	Label	Type of product (as part of label)	Packed/Produced by	Sourced from	Market outlet sold	Weight	Price (PhP)	Price/kg (Php)	Average Price per kg. (PhP)
Jordan Farms	Organic*	red rice	Sunnywood Superfoods corp		SM North Edsa	800g	95	118.75	
		brown				800g	88	110	
		tapol de oro, Violet Rice				800g	107	133.75	
		black rice				2kgs	232	116	
F & C Forbidden Rice	Organic*	black rice			SM North Edsa	500g	73	146	
F & C Healthy Rice	Organic*	red rice				500g	55	110	
Dona Maria	not labeled as organic	Miponica brown	SL Agritech Corp	Laguna	Robinson's Davao	5 kgs	450	90	73.59
		Jasponica brown			SM North Edsa	5kgs	453	90.60	
Harvester's Red rice	Not labelled as organic	red rice			Robinson's Davao	5kgs	362	72.4	
Dinorado PG Rice	Not labelled as organic	Dinorado	Sunnywood Superfoods corp		Robinson's Davao	25kgs	1238	49.52	
Supermarket house brand	Not labelled organic	brown rice			SM hypermarket	1kg		60	
		violet rice				1kg		79	

\*labelled as organic but without certification

Source: Market Monitoring November 2014

## **APPENDIX 11. RESULTS OF PPG VALUE CHAIN ANALYSIS**

### **General**

Scanning was done within two month period (October to November 2014) although majority of the data were collected within a three day period in November. This is to factor out the time element that may affect prices for more accurate comparison of brands. The market outlets were also indicated as they also affect prices. High marketing costs increase retail prices. It is true that organic products are not necessarily expensive but sometimes they are cheaper because of several factors. These include supply factors (volume of production), seasonality and retailing or marketing costs. If prices are compared to non-organic products, quality of the product should also be considered aside from the aforementioned factors. Generally, however, organic products are more expensive because of low volume of production and productivity and high marketing cost per unit because of low volume. They are also sold in specialty markets catering to relatively affluent consumers.

There are three types of labels that can be gleaned from this list of products of traditional rice varieties. These are products: 1) labelled as organic that is certified 2) labelled as organic but without certification 3) without organic labels.

Rice products with organic certification such as Fresh Start, Gilded Grains, and Bios Dynamis are priced higher than those without certification. Prices range from P135 – 180/kg<sup>62</sup>, in 1-2kg packs. On the average, certified organic rice is priced at P150/kg. These products can be found in specialty stores such as the Echo Store in Bonifacio Global City and in Bios dynamic outlets.

Average price of rice brands that are labelled organic but do not have organic certification is P120 per kg. and the price ranges from P90 – 150/kg. The average price for certified organic rice is P150 per kg which is 25% higher than those labelled as organic but without certification and about 104% higher than traditional rice (red or brown) not labelled as organic.

A number of these rice products labelled as organic but without certification are packed in different weights. For example, F&C Forbidden rice (black rice) and F&C Health rice brand are packed at 500g. Jordan Farms is another brand having red, black, brown, Violet, and Black varieties of rice which were packed at 800g and available in SM North Edsa and other SM outlets. Other heirloom organic rice packed in 1kg were also showcased during trade fair in Baguio City in November 2014 which included Cordillera Harvest Rice, Kintoman heirloom, Kalinga Unoy, and Kalinga Jekot.

On the other hand, Eighth Wonder brands showcasing organic (currently without OCCP or NICERT certification) heirloom rice from Ifugao and Kalinga are exported and available online. Price ranges from USD3.75 – 6.50/lbs or P556.60/kg. excluding shipping cost<sup>63</sup>. Other red and brown type of rice that are not labelled as organic have lower price ranging from P49.52 - P90/kg with an average of P73.59/kg.

### **Target Sites**

#### **1. Hungduan**

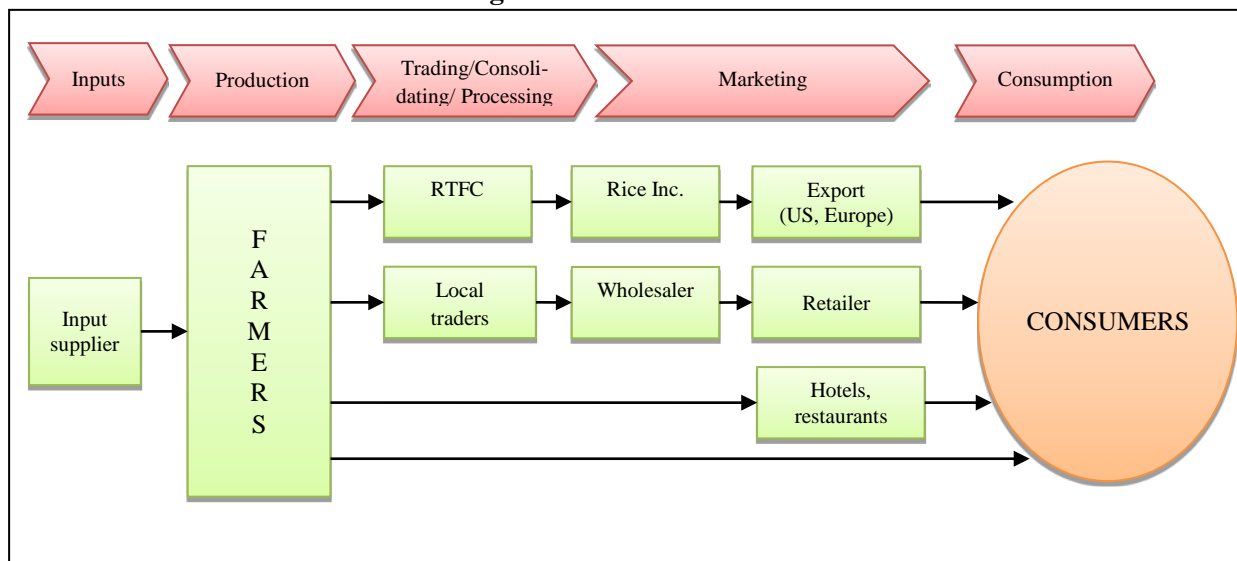
The value chain of traditional rice in Hungduan is presented below.

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<sup>62</sup> USD1 = P44 (<http://www.oanda.com/currency/converter/>, 3/3/2015)

<sup>63</sup> <http://www.heirloomrice.com/store/allprods.php>

## Value chain for traditional rice in Hunguan



Source: Key informant interviews (2014) and Enterprise Development Plan of CHARMP2 (2012)

### *Roles and functions*

**Farmers** in Hungduan produce palay mainly for consumption and sell when cash is needed. Harvesting is done manually and sun drying of palay will take 2-3 days when the weather is good. Palay is milled manually for consumption or milled using milling machines owned by traders and by farmer groups. But milling is done in RTFC if rice is sold for export. Farmers sell palay to different buyers such as RTFC/Rice Inc., local traders, hotels, restaurants, hospitals, local residents, and to tourists. It is estimated 90% of the total volume sold goes to RTFC. Palay that did not pass the quality requirements of Rice Inc. were sold to other buyers. Other farmers' process palay into rice wine for consumption and only few sell locally.

**Rice Terraces Farmers Cooperative (RTFC)** buys, consolidates palay, mills, and packs rice for Rice Inc. RTFC also coordinates with the farmers in the municipality for setting up volume target to be delivered to them. Quality control is done by RTFC before delivering to Rice Inc. Quality required includes 90% full grain, pure or uniform in colour and same shape, polished.

**Rice Inc.** gets organic rice from RTFC and exports quality organic rice to the USA and Europe. Delivered rice are undergoing re-quality control before final packing for shipment. During trade fairs, they pack and label rice, and sell directly to consumers.

**Local traders** buy palay directly from farmers, mill and sell to wholesalers and other buyers.

### *Household survey*

Farmer respondents in Hungduan are mostly Tawali ethnic group and main source of income is basically from crop production, while others source their income from remittance abroad, salaries, and as laborer (Tables 2 & 3). In terms of utilization, rice production is mainly for consumption. Survey shows 59% of rice produced is consumed while only 37% were sold (table ). The remaining were used as payment in kind, given away, or processed further into other products. Minaangan rice variety is mainly produced by 62% of the respondents and this variety is maintained due to its aromatic quality, good taste, market demand, suitability to the environment, can be grown organically, and this variety is inherited from their ancestors (Table ). Other respondents also have grown other varieties such as Imbuacan, Tinawon, Donaal, Inawi, & Pinidwa.

