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TECHNICAL BULLETIN

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**SUBJECT: GUIDELINES IN THE IDENTIFICATION AND RECOGNITION OF
BIODIVERSITY-FRIENDLY ENTERPRISE (BDFE)**

Pursuant to DAO 2016-26, Guidelines for the Implementation of the Coastal and Marine Ecosystems Management Program (CMEMP) and in line with the DENR development principles on partnership with civil society, ecosystem integrity, sustainable consumption and production and social justice, the attached "Guidelines in the Identification and Recognition of Biodiversity-Friendly Enterprise (BDFE)" is hereby adopted to ensure that conservation and sustainable use of resources in upland and coastal communities translate into tangible and sustainable economic benefits for the communities within and around protected areas and other conservation areas.

This Technical Bulletin is issued for the guidance of all concerned.


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Director

Guidelines in the Identification and Recognition of Biodiversity-Friendly Enterprise (BDFE)

I. Introduction

Pursuant to the implementation of the DENR Administrative Order No. 2016-16, in Coastal and Marine Ecosystems Management Program (CMEMP), Republic Act No. 7586 (National Integrated Protected Areas System Act of 1992), Republic Act No. 9147 (Wildlife Resources Conservation and Protection Act), and other relevant issuances, the Guidelines in the Identification and Recognition of Biodiversity-Friendly Enterprise (BDFE) is hereby issued.

In the Philippines, despite records of degradation, protected areas still provide valuable ecosystem goods and services that people need. Protected areas conservation must be seen in a broader landscape where the natural wealth continues to provide for the needs of the people. Part of the socio-economic considerations of managing protected areas is ensuring equitable access to opportunities, especially for the poor and marginalized communities who are almost entirely dependent on natural resources for their livelihood. If the interests of the Indigenous People and local communities, entrepreneurs, consumers local and national government are aligned and met by linking protected areas to the landscape and seascape where people make a living, and by equitable allocation of access to the land and natural resources, there will be less competition over the resources that are set aside for conservation.

The DENR-BMB Biodiversity Partnerships Project (BPP) developed a framework and assessment tool in Profiling/Identifying/Evaluating a Biodiversity-friendly Enterprise. The developed tool is substantial and provides strategies in the crafting of this Technical Bulletin.

The main guiding framework of this BDFE is the sustainable development (SD) framework, anchored on Sustainable Development principles the biodiversity-friendly enterprises contribute to the objectives of environmental protection, economic development and social development through the conservation, sustainable use and equitable sharing of resources and at the same time promote sustainable businesses that support environmental protection, economic growth and social equity.

Consequently there is an increasing acceptance that businesses also possess biodiversity relevant knowledge, technical resources and management skills which can be used to better manage biological resources.

The scoping activity conducted on biodiversity-friendly enterprises in the BPP sites indicate that there are already existing enterprises or livelihood projects but are not just consciously considered as being biodiversity-friendly. There are also potential biodiversity-friendly enterprises that can be developed with just the right push and policy support.

The 3 pillars of Biodiversity-Friendly Enterprise are:

1. Environment – the business operations must protect ecology
2. Economy – the business must provide economic benefits for the community
3. Equity – the business must provide equal benefits for all stakeholders especially women and Indigenous People

II. Objectives

Recognizing that the biodiversity resources are the major source of livelihood and income of the upland and coastal communities and that conservation is a viable economic proposition, this Technical Bulletin is intended to:

- a) provide guidance in the identification, assessment and promotion of biodiversity-friendly enterprises;
- b) provide options to the communities for sustainable and biodiversity-friendly enterprises;
- c) serve as basis to encourage communities within and around biodiversity-rich areas to engage in biodiversity-friendly enterprises;
- d) provide basis for enabling environment leading to social enterprise and incentives for primary stakeholders and private sector investments;
- e) guide the identification and implementation of other economic activities and investments linked to and in support of biodiversity-friendly enterprises to enhance the contribution of these enterprises in the local economic landscape; value chain: the chain from production to consumption and
- f) heighten the awareness and participation of communities within and around protected areas and other areas of high biodiversity values in the wise use of biodiversity resources.

III. Scope of Application

These Guidelines shall apply primarily to enterprises and livelihood of primary stakeholders/communities dependent on the ecosystems services provided by biodiversity situated within Protected Areas (PAs), Key Biodiversity Areas (KBAs), and the wider landscapes and seascapes.

This will also apply to local communities, industries utilizing resources or benefitting from the protected areas, critical habitats and other ecosystems.

To fully maximize the utilization of these Guidelines, the Protected Areas Superintendent and staff as well other DENR field personnel are advised to refer to their Protected Area Management Plans, Critical Habitat Management Plans, Local Development Plans, etc. for reference.

IV. Definition of Terms

For the purpose of this Technical Bulletin, the following terms are hereby defined to mean as:

- Biodiversity-Friendly Enterprises (BDFE) – are economic activities and practices of micro-, small and medium enterprises, local government units, and people's organizations that promote the sustainable use of biological resources; create wealth and value; and open opportunities for the equitable sharing of benefits among stakeholders.
- BMB Core Team –consists of BMB technical staff designated by the BMB Director who shall oversee, monitor and evaluate the implementation of this Guidelines
- Business/Enterprise – any entity engaged in an economic activity, irrespective of its legal form. This includes, in particular, self-employed persons and family businesses engaged in craft or other activities, and partnerships or associations regularly engaged in an economic activity. In this Technical Bulletin, enterprise may include local government units, people's organizations or associations, cooperatives, rural improvement clubs and the likes who are engaged in economic activities
- Economic Activities – actions that involve the production, distribution and consumption of goods and services at all levels within a society.
- Inventory – listing of existing and potential enterprise using the prescribed matrix (ANNEX 1)
- Leveling-up- progression/evolution of enterprise/livelihood from Enterprise to BDFE
- Medium enterprise - category of enterprise with a total assets valued at up to P15,000,001.00 – P100,000,000.00
- Micro-enterprise – category of enterprise with a total assets valued at up to P3,000,000.00
- Primary Sector-These are the economic activities that rely on the agriculture, forest and marine resources for its raw materials or core industry but at the same time contribute to the sustainability of such resources by engaging in practices that replenish biodiversity. Under this sector are industries engaged in Sustainable Agriculture, Forestry and Coastal/Marine Resources.
- Primary stakeholders - persons who belong to the following group/sectors such as farmers, fisherfolk, workers in the informal sector, persons with disability, indigenous peoples, women, senior citizens, victims of calamities and disasters, youth and students, children and informal settlers

- **Secondary Sector-** This includes economic activities that basically promote the use of non-timber forest products (NTFPs) as raw materials from the areas not designated as strict protection zones within protected areas and critical habitats and such other non-endemic/abundant resources from the marine areas or seascapes. Enterprises engaged in manufacturing belong to this sector.
- **Small enterprise -** category of enterprise with a total assets valued at up to P3,000,001.00 – P15,000,000.00
- **Tertiary Sector-** This includes economic activities that can generate fees for the biodiversity services to encourage maintenance and protection of biodiversity. Service-oriented enterprises are considered under tertiary sector.

V. Criteria for Identifying/Evaluation Biodiversity-Friendly Enterprise

The criteria for identification and evaluation of Biodiversity-friendly enterprises are ecological, economic and equity. In addition, legal and institutional considerations criterion may be used encompassing the foregoing three criteria:

Ecological Criterion: deals with the conservation of biodiversity and sustainable use of biological resources. Look into the implications of enterprise operations (i.e., inputs, process, and outputs) on ecology (the interaction of organisms and their environment).

Economic Criterion: deals with the viable, sound and broad-based development of economy that create wealth and value and positive financial returns that benefits the community, LGU and biodiversity.

Equity Criterion: deals with the equitable sharing of benefits arising to the use of the biological resources. It emphasizes the benefits of both men and women, the indigenous peoples (IPs) and all the other stakeholders in all stages of the economic activity or business. This also includes the impact of the business to the conservation of biodiversity in a certain locality, protected area, Key Biodiversity Area (KBA) or wider landscapes and seascapes.