### *Production*

Farmers use own seed or borrowed seed for planting. No chemical fertilizer, and pest control chemicals were used. In planting and harvesting, bayanihan is common wherein neighbours/relatives help other neighbours or there is an exchange of labor. Only food is considered an expense in this type of arrangement. Others have the sharing arrangement of 50:50, while others hire

planters/harvesters ranging from P150-200/day. Both men and women are involved from land preparation, planting, fertilizing, and up to harvesting. However, more women are involved in planting & harvesting, while men are involved in heavier tasks such as land preparation and hauling.

### ***Marketing***

Farmer respondents in Hungduan sell rice to traders and to RTFC. RTFC consolidates mill, pack and deliver to Rice Inc for export. Other farmers sell rice directly to hotels, restaurants, tourist and residents. If they sell directly to consumers, they need to deliver the product to them. A farmer in Hungduan with an average area of 0.53 hectare sells an average of 182kgs of rice or 342kgs of rice per hectare. The price varies depending on the type of buyer.

### ***Price, costs and income***

Price ranges from P55 - 60/kg when sold to RTFC/Rice Inc, and P45-65/kg if sold to other buyers. In the case of farmers selling to RTFC, with the average price of P55.56/kg, they get a profit of P23.45 (Table ). Production cost of P29/kg. includes the cost of land preparation, planting, and harvesting. It should be noted however, that the cost of production is proportionate to the percentage of volume sold stated by the respondent. This applies to the other two target sites. Marketing cost includes post-harvest expense such as drying, milling, packing, and transport to buyers. Cost of hauling and transporting range from P10-13/sack per 25kgs, while if they deliver to residents, they spend more for transportation. Selling directly to local residents and tourist, may give farmers higher selling price but volume sold is less compared to Rice Inc. Average volume sold by a farmer to Rice Inc is 182kgs while if sold to others would only range from 5 – 50kgs. In addition, tourists and local residents do not buy regularly.

Average profit per kilogram of rice		
Item	Per kg.	Per ha.
Ave. Selling price	55.56	19,453
Production cost	29	7,043
Marketing cost	3.11	1,172
Profit	23.45	11,238
Ave. volume sold		342

### ***Economic and non-economic incentives and opportunities***

The above data show that farmers earn income from selling rice albeit small. There are, however, a number of opportunities in the chain that can improve these incentives to continue producing traditional varieties of rice. At the downstream node, demand in both local and exports markets is increasing. Aside from export market, local demand for organic rice is also increasing particularly with the government's efforts to improve tourism in the province. Data from RTFC and Rice Inc. show that volume of exports to USA increased from 800 kgs. in 2006 to 14 tons in 2013. The rapid increase occurred in 2012 when it increased from 3.5 tons in 2011 to 11.2 tons in 2012. In addition, there is willingness for consumers to pay price premium for organic rice and for products that preserve the environment and cultural heritage. In production/upstream node of the chain, Hungduan is well-positioned to take advantage of this increasing demand being the largest supplier of tinawon rice in Ifugao. Currently, it supplies more than 50% of the volume bought by Rice Inc. in Ifugao particularly for Imbuukan variety. There are 1,649 rice farmers in Hungduan with 710 hectares and total production of about 193 tons per year (CHARMP2 2013). They have a vast area for production expansion and in addition, organic heirloom rice is favorable to high altitude, and these varieties have good adaptability to the environment. There are also two projects that are currently assisting Hungduan in developing the value chain for rice. These are the IRRI-PhilRice Heirloom and CHARPM2 projects. The latter also provides credit support under the livelihood assistance fund for trading organic rice as well as support in capacity building, product packaging/value adding, rice mill and infrastructure (farm to market roads). Finally, there also opportunities that can be explored for ecolabelling which includes Ifugao Rice for Geographic Indication scheme under the Intellectual Property Office Philippines of the Department of Trade and Industry, Star Certification for Ifugao Products (but currently not being prioritized) and NIAHS.

Aside from income earned from selling rice, there are number of non-economic incentives that help in the dynamic conservation and use of these traditional varieties of rice. Farmers continue to produce them mainly for consumption and for gifts as it is an integral part of their culture. The twelve rice rituals (e.g. Loka, Apung di Lihimis, Bolnat) performed by the native mumbaki, define the Ifugao agrarian calendar and are believed to help ensure a bountiful harvest (Pedro Kinggingan, November 2012 as cited in CHARPM2 EDP 2013).

## 2. Hingyon

The value chain of Hingyon is similar to Hungduan where farmers sell to Rice Inc. through the Rice Terraces Farmers' Cooperative (RTFC) in Banaue (Figure). RTFC functions as consolidator and provides milling and packing services. Some farmers sell directly to local markets such as local residents in Hingyon who go to their farms to buy rice either for consumption or for gifts to friends and relatives. Other farmers also sell directly to local and foreign visitors as well as restaurants and hotels in Banaue.

### *Household survey*

Farmer respondents in Hingyon are mostly Tawali ethnic group and main source of income is also from crop production, while others source their income come from employment salary, and as laborer. Similar to Hungduan farmers, rice production is mainly for consumption consuming about 70% of their production. Only 22% of rice production is sold while others were either given away or paid in exchange to labor (table ). They produce Imbuucan variety due to its aroma, climate adaptation, resistance to heavy rains, high nutritional contents and they preserve the inherited culture. Aside from Imbuucan, other varieties such as Tinawon, Donaal, Inawi, and Pinidwa were also produced.

### *Production*

Farmers use own or borrowed seed for planting, while others buy from other farmers. Decomposed grass, plant residues and rice straw were used as fertilizers. No chemical fertilizer, and pest control chemicals were used. In planting and harvesting, bayanihan is also common. But more respondents are into paid labor through sharing arrangement of 50:50, paying labor ranging from P200/day to P375/day depending on the nature of work.

### *Marketing*

Similar to farmer respondents in Hungduan, Hingyon respondents sell rice to traders and to RTFC and other farmers sell rice directly to hotels, restaurants, tourist and residents. If they sell directly to consumers, they need to deliver the product to them. A farmer in Hingyon with an average area of 0.61 hectare sells an average of 99kgs of rice or 127kgs per hectare. The price varies depending on the type of buyer.

### *Price, costs and income*

Selling price when sold to Rice Inc. is P60/kg but gets as much as 90-100/kg if sold to other buyers such as residents, hotels, tourists and restaurants. On the average selling price of P76.70/kg. of rice, a farmer can get a profit of P35/kg of rice. The production cost of P39.09/kg is much higher than the production cost of farmers in Hungduan due to smaller volume sold by Hingyon farmers. Average volume sold is 44% lower than in Hungduan famers.

Average profit per kilogram of rice

Item	Per kg.	Per ha.
Ave. Selling price	76.7	14,632
Production cost	39.09	7,453
Marketing cost	2.64	503
Profit	35	6,676
Ave. volume sold		191kgs.