VI. Industry Sectors of Biodiversity-Friendly Enterprises

The enterprises within the following industry sectors can be considered biodiversity-friendly:

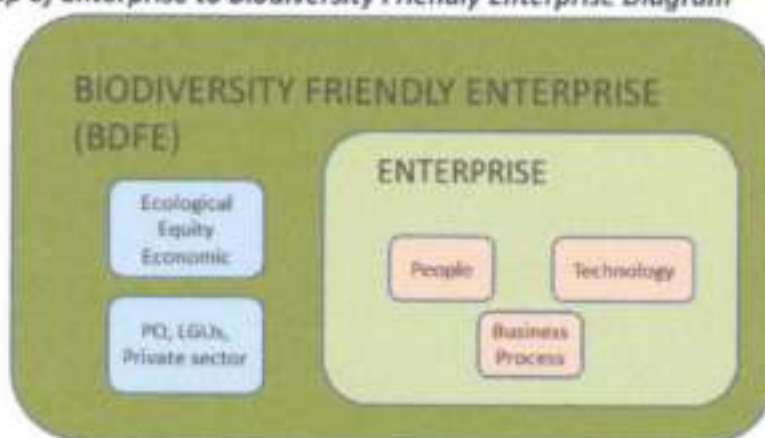
- 1.1. Enterprises in the primary sector (Sustainable Agriculture, Forestry and Coastal/Marine Resources). These are the economic activities that rely on the agriculture, forest and marine resources for its raw materials or core industry

but at the same time contribute to the sustainability of such resources by engaging in practices that replenish biodiversity.

- 1..2. Enterprises in the secondary sector (Manufacturing). This includes economic activities that basically promote the use of non-timber forest products (NTFPs) as raw materials from the areas not designated as strict protection zones within protected areas and critical habitats and such other non-endemic/abundant resources from the marine areas or seascapes.
- 1..3. Enterprises belonging to the following tertiary sector (Services). This includes economic activities that can generate fees for the biodiversity services to encourage maintenance and protection of biodiversity.

A Preliminary List and Models of Biodiversity-friendly Enterprise is listed in ANNEX C.

Scaling up of Enterprise to Biodiversity Friendly Enterprise Diagram



VII. Process Flow

Procedure on the assessment of potential biodiversity-friendly enterprise shall be guided by the following process flow:

- 1..4. Inventory (ANNEX A.1 and A.2.) and Profiling of Enterprise using ANNEX B Form 1 – initial screening; if passed proceed to Step 2. ; if fail, provide appropriate intervention to qualify for the Assessment stage
- 1..5. Assessment using ANNEX B Form 2 – if fully compliant, proceed to Step 3; if low score to certain criterion, apply appropriate mitigating measures
- 1..6. Recognition of Biodiversity-Friendly Enterprises (labelling)

For enterprises recognized as BDFE, such will be given preferential assistance as incentive

LIST OF SMALL AND MEDIUM ENTERPRISES WITHIN PROTECTED AREAS

Region: _____

[illegible]

*Description for the area should include province, municipality, locality

Accomplished by:

Noted by:

Process Flow Diagram



VIII. Reporting

The Regional Offices shall prepare and submit periodic reports on the progress and status of implementation to the Undersecretary of Policy and Planning, copy furnished the Director, BMB.

IX. Monitoring and Evaluation

The DENR shall conduct periodic review, monitoring and technical assistance in coordination with the Regional Office and PA Office.

X. Fund Allocation.

The Regional Offices shall allocate funds for the implementation of this program.

**GUIDE IN DETERMINING LIVELIHOOD OPTIONS/OPPORTUNITIES FOR COASTAL AREAS and
TERRESTRIAL AREAS**

A rapid assessment both of the beneficiaries and the area is needed to determine the relevance, applicability and acceptability of the potential livelihood options. This may ensure the sustainability of the livelihood to be introduced/granted and elicit the interest and participation of the beneficiaries in the livelihood program.

1. Identification of the following:

a) Beneficiaries (POs, individuals/households)

The beneficiaries may be an individual, household or Peoples organization.
(Refer to Annex A. PROFILE OF BENEFICIARIES)

b) Forms of capital required for sustainable livelihood:

- b.1 Natural capital – natural resources (land, forest, water, biological)
- b.2 Physical capital – privately owned asset (e.g. farm animals, tools, machineries, equipment); publicly owned infrastructure (e.g. road, electricity supply, water system, social infra (school, hospital, market, banks)
- b.3 Financial capital – cash, readily convertible liquid capital
- b.4 Human capital – status/levels of health, nutrition and education, skills
- b.5 Social capital – membership of formal groups, organizations that provide loans, grants and other assistance

c) Priority/preference of community

d) Potential or existing market

- 2. Suitability of the livelihood in the local situation – livelihood option should conform to the available resource, location of the area and beneficiary. Refer to Annex B for examples of livelihood for coastal.**
- 3. Adhere to biodiversity principles – should be consistent with the conservation of biodiversity and sustainable use of biological resources.**
- 4. Potential costs and benefits**

Profile of Beneficiaries

a) INDIVIDUAL/HOUSEHOLD

Name : _____
Age : _____
Sex : _____
Civil Status : _____
Household size : _____
Ethnic Origin : _____
Educational Background : _____
Skills/trainings attended : _____
Length of stay in the community: _____
Occupation/Source of Income : _____
Average Monthly Income : _____
Membership to Organization (if any): _____
Position held: _____

B. PEOPLE'S ORGANIZATION

Name of Organization: _____
Type of Registration: ☐ SEC ☐ CDA ☐ DOLE ☐ Others, pls
specify _____
Year established/registered: _____
No. of members: _____ Total (_____ Male; _____ Female)
Livelihood activities: _____
Trainings attended by members : _____
Organizational Assets/capital: _____

Assessment Tool in Profiling/Identifying/Evaluating a Biodiversity-friendly Enterprise

FORM 1. Profiling the Enterprise

This Form 1 will serve as a tool for the initial assessment of the potential biodiversity-friendly enterprise. Once the said enterprise provided the needed information, they can be further assess using the Form 2.

Profile of Potential/Existing Biodiversity Friendly Enterprise

1. Name of Enterprise (or potential enterprise):

- Provide the name of the enterprise whether existing or with potential to be a biodiversity friendly enterprise.

2. Description of the Enterprise:

- Location: Region, Province, municipality, locality also specify if within or around Protected Areas (PAs), Key Biodiversity Areas (KBAs) or in Agricultural Landscapes

- Sector: Kindly specify the sector of the enterprise.

✓ Enterprises from the following primary sectors could be considered:

- Agriculture (agriculture farming systems and products)
- Fisheries (habitat protection and fisheries production)
- Forestry (forest resources conservation)

✓ Enterprises belonging to the following secondary (mainly processors) sectors could be considered:

- Food and drink processing
- Pharmaceutical and cosmetic products (such as the use of medicinal oils, hair and skin care, medicines, etc.);
- Manufacturing (for example of wood, pulp, paper, chemicals, recycling);
- Building and construction (which can be carried out in rural areas)
- Gifts, toys and house wares (GTH) (such as handicrafts)

✓ Enterprises belonging to the following tertiary (service industry) sectors could be considered:

- Ecotourism

- Nature based restaurants
- Delivery services and activities of transport agencies;
- Health services

- **Size of Enterprise:** Specify using the categories below, the total assets are valued under the following categories:

Micro	-	up to P3, 000, 000. 00
Small	-	P3, 000, 001. 00 - P15, 000, 000. 00
Medium	-	P15, 000, 001.00 - P100, 000, 000. 00

- **Ecosystem:**

- ✓ Forest
- ✓ Grassland
- ✓ Coastal and Marine (mangrove, coral reef, seagrass beds, mudflats)
- ✓ Man-made: Aquarium, Rice fields, Farm, Ponds, Urban Ecosystem

- **Raw material/s and Source/s:**

- **Main product/s:** Enumerate the main product/s

- **Secondary product/s:** Enumerate the secondary product/s

3. **Market:** Specify the location of market, number of prospective buyers, competitors, prices and quality of good and products
4. **Organization/Staffing:** brief description of the organizational structure, management and staff functions
5. **Financial:** brief description of the financial capacity or capital of the enterprises and sources of financing.
6. **Map:** Attach location map of enterprise (with coordinates)