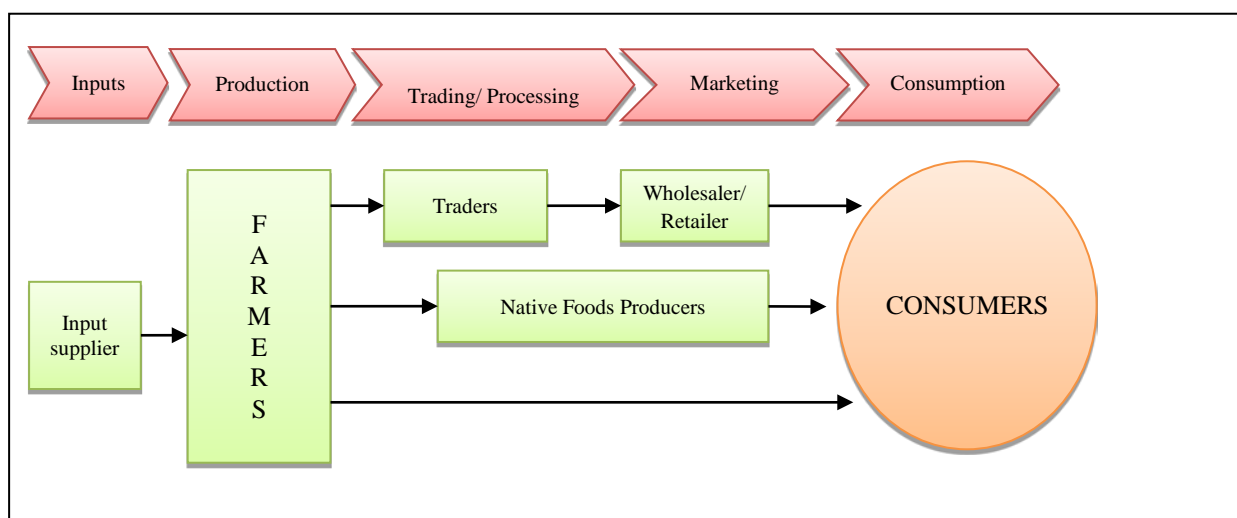
Selling directly to other buyers may give farmers higher selling price but volume sold is less than if sold to Rice Inc. In addition, tourists and local residents do not buy regularly. Hingyon farmer earn from selling traditional variety but generally smaller compared to Hungduan due to smaller volume sold and higher production cost.

### *Economic and non-economic incentives and opportunities*

Farmers in Hingyon earn income from selling traditional variety of rice although generally smaller compared to Hungduan due to smaller volume sold. Hingyon also gets support from CHARMP2 project although limited according to the local government unit. It has seven rice mills in the municipality, 15 threshers and 19 micro-tillers according to data from CHARMP2. Increasing demand in the local and export markets and the development in the tourism sector provide opportunities for rice producers in Hingyon. Like the farmers in Hungduan, farmers continue to produce rice for own consumption as it is part of their culture. In addition, they still have vast area for production expansion of organic heirloom rice which are favorable to high altitude, adoptability to the environment of the variety, high demand by specialty store, and existence of local processing activities.

### **3. Lake Sebu**

The value chain of traditional rice in Lake Sebu is presented below.



#### *Roles and functions*

**Farmers** in Lake Sebu produce traditional rice for consumption and for additional income. Their main source of income is from growing other crops. Rice for consumption are usually milled manually. Main buyers of palay are the traders in Lake Sebu and from the neighboring town Surallah. Other farmers mill rice and sell directly to users such as Native Food Producers and they also sell directly to consumers.

**Traders** buy palay directly from farmers, mill and sell to wholesalers and other buyers.

**Native Food Producers** buy traditional rice from farmers for their native foods production.

#### *Household Survey*

Majority of the respondents are from barangay Lamfugon. Around 84% of the farmer respondents in Lake Sebu are from the Ubo ethnic group, 13% and 3% are from the Tiboli and Maranaw ethnic groups, respectively. Main source of household cash income is from farming. In terms of utilization of production, around 53% of the traditional rice production was sold and the remaining were consumed and used for other purposes. There are different varieties of rice maintained by farmers but majority or 59% of them have produced Awot, Dinorado, and Koti (table 5). These varieties were maintained due to its aroma, softness when cooked, and its good quality for eating. Other varieties planted are Azucena, Kalimomo, Efon, Pagayao Lambayong, Kanumay, Matamok, Sindangan among others.

#### *Production*

Most farmers buy seeds for planting at P2,000/sack. During land preparation and planting, exchange of labor is also adapted. Neighbors/relatives help other neighbors with the agreement that they will be given priority as harvesters during harvest time. Only food is considered an expense in this type of arrangement. There are a few who charged labor cost to crop, while others hired labor at P150/day.

Majority have not used fertilizer since the land is still fertile according to some respondents. However, it was noted that a few have used chemical fertilizers.

Harvesting is done manually and mostly thru bayanihan wherein neighbors, relatives, and family members are participating. The usual arrangement is through sharing of harvested palay. Farmers with an average area of 1 hectare can produce 1,463 kgs. of palay, of which 738kgs of palay were sold.

### ***Marketing***

Farmer respondents in Lake Sebu sell palay to traders, sell rice to native food producers, and sell rice directly to consumers which include teachers and residents. A farmer selling palay can earn P11,516/ha. Or P15.80/kg. While farmers selling rice can earn P14,471/ha or P27.44/kg. (Table below)

Average profit per kilogram of rice and palay

Item	Palay		Rice	
	Per kg.	Per ha.	Per kg.	Per ha.
Ave. Selling price	22.63	16,650	59.70	29,626
Production cost	7.95	5,864	7.95	5,864
Marketing cost	0.68	500	12.26	5,758
Profit	15.80	11,516	27.44	14,471
Ave. volume sold		738kgs		470kgs.

### ***Price, costs and income***

Price of palay ranges from P20 – 24.39/kg while if sold as rice, farmers get P40-P63.64/kg. Production cost is P7.95/kg. and marketing cost is P0.68/kg for those who are selling palay and P12.26 for those who are selling rice. Marketing cost for selling rice is much higher since this includes milling and transportation costs, and milling recovery cost which is assumed at 55% recovery. Cost of transportation range from P5 – 100/sack depending on the distance.



## **APPENDIX 12. METHODOLOGY AND RESULTS OF PPG WILLINGNESS TO PAY ANALYSIS**

### **Methodology**

Based on the literature reviewed, there are no studies conducted on the factors that affect the level of price premia that consumers are willing to pay for Eco labelled products. This is particularly true for products such as traditional rice varieties. As such, a survey was conducted to examine these factors that affect the level of premium that consumers are willing to pay for Eco labelled products particularly certified organic rice and rice from Ifugao rice terraces.

A model was estimated to examine the factors that affect the level of price premia that consumers are willing to pay for the Eco labelled products covered (see below). In order to ensure that the respondents understand the reasons why the products are Eco labelled, it was explained in the introductory paragraph of the survey that the purpose was to understand the factors that determine demand for environment friendly products or eco-labelled products. It was also mentioned that the results of the survey will be used to develop eco-labelled products and inform government and private sectors to support the promotion of these products that help preserve our environment. With this background, the specific purpose of ecolabelling per product is indicated in the table where the respondent is asked to choose the range of price premia that he or she is willing to pay. Also, the respondent is asked if he is willing to pay for a price premium for Eco labelled products before he or she proceeds to choose the range of price premia. Thus, the respondent attaches a value contingent on the information about the attribute of the product that promotes preservation of the environment (See table in the survey).

### ***Ecolabelled products covered in consumer survey, 2014***

1. Products certified to promote biodiversity and indigenous or local varieties
2. Products certified to preserve heritage sites (Ifugao rice terraces)
3. Canned tuna with “dolphin safe label”
4. Canned tuna marine stewardship certified
5. Certified Organic rice
6. Rice products labelled/sold as organic but without official organic certification
7. Rice products certified to preserve Ifugao rice terraces as a cultural heritage site
8. Ube products certified to preserve biodiversity and indigenous local varieties
9. Abaca products certified to preserve biodiversity, indigenous local varieties and culture (traditional hand-woven products)

Interval regression was used to examine the factors that affect the level of price premia that consumers are willing to pay for the Eco labelled products covered. This method is appropriate since we know from the survey the range of premia that the consumers are willing to pay but not the exact premium. The Gnu Regression, Econometrics Library (GRET) software was used to estimate the model (Please see Appendix for specific model specification).

A survey was conducted via email using a survey questionnaire and generated 230 respondents with 60% or 137 from Luzon, 6% or 15 from Visayas and 34% or 78 from Mindanao.

### ***Profile of respondents***

In terms of demographics, about 73% of the respondents are women and 58% are below 44 years old (Table). Majority of the respondents are highly educated. More than half (53%) went to college, 41% with post-graduate studies, 6% went to high school and less than a percent had elementary schooling (Table). More than a third of the respondents have monthly income from P15,000 to P30,000, 22% have income below P15,000, 18% between P30,000 to P50,000 and about 14% have income higher than P50,000 (Table).

In terms of psychographics or lifestyle, 80% of the respondents consider themselves health conscious. However, only 15% of the sample have been using products that are labelled organic. In terms of the frequency of using organic products, about 39% consume regularly or at least once a week and 61%

said they rarely consume organic products (Table ). There is a higher percentage of respondents who said they consume either regularly (at least once a week) or rarely than those who consume products that are labelled organic. This can be attributed to possible reasons. One is the notion that the product referred to when they were asked about the frequency of consumption is not necessarily certified or labelled as organic. The other possibility is that those there were some respondents who consume regularly or rarely do not consider themselves as someone who consume products that are labelled organic as this means regularly consuming more than once a week (Table). When asked about the reasons for not consuming or regularly consuming organic products, about 35% said that they are not available in the market, 31% found price expensive and the same percentage said they are unsure if they are really organic (Table ).

## **Results**

For the nine Eco labelled products covered by the survey, 94% of the respondents are willing to pay for price premium: the range is 89% to 97%, with the highest percentage of 97% for products certified to preserve heritage sites (eg Ifugao rice terraces) and for rice products certified to Ifugao rice terraces as a cultural heritage site. The lowest percentage of 89% was for canned tuna with marine stewardship certification.

In terms of specific products, about 96% and 97% of the respondents are willing to pay for products certified to promote biodiversity and indigenous or local varieties and those certified to preserve heritage sites respectively. For the rice products categories, 95% of the respondents are willing to pay for price premium for certified organic rice, although this is only 1% higher compared to the percentage of respondents who are willing to pay for organic rice without certification. This is perhaps one of the reasons why of the 17 brands of traditional rice varieties (red, brown and black) surveyed, only 3 or 18% have organic certification either from the Organic Certification Center of the Philippines (OCCP) or Negros Island Certification (NICERT). However, a different story emerges if one examines the specific price premium that consumers are willing to pay (see below). Nevertheless, products to be labelled organic without certification will not be allowed by 2016. About 93% of the respondents are willing to pay price premium for abaca products certified to preserve biodiversity, indigenous local varieties and culture (traditional hand-woven products).

The high percentage of respondents willing to pay for price premium is related to education levels and income with 94% of them have gone to college and 78% having monthly income of more than P15,000. Further insights can be gleaned on the factors that affect level of price premium through the models estimated (see discussion below). In addition, the high percentage of respondents who are willing to pay show the size of the market for these products if they are made available, affordable and claims verified.

Around 26% of respondents were willing to pay a price premium of >21% for Eco labelled products; 16% were willing to pay a premium of between 21% and 40%, and only 10% were willing to pay above 40% premium. Approximately 39% are willing to pay between 10% to 20% price premium and 35% are willing to pay below 10% price premium. This trend follows the law of demand such that the willingness to pay (WTP) decreases as the price premium increases. This is illustrated in Figure 7 which shows the average % of respondents of all products (y axis) against the price premium (PP) categories (x axis).

**Figure 6. Consumers' willingness to pay price premium (all Eco labelled products)**

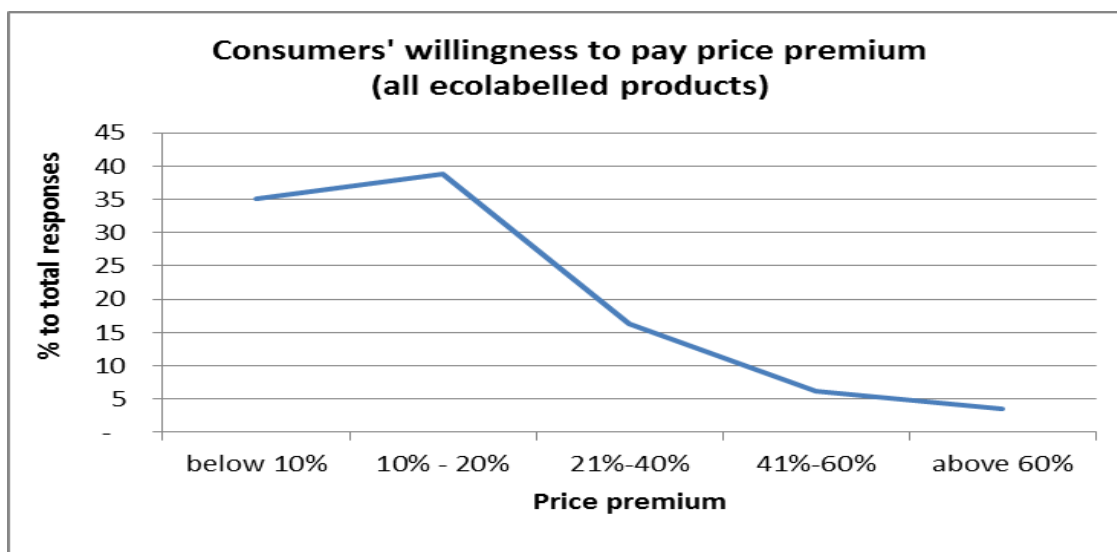
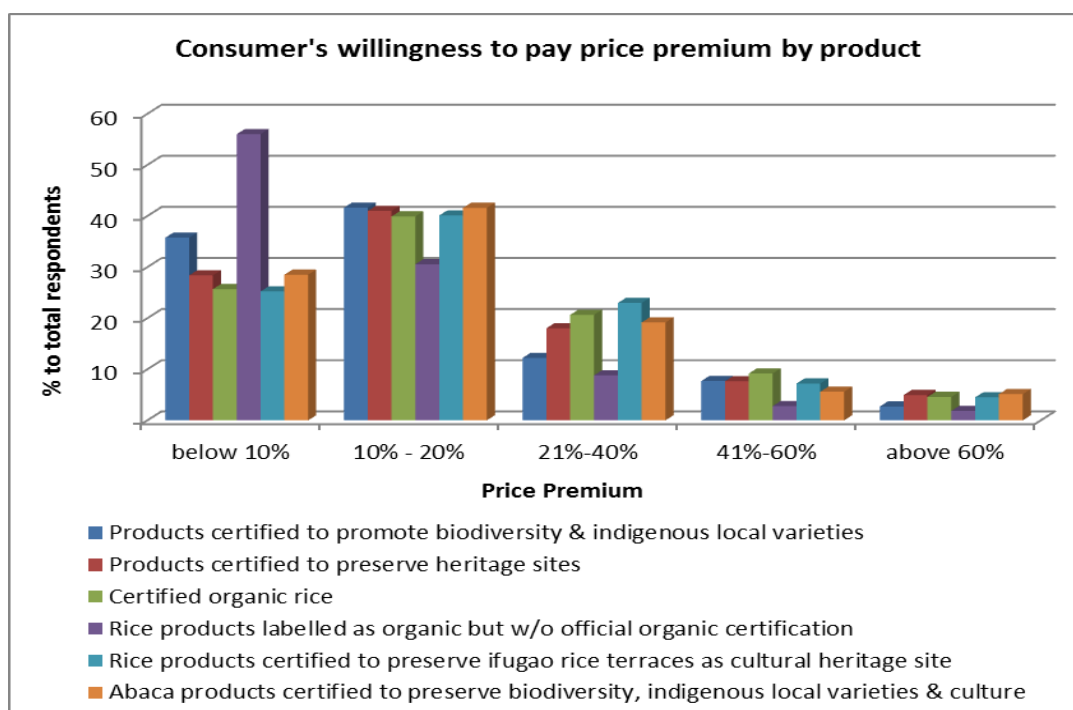