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BDFE FORM 2

Criteria for Identifying/Evaluating Biodiversity-Friendly Enterprises (refer to PA Management Plan)

Name of Enterprise: _____
Address: _____
Site: _____
Assessment/Score: _____

Prepared by: _____
Date prepared: _____
Contact Number: _____

CRITERIA	NON-NEGOTIABLE INDICATORS	YES	NO	REMARKS			
Ecological	1. SPATIAL - Enterprise should be within the Multiple-use Zone/Buffer Zone						
	2. SPECIES - Resources should be indigenous but not threatened, not indicator species			(enumerate species)			
CRITERIA	INDICATOR	RATING (%)					REMARKS
		100	75	50	25	0	(Kindly explain/elaborate the reason/s why low rating was given to certain indicator)
ECOLOGICAL	3. IMPACT TO BIODIVERSITY						
	a. Complement the conservation of biodiversity-rich areas and its threatened, indigenous and indicator fauna and flora species, if any						
	b. Promote the rehabilitation of degraded/fragmented habitats of threatened, indigenous, and indicator fauna and flora						
	- Types of rehabilitation activities for the type of ecosystems:						
	- Terrestrial						
	- Coastal and marine (mangroves, seagrass, mudflats, corals) seagrass)						
	c. Involvement in the prevention or mitigation against biodiversity damages/impact from natural and anthropogenic causes						
	d. Discourage alteration of the natural landscapes						
	e. Awareness on the concept of wildlife corridors						
	Sub-total (Average)						
	INPUT INDICATOR (raw material sourcing, extraction process and assembly of product)						*Add all the scores and get the average (example: $100+75+75+50+100=400/5 = 80\%$)
	1. Awareness of raw materials' natural regeneration (e.g. maturity of timber						

	and non-timber products, breeding season of fishes)						
	2. Aware and practices sustainable extraction and utilization of resources/raw materials						
	3. Method for extraction will not have impact on the genetic make-up/composition and population of flora and fauna species (e.g. cross-breeding)						
	4. Secondary raw materials used do not cause any harmful effect to biological resources (human, flora, fauna, and the environment) and will not degrade the quality of the raw materials						
	5. Mechanism for sustainability of raw material is in place (e.g. nursery establishment)						
	6. Promote the sustainable use of indigenous and traditional flora and fauna species.						
	7. Promote efficient use of renewable energy and materials						
	8. Sub-total (Average)						
	PROCESS INDICATOR						*Add all the scores and get the average (example: $100+75+75+50+100+100+75=575/8=71.8\%$)
	The production process:						
	1. Do not cause any harm to the population and habitats of threatened, indigenous, indicator flora and fauna species.						
	2. Promote conservation of Philippine biodiversity						
	3. Consider women and men's health and safety in environment aspects						
	4. Do not use any strong and harmful chemicals						
	5. Considers technological innovations and best practices that are gender responsive, culturally sensitive and environmentally sound						
	6. Considers the indigenous knowledge systems and practices relevant to biodiversity						
	7. Undergo government regulatory systems and procedures, when appropriate						
	Sub-total (Average)						
	OUTPUT INDICATOR						*Add all the scores and get the average (example: $100+75+75+50+100+100+75=400/7=57\%$)
	1. Finished product may likewise serve as a raw material for another BD-friendly product						
	2. By-products may be						