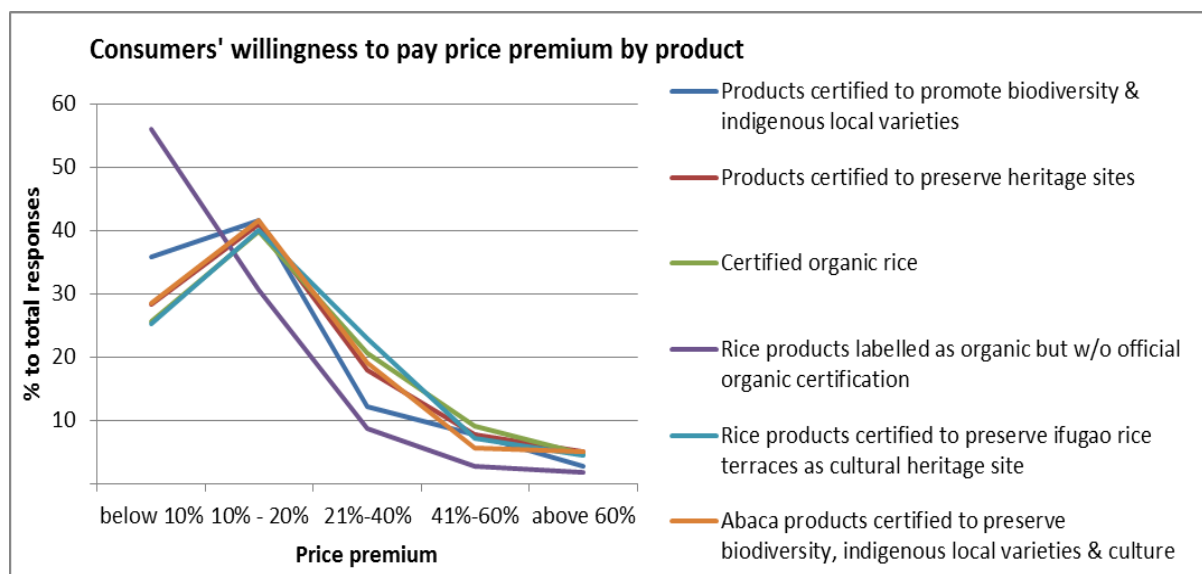
Figure 6, however, shows a “kinked demand curve” since the percentage of respondents WTP the lowest range of price premium (below 10%) is lower than the next higher range of price premium (10% to 20%) but not compared to the other range of price premium. This kink implies that majority of the respondents are willing to pay a minimum or threshold price premium between 10% to 20% to compensate for environmental claims or attributes.

**Figure 7. Consumers' willingness to pay price premium (by product)**



It is interesting to note that the kinked curve applies to all products except for rice without certification which follows a normal (without a kink) downward sloping demand curve. This indicates that certification differentiates the product such that it fetches a higher threshold level.

**Figure 8. Consumers' willingness to pay price premium by product**



There are also some notable differences in the price premiums that consumers are willing to pay when it comes to specific products. For example, while there is only 1% difference in the percentage of respondents who are willing to pay for price premium between certified organic rice and organic rice without certification, there is a large difference in terms of the price premium consumers are willing to pay between these products. For rice products without organic certification, about 56% of the respondents are willing to pay a price premium of less than 10% compared to only 26% for rice with organic certification. Also, about 35% of the respondents are willing to pay price premium higher than 20% for rice with certification compared to only 14% for rice without certification. Thus, more consumers are willing to pay higher prices for certified organic products. This is consistent with the existing prices surveyed in market outlets of 17 brands where average price of 3 brands that have organic certification was 25% higher compared to brands without certification.

For products certified to promote biodiversity and indigenous or local varieties, about 64% of the respondents are willing to pay more than 10% price premium. At this level of price premium, the percentage of respondents is even higher for products certified to preserve heritage sites as well as for rice products certified to preserve Ifugao Rice terraces at 72% and 75% respectively.

#### ***Factors affecting level of price premium***

There are several demographic and psychographic factors that may affect the level of price premium that consumers are willing to pay which are examined here. Demographic factors include gender, age, education and income and psychographic factors include level of health consciousness and whether the respondent is a consumer of organic products.

##### ***a. Demographic factors***

In terms of gender, women are willing to pay higher price premium than men. For all Eco labelled products, an average of about 86% of men are willing to pay price premium below 20% compared to only 70% for women. On the other hand, only 14% of men are willing to pay more than 20% price premium compared to 30% for women (See Table Figure). Particularly for certified organic rice, 41% of women are willing to pay more than 20% premium compared to only 15% for men. Also for products certified to preserve heritage sites, only 13% of men are willing to pay for price premium above 20% compared to 27% for women but the opposite is true for price premium below 20%.

For age, there is not much a pattern in terms of the willingness to pay. Respondents who belong to three age categories below 44 years old do not have much difference in terms of their willingness to pay across price premium categories. On the average, about 77% of them are willing to pay price premium below 20% and 23% of them are willing to pay price premium above 20%. This is different

compared to respondents belonging to age group 45-54 where 63% are willing to pay price premium below 20% and 37% are willing pay above 20% price premium. About a quarter in this age group are willing to pay premium between 21%-40% (Table, Figure).

In terms of educational attainment, there is a big difference in the willingness to pay between respondents who went to high compared to those who went to college or did some postgraduate studies. On the average considering all products, most of those who went to high school (about 90%) are willing to pay price premium below 20% compared to 73% for those who went to college or post-graduate studies. The difference between those who went to college and to those who went to postgraduate studies is not as big compared to those who went to high school. However, there is a relatively a higher percentage of respondents who went to post graduate studies who are willing to pay for higher premium compared to those who went to college. About 45% of those who went to post-graduate studies are willing to pay price premium between 10% to 20% compared to 34% for those who went to college. On the other hand, only 29% of those who went to post-graduate studies are willing to pay price premium below 10% compared to 39% for those who went to college. The pattern is similar at the product level.

Income appears to be not affecting the level of price premium that respondents are willing to pay. The percentage of respondents willing to pay price premium lower than 20% does not vary across income brackets which ranges from 71% to 80%. In fact, when these income brackets are the aggregated from five into two brackets (those below P30,000 per month and those above P30,000 per month), the difference between the percentage of respondents willing to pay below 20% premium between these two income categories is almost nil (only 1%). However, there is some difference when we disaggregate the price premium below 20%. A larger percentage of respondents are willing to pay price premium below 10% for those who have lower income but the opposite is true for higher price premium between 10% to 20%. In this case, more of those who have higher income are willing to pay higher premium albeit the difference is only 6%.

b. Psychographic factors

The effect of a respondent who is already consuming organic products on the level of price premium he or she is willing to pay is compared to the one who is not consuming organic products. Considering all Eco labelled products covered, the data show that there is not much difference between those who are already consuming organic products and those who are not. About 41% of those who are already consuming organic products and about 43% of those who are not, are willing to pay price premium below 20%. The small difference between the two types of respondents generally applies at a product level except for certified organic rice where the difference is quite significant. About 83% of those who are not consuming organic products are willing to pay less than 20% compared to 63% for those who are consuming products (Table, Figure). Thus, only 17% of those who are not consuming organic rice are willing to pay price premium more than 20% compared to 37% for those who are already consuming. As expected, those who are already consuming organic rice are willing to pay higher prices compared to those who are not consuming organic products. In fact, almost a quarter of those who are already consuming organic rice are willing to pay price premium between 21% to 40%.

The effect of the level of health consciousness on the price premium is similar to the one whether the respondent is a consumer of organic products or not. Generally, there is no significant difference between the price premium that a consumer who considers himself health conscious is willing to pay compared to a consumer who does not consider himself health conscious. Considering all products, about 78% of the respondents who are not health conscious are willing to pay less than 20% price premium compared to 73% for those who are health conscious. Alternatively, there are 27% of health conscious respondents are willing to pay more than 20% price premium compared to only 22% for those who are not health conscious. However, the difference becomes bigger in the case of certified organic rice. For example, 41% and 23% of health conscious respondents are willing to pay price between 10% to 20% and 21% to 40% respectively. For those who are not health conscious, only 12% are willing to pay price premium between 21% to 40%. Also, about 39% of those who are not health conscious are willing to pay less than 10% price premium compared to only 23% for those who are health conscious.

c. Modelling effects of demographic and psychographic factors

An econometric model using integral regression was estimated to simultaneously examine the effect of both demographic and psychographic factors on the level of price premium that consumers are willing to pay.

Generally, the results are consistent with the findings in the previous section where each demographic or psychographic factor is related to the level of price premium that consumers are willing to pay. The advantage is that it provides whether the relationship between these factors and the price premium is statistically significant. The model also provides a quantification of the magnitude and the direction of this relationship.

Effects of psychographic and demographic factors are presented in below for selected products.

**Effects of demographic and psychographic factors on price premium**

Ecolabelled Products	Statistically significant variables	Quantitative effect of significant variables
1. Products certified to promote biodiversity and indigenous or local varieties	Gender	Women are willing to pay 5% higher price premium than men
2. Products certified to preserve heritage sites (Ifugao rice terraces)	Gender	Women are willing to pay 8% more than men
	Age	Price premium increases by 0.19% per additional year (age)
3. Certified Organic rice	Gender	Women are willing to 8.5% more than men
	Consuming organic products	Those who are already consuming organic products are willing to pay 6% more than those who are not
4. Rice products labelled/sold as organic but without official organic certification	Gender	Women are willing to pay 5% more than men
	Age	PP increases by 0.17% per additional year (age)
	Income	Consumers with income above P30,000 per month are WTP 4% lower compared to those who income below P30,000 per month
5. Rice products certified to preserve Ifugao rice terraces as a cultural heritage site	Gender	Women are willing to pay 6% more higher than men
	Consuming organic products	Those who are already consuming organic products are willing to pay 5% more

## APPENDIX 13. MARKET-BASED INCENTIVE AND CERTIFICATION SCHEMES

### *Market-based incentives and certification schemes*

A number of ecolabels and certification schemes exist in the Philippines that are relevant to agro-biodiversity conservation based on review of literature, consultations of stakeholders and key informant interviews. These include international third party ecolabels that have been used by export companies such as rain forest alliance in banana produced in Mindanao for exports by Unifrutti.

The ecolabels or certification schemes that have been considered to help promote conservation of agro-biodiversity are discussed below. An assessment of these certification schemes was done based on its contribution to agro-biodiversity conservation, buy-in from the private sector, government support, costs and time involved. The impact of these certification schemes on agro-biodiversity conservation depends partly, however, on the profitability of these products which requires an analysis of the chain. Thus the assessment is discussed in part V of the report which includes the analysis of the consumer survey on some eco-labelled/certified products.

#### 1. Organic Certification

The DA has yet to put into full operation the special provisions in the organic agriculture law to provide attention (including subsidies) to remote upland communities who wish their organic products to be certified. A subsidy scheme has been developed for poor but deserving farmer organizations. Its full implementation has been held momentarily however while a due diligence study is being undertaken to ensure that subsidy resources go to legitimate grassroots organizations. In the meantime DA regional offices are proactively helping on an demand basis, pioneering upland farmer groups who want to convert to organic agricultural standards.

The organic product certification from the Organic Certification Centre of the Philippines and Negros Island Certification (NICERT) are third party certification schemes with standards based on the International Federation of Organic Agriculture Movements (IFOAM). Most of the traditional varieties of rice in the country are grown without the application of chemicals particularly those produced in indigenous communities by small farmers but they are not certified as organic. This certification can fetch higher price premium as validated by the consumer survey conducted. Thus, acquiring organic certification provides more incentives to small farmers to continue producing traditional varieties and at the same time preserve agro-biodiversity in the rice farming system.

#### 2. Geographic Indication

The geographic indication (GI) is an intellectual property right based on section 4 of Republic Act 8293 or the Intellectual Property Code of the Philippines. It “refers to indications which identify a good as originating in a territory, region or locality, where a given quality, reputation, or other characteristic of the good is essentially attributable to its geographical origin and/or human factors” (Draft GI Implementing Rules and Guidelines, 2013). As such, it can promote agro-biodiversity because it covers the traditional varieties and their qualities (eg grown in Ifugao rice terraces) “attributable to its geographic origin and/or human factors.” As argued by Guerra (2004) combining ecolabels and GI can strengthen small rural producer’s development, conservation of biodiversity and marketing efforts. This is because GI, according to him, is a collective guarantee with regards the biological identity and quality of the product particularly in developing countries where biological resources are not usually marketed under brands. Thus, GIs can strengthen market access and can be used as a tool to regulate harvesting and promote rational land use strategies and in-situ conservation of biodiversity (Guerra 2004).

There is an opportunity to include agro-biodiversity in the code of practice (CoP) required in registering the GI with the Intellectual Property Office in the Philippines under the Department of Trade and Industry. In Ifugao Rice, for example, CoP should contain information about the traditional varieties covered, their specific characteristics and qualities (eg grown in Ifugao Rice Terraces), the guarantee system and the link with the geographical environment.

#### 3. Green Choice Philippines



The Green choice Philippines is a voluntary, third party, multi-attribute certification scheme that follows the ISO 14024 standards on environmental labelling. This program is chaired by the Department of Trade and Industry and co-chaired by the Department of Environment and Natural Resources and administered by the Philippine Centre for Environmental Protection and Sustainable Development Inc. The latter prepared a proposal and outlined the key steps in the certification which includes product category selection and product eco-labelling criteria development, establishment of support mechanism, capacity building for key stakeholders and provision of market incentives through market promotion and campaigns. The preservation of agro-biodiversity and cultural heritage is included in the development of product labelling criteria.

#### 4. Star Certification

Star certification program was initiated by the Provincial Government Ifugao in 2010 but has not been prioritized in the current administration. The objective is to identify competitive products in the province which will carry the Ifugao seal of excellence which will be given to Ifugao products and services that meet the star certification standards. The criteria or standards identified include environment friendly, high market demand and value, sustainable raw material source and uniqueness of the product which are aligned with the objectives of the project. A task force was composed of representatives from various government agencies such as the Department of Trade and Industry, Department of Science and Technology, TESDA, DAR, PAENRO, Dole and PPDO. It should be noted that the Ifugao Seal of Excellence was awarded to Rice Terraces Farmers' Cooperative as a producer of Ifugao certified products. This was posted in the website [www.heirloomrice.wordpress.com](http://www.heirloomrice.wordpress.com) last February 11, 2013.

#### 5. Echostore brand

Echostore is a specialty store that carries various environmental friendly, naturally grown and organic products in their retail outlets (Echostores and Echo Village Stores) in Luzon, Visayas and Mindanao. Some of the products they sell in the store carry their Echostore brand. ECHO stands for Environment & Community Hope Organizations. They source from small family farms and marginalized communities. Their foundation called ECHOSI (Empowering Communities with Hope and Opportunities through Sustainable Initiatives) provides business development services such as product development and branding, market promotion and market linkages mostly for enterprises involving small producers and women.

#### 6. Producer's own ecolabels

Producers can also use their own ecolabels that promote agro-biodiversity conservation. This is developing own brands for the producers using the standards that promote conservation of agro-biodiversity and culture. This is common in a number of enterprises owned by small producers or producer organizations. Examples of these include enterprises assisted by the Cordillera Highland Agricultural Resource Management Project 2 and the Rural Micro Enterprise Promotion Project.

#### 7. GIAHS Certification/labelling of products and services

The GIAHS initiative, among the objectives, to promote conservation of agricultural biodiversity harboured in agricultural heritage systems. GIAHS has piloted eco-agri-culture heritage labelling to agricultural produce from the designated GIAHS sites in China and Chile and yielded positive response from the consumers and provided incentives to farmers through higher premiums for their products. GIAHS farmers in China are reportedly sold their GIAHS products at least 40 per cent higher than products without GIAHS label. In addition to agricultural produce, the sites also offer non-farm income for the farmers and local communities through boosting the tourism industry.

All these ecolabels and certifications schemes are relevant to rice and rootcrops in Ifugao although not all maybe feasible for rootcrops. Except for star certification, all are relevant but not necessarily appropriate for rice and processed food such as chips from rootcrops and native banana in Lake Sebu. Except for organic certification, all are also relevant to tinalak although not all labels and certification schemes can be a good match. Geographic indication for tinalak is on-going. Further evaluation of these schemes will be done in part VI of this report based on other criteria including the results of the market survey.



## APPENDIX 14. SUMMARY RESULTS OF CAPACITY BUILDING NEEDS ANALYSIS (CBNA)

### Issue: Ecosystems and Farming Systems Enhancement

Specific Institutional Role	Candidate Institution	Limitations	Project Actions	Targets
Assistance to communities in Identification, mapping and documentation of ABD resources to support in situ conservation	<ul style="list-style-type: none"> <li>- DA agencies such BPI and BAR as well as commodity agencies (PHILRICE, IFAD, PCA), The National Museum and SUCs have a small number of personnel who can work with communities to identify ABD resources.</li> <li>- The Bureau of Agricultural Research or BAR and Department of Science and Technology PCARRD provide exploratory research grants for identification and promotion of underutilized and indigenous food crops</li> <li>- The DENR Biodiversity Management Bureau and DENR regional offices are comparatively familiar with biodiversity inventories and assessment methods but only on forest flora and fauna</li> </ul>	<ul style="list-style-type: none"> <li>- ABD conservation is not deemed a key concern of mainstream agriculture nor it is considered an organic part of biodiversity (at least until recently), so there is currently a general lack of programs/projects that support identification and documentation of ABD.</li> <li>- Except for UPLB there are no subject courses offered on ABD.</li> <li>- There is general lack of professionals with skills for identification and documentation of ABD</li> </ul>	Launch orientation campaigns on ABD among technical agency planners, and educational institutions to support inclusion of ABD in agency plans and programs	<ul style="list-style-type: none"> <li>- Orientation modules on ABD based on experience from piloting work are used by a facilitators in DA , DENR and other key Agencies as input during relevant project identification and planning sessions</li> <li>- ABD oriented modules for tertiary curricula are developed and pretested in selected SUCs</li> <li>- An action plan forged with the Commission on Higher Education on mainstreaming the subject of ABD in tertiary curriculum for agriculture and forestry.</li> </ul>

Specific Institutional Role	Candidate Institution	Limitations	Project Actions	Targets
Establishment of a community gene bank network that allows farming communities and LGU to sustain local agrobiodiversity	<ul style="list-style-type: none"> <li>- The DA through its Regional Field Units assist communities establish community seed banks ( CSBs) for both heirloom and modern varieties preferred by farmers partly as contingency measure to disaster occurrence</li> <li>- At least two Philippines NGOS ( PhilRice and MASIPAG) and UPLB Crop Cluster are helping rice farmers in selected provinces maintain community seed banks</li> </ul>	<ul style="list-style-type: none"> <li>- The government community seed bank concept has focused on storage of a narrow range of varieties as emergency source of seeds during disasters. There is a need to supplement this system by providing mechanism for conserving the wider range of varieties important to the community to ensure that traditional varieties are not lost also due to disaster.</li> </ul>	Develop and pilot supplemental mechanism for conservation of a wide range of traditional varieties at the community level and with LGU support	<ul style="list-style-type: none"> <li>- Guidelines to expand the system of community seed bank to community gene banks based on experience and farmer feedback in at least two project sites.</li> <li>- At least one extension personnel per LGU is trained on the process of establishing these gene banks.</li> </ul>
Ex situ conservation of ABD resources as back up to in situ conservation	<ul style="list-style-type: none"> <li>- SUCs have the capacity to implement ex situ conservation of ABD resources. The DA Bureau of Plant Industry (BPI) is mandated to coordinate in situ and ex situ conservation work.</li> <li>- The Bureau of Agricultural Research (BAR and Regional research networks) have the capacity to coordinate work on situ conservation</li> </ul>	<ul style="list-style-type: none"> <li>- There is a lack of coordination and data sharing among practitioners in ex situ conservation and between ex-situ and in-situ conservation practitioners. An earlier initiative called the National Information Sharing Mechanism or NISM (with FAO support) has not been fully sustained due to inadequate resource mobilization strategy and unclear governance of the network</li> </ul>	Support BPI efforts to reactivate the national Information Sharing system (NISM) by piloting a regional information networking effort among ex situ and in situ conservation efforts in CAR and Region 12 (location of project sites)	<ul style="list-style-type: none"> <li>- (a) Members of the NISM in CAR and Region 12 are linked by an information network managed by the Regional Research consortium,</li> <li>- (b) Back up collections maintained by the local SUC gene bank as requested by farming communities</li> </ul>
Registration of varieties under current laws such as	<ul style="list-style-type: none"> <li>- The BPI is the mandated agency to develop the protocols for registration under the Plant Variety Protection</li> </ul>	<ul style="list-style-type: none"> <li>- There are no government based guidelines for registration of farmers own</li> </ul>	Assist the BPI lead the development of the methodology and for	<ul style="list-style-type: none"> <li>- Community registry of ABD resources established by the community with</li> </ul>

Specific Institutional Role	Candidate Institution	Limitations	Project Actions	Targets
through community registry of varieties to prevent misappropriation by other parties	<p>Act (PVPA).</p> <ul style="list-style-type: none"> <li>- SUCs would be able to facilitate community registry establishment provided guidelines are made available</li> <li>- SEARICE and MASIPAG (Phil NGOs) have customized its own methods for establishing community registry</li> </ul>	and traditional varieties using the community registry approach which would be the relevant for communities and for government breeding programs.	community registry in at least 3 pilot communities	<p>LGU support in 3 pilot communities ;</p> <ul style="list-style-type: none"> <li>- Policy brief on the value of the mechanism</li> <li>- Extension modules for said subject matter</li> </ul>
Inclusion of ABD conservation concerns in agricultural land use classification	<ul style="list-style-type: none"> <li>- The DA - Bureau of Soils and Water Management (BSWM) is the agency mandated to support agricultural land use planning of LGUs using the approach referred to as Strategic Agriculture and Fisheries Development Zoning (SAFDZ).</li> <li>- LGUs with guidance from BSWM are responsible for making CLUPs including agricultural land use.</li> </ul>	<ul style="list-style-type: none"> <li>- ABD conservation concerns are not part of the criteria for preparing the agriculture land use component (SAFDZ) of land use plans. The main criterion used is the presence of irrigable land.</li> </ul>	Provide recommendations to BSWM on including ABD concerns in the planning guidelines for agricultural land use planning by LGUs	<ul style="list-style-type: none"> <li>- Documented experience of at least 1 LGU using strengthened agric land use planning guidelines</li> </ul>
Inclusion of ABD conservation concerns in preparing Protected Areas plans and other plans for protecting Key biodiversity areas	<ul style="list-style-type: none"> <li>- The DENR Biodiversity Management Bureau is responsible for guidelines in the preparation of PA management plans</li> <li>- DENR regional offices, Protected Area Management Boards (PAMBs) are responsible for preparing their respective Protected area plans</li> <li>- Certain SUCS and NGOs assist PAMBs and selected community organizations in protected area planning</li> </ul>	<ul style="list-style-type: none"> <li>- There are currently no guidelines on for incorporating ABD in planning protocols for Key Biodiversity Areas (KBAs).</li> <li>- KBA and PA planners are not familiar with the nature and value of ABD resources</li> </ul>	Assist the DENR BMB to develop guidelines for incorporating ABD in PA planning, based on information on the nature and value of ABD resources	<ul style="list-style-type: none"> <li>- Guidelines on including ABD are developed within BMB.</li> <li>- Guidelines are tested in any of the following: PA, Indigenous community conserved areas (ICCA) or local conserved areas (LCA).</li> <li>- Supplemental orientation modules are developed for users of the guidelines</li> <li>-</li> </ul>
Determination of	<ul style="list-style-type: none"> <li>- Selected DENR bureaus (FMB,</li> </ul>	<ul style="list-style-type: none"> <li>- There is no currently</li> </ul>	Pilot the ABD valuation	<ul style="list-style-type: none"> <li>- The multiple value of ABD</li> </ul>

Specific Institutional Role	Candidate Institution	Limitations	Project Actions	Targets
multiple value of ABD resources (contributions to agriculture & ecosystems services)	ERDS and BMB) have a selected personnel with experience in managing and implementing projects that involve economic valuation of forest and water resources - Some NGOs and consulting groups have expertise for resource valuation (forest , water)	known methodology in the country for determining multiple values of ABD resources as previous and current valuation studies have focused on natural resources - The current skills on valuation methods are limited to non ABD topics e.g. forest, water.	process in at least one site together with key agencies from both DENR and DA and use the results as input to the ongoing formulation of policy for natural resource valuation	in pilot sites documented, packaged into a policy brief and discussed with the MLGU, PLGU, regional fore of policy makers. - At least one resource person on the topic per core province is developed
Providing extension services for micro watershed and low cost sustainable technologies for water and nutrient management, integrated farming systems and perennial crops integration that help sustain ABD in farming systems	- DA's BSWM. BPI and other Bureaus as well as DA Regional Field Units (RFU) can train LGU personnel on selected relevant components of farming systems (e.g. soil conservation, nutrient mgt, etc.) that harbour ABD - DA's Agricultural Training Institute (ATI) can in collaboration with technical resource persons design extension modules on ABD as needed - The DA RFU in CAR has implemented FFS extension modules to enhance traditional rice variety production practices - LGU Agriculture Offices are responsible for providing direct extension services for the more mature component technologies of farming systems	- The government's mainstream commodity based programs have currently limited application in remote upland communities harbouring ABD; Exceptions exist such as through foreign assisted customized upland projects such as the DA- CHARM Project in CAR. - LGU investment programs in local agriculture strongly depend on DA banner programs and subsidies. - LGU personnel are lacking (less than 30 to 50% of required number ) and need exposure and training to ABD conservation concepts ad practices	Based on appreciation of the value of ABD resources, assist pilot LGUs update their strategic agricultural investment programs to include enhancement of local agro ecosystems and farming systems that harbour ABD.	- Provincial Agriculture and NRM R&D program for Ifugao province to support Ifugao Rice Terraces; endorsed by the Regional Development Council to line agencies as guide for programming and budgeting. - Guidelines are in place for incentives to famers such a crop insurance and specialized assistance for organic certification of traditional varieties production systems - Enforceable agricultural organic agriculture ordinances and corresponding programs and budgets that support the dynamic conservation of

Specific Institutional Role	Candidate Institution	Limitations	Project Actions	Targets
				<p>ABD in 3 pilot LGUs are developed.</p> <ul style="list-style-type: none"> <li>- LGU staff and farmer trainers in at least 3 sites are developed on various technologies and methods of communicating ABD conservation practices to farmer groups.</li> </ul>
<p>Assistance to farming communities sustain &amp; enhance indigenous forest management systems (IFMS) that in turn sustain farming systems that harbour ABD</p>	<ul style="list-style-type: none"> <li>- The DENR Regional offices in coordination with regional offices of NCIP are responsible for recognizing and strengthening the role of the customary indigenous forest protection systems in the maintenance of ABD rich agro ecosystems. They likewise implement assisted natural regeneration (ANR) and reforestation programs to augment forest land cover initiatives.</li> <li>- The DA RFUs promote Agroforestry in upland areas through its High Value Crop Development (HVCD) program</li> <li>- The LGUs are responsible for regular guidance to communities and monitoring and protecting forest land use as well as support reforestation</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of support to address the sustainability of IFMS and inadequate integration of govt programs for forest and agriculture has prevented effective positive impact on agro ecosystem services that support ABD production e.g. helping address deterioration of rice terraces;</li> <li>- LGUs generally do not have dedicated staff for environment and natural resources management.</li> </ul>	<p>In pilot LGUs, demonstrate the integrated planning of IFMS enhancement measures and government reforestation and agroforestry programs with ABD conservation efforts.</p>	<ul style="list-style-type: none"> <li>- Enhanced local forest management action programs in at least 1 pilot MLGU incorporating enhanced IFMs and govt reforestation /Agroforestry promotion</li> <li>- Policy brief of the piloting experience is developed and discussed in provincial and regional fora of policy makers</li> </ul>

#### Issue: Enhancing Access to Markets

Specific Institutional Role	Candidate Institution	Limitations	Project Action	Targets
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Specific Institutional Role	Candidate Institution	Limitations	Project Action	Targets
Assistance to communities in business planning , market linkage	<ul style="list-style-type: none"> <li>- DA AMAS and DA RFUs provide on call support service to LGUs on marketing of important commodities</li> <li>- Dept Of Trade and Industry Regional offices provide market assistance to selected commodities with high processing potential e.g. coffee</li> </ul>		Solicit support from concerned agencies to support community and LGU actions	Links to supplemental markets are established in 3 pilot communities
Creating Value addition from agrobiodiversity products	<ul style="list-style-type: none"> <li>- The DA BAR and Department of Science and Technology agencies supports the incubation and start up commercialization of indigenous underutilized crops</li> </ul>	The role of ABD is not yet fully appreciated and available information on its value is not widespread	Participate in the development of research agenda for value addition	Value addition of ABD products is included in the research agenda of key research management agencies
Certification of organically produced ABD products or adopting geographic indication labelling schemes	<ul style="list-style-type: none"> <li>- The Bureau of Agriculture and Fishery Standards (BAFS) through its certifying bodies provide this certification. The organic agriculture law provides special attention to remote upland communities needing certification.</li> <li>- The Department of Trade and Industry establishes the guidelines as well grants certification for geographic indication. Organic rice from Ifugao is one of the top priority commodities</li> <li>- The PLGU of Ifugao once led an interagency effort to label Ifugao agricultural products</li> </ul>	<ul style="list-style-type: none"> <li>- IM: The current Organic certification scheme is perceived to be tedious and expensive to small farmers. The guidelines for supporting marginalized farmers and providing subsidy is not yet firmed up. The Ifugao PLGU led interagency initiative for labelling has not been sustained due to perceived unclear legal basis.</li> <li>-</li> </ul>	-	<ul style="list-style-type: none"> <li>- PA: Assist the DA BAFS develop the guidelines for facilitating certification and subsidy scheme to remote upland communities</li> <li>- SI:</li> <li>- a)Certification is achieved in at least one site using the special guidelines</li> <li>- b)The Ifugao PLGU certification system is assessed and recommendations for strengthening are provided</li> </ul>

**Issue: Cultural Heritage Recognition and Education, and IP Concerns**

Specific Institutional Roles	Candidate Institution	Limitations	Project Actions	Targets
Inclusion of ABD values in the documentation and communication of local knowledge and Indigenous Knowledge systems (IKS)	CI: The National Commission for Indigenous Peoples (NCIP) is responsible for IP governance and for promoting IKS documentation and setting guidelines.	With few exceptions, existing and ongoing IKSP documentation generally do not discuss ABD resources and practices. Existing NCIP guidelines are also relatively silent on this. Misrepresentation and lack of validation of documentation done by non IP have affected the overall pace of IKSP documentation .There is a lack of trained community documenters	In at least 3 pilot areas, demonstrate the process for ABD documentation and based on experience with NCIP to incorporate ABD concerns in IKSP documentation guidelines	a) Case study on documentation of ABD as part of IKSP. b) draft guidelines for ABD in IKSP documentation; c) trained IP documenters
Recognizing communities with high ABD as part of cultural heritage	<ul style="list-style-type: none"> <li>The National Commission for Culture and Arts ( NCCA ) is responsible for inclusion of ABD in Heritage Recognition Program ( as cultural properties )</li> <li>The Provincial Govt of Ifugao has launched programs to conserve intangible cultural practices associated with Ifugao rice terraces</li> <li>Selected LGUs ( e.g. Lake Sebu ) have established Municipal culture and Arts Councils to oversee heritage conservation</li> </ul>	There are no guidelines yet to incorporate heritage agriculture as part of the registry of cultural properties in the Philippines.	Assist NCCA and National Museum develop guidelines for including ABD heritage agriculture as cultural property	(a) NCCA and NM guidelines on incorporating heritage agriculture as a category of cultural heritage  (b) documentation of at least one site as a cultural property
Including ABD concerns in Education	The Department of Education has launched an Indigenous Peoples	the pace of program implementation is hampered	a) Work with DEPED to incorporate ABD values	(a) pretesting of curricular modules in at municipal level

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curriculum for communities that host ABD resources	Education (IP ED) program which seeks to embed IP values ad concerns in the curriculum. Provincial Superintendents (Directors) are actively operational zing the law at local levels, involving IP culture bearers (e.g. mumbakis) in the process.	by large targets and limited agency resources and lack of models	and practices in curricular development in the two core provinces. b) Train teacher trainers.	primary and secondary schools in project site  (b) case study documentation and reporting to the DEPED ad Local School Boards  (c) Network of teacher trainers with support system from DEPED, NCIP NCCA and other stakeholder agencies.