	recyclable; otherwise, the enterprise should have a system for proper disposal of wastes					
	Sub-total (Average)					
	*Add the sub-total scores from General, Input, Process and Output Indicators get the average and multiply to .40 (example: $80+80+57+83 = 300/4 = 75 \times .40 = 30$ will be the score for ecological criteria)	*Add all the scores and get the average (100+75=175/2=87.5%)				
TOTAL FOR ECOLOGICAL (40%)	*Add the sub-total scores from General, Input, Process and Output Indicators get the average and multiply to .40 (example: $80+80+57+83 = 300/4 = 75 \times .40 = 30$ will be the score for ecological criteria)					
ECONOMIC	EMPLOYMENT INDICATOR					
	1. 15% of the households within the immediate barangay/s are employed and engaged					
	2. Offer equal opportunities for women, men and indigenous people and other marginalized sectors					Note: Identify whether tenured or non-tenured Universe: Total employment per household
	Of the total employed: ≥ 50% are women ≥ 50% are men 1. ≥ 50% are IPs					
	3. Provides favourable working condition to workers that can address their concerns on health, safety and welfare					Minimum requirement of favourable working condition: reasonable wage/pay, specific time of work & break, use of protective materials (gloves, facial masks, hardhat if applicable)
	Sub-total (Average)					*Add all the scores and get the average
	INCOME INDICATOR					
	1. Provides additional/alternative sources of livelihood and income to household					
	≥ 10% increase in the household income (estimate)					
	2. Provides additional source of income or own-source revenues for the host LGUs					Specify timeframe of HH income (5 years)
≥ 10% increase in the LGU revenue (estimate)					Get SE profile of members for baselining and evaluation	
3. Provide additional source of income to Protected Area (if applicable)						
Sub-total (Average)						
	Add the sub-total scores from Employment and Income Indicators get the average and multiply to .30.	*Add all the scores and get the average				
TOTAL FOR ECONOMIC (30%)	Add the sub-total scores from Employment and Income Indicators get the average and multiply to .30.					
EQUITY	1. Increased the participation of women, Indigenous Peoples (IPs) from planning to implementation					

	Increased participation: ≥ 50% are women ≥ 50% are men ≥ 50% are IPs					
	2. Develop or enhance knowledge and skills of both women and men as well as the IPs (if applicable) ≥ 10% of women, men and IPs acquired additional knowledge and skills in relation to biodiversity-friendly enterprises					
	3. Could enhance the capability of the LGUs as well as the local communities in managing and conserving biodiversity resources ≥ 10% of LGU personnel and staff have capability or enhanced capability in managing and conserving the biodiversity resources ≥ 10% of local communities have capability or enhanced capability in managing and conserving the biodiversity resources					
	4. Respect the rights and promote welfare of the IPLC					
	5. Ensures that benefits accrue back to the IPLC protecting the raw materials, as assurance					
	Sub-total (Average)					
	Add the sub-total scores from Benefits to people, community and locality Indicators get the average and multiply to .30.					*Add all the scores and get the average
TOTAL FOR EQUITY (30%)						

Biodiversity-friendly enterprise index

ECOLOGICAL	40%	≥ 80% to 100% Fully Compliant
ECONOMIC	30%	≥ 60% to 79% Partially Compliant
EQUITY	30%	≥ 10% to 59% Not Compliant
Total	100%	

Mitigating Measures

Suggest possible mitigating measures in case the enterprise has low scores in certain criterion

Ecological	Example: Conduct of Ecological Study
Economic	Example: Conduct of Feasibility study or organizational strengthening
Social/Equity	Example: Open an equal opportunities for both and women by ensuring that the enterprise/livelihood could facilitate growth and development of the individual without sacrificing or interfering with their other roles

Preliminary List and Models of Biodiversity-friendly Enterprise

a) Sustainable Agriculture, Forestry and Coastal/Marine Resources.

- Application of biodiversity friendly agricultural practices like diversified farming (intercropping), multi-cropping, agro-forestry including sloping agricultural land technology (SALT) etc.
- Sustainable fisheries and fish farming/aquaculture practices that reduce the pressure and overexploitation of aquatic resources, seaweed farming, Integrated Multi-Trophic Aquaculture (IMTA), closed-cycle fish-rearing systems, RAS, etc.
- Sustainable fishing and enterprise developed using marine products as raw materials
- Wildlife farming (with appropriate permitting)
- Establishment of community-based or household/backyard nursery of indigenous trees/plants
- Planting of indigenous trees
- Growing traditional/indigenous agriculture crops
- Growing and sustainable harvesting of raw materials for medicinal/pharmaceuticals use
- Establishment of "wild flora gallery/production centers", sustainable horticulture or floriculture enterprises
- Production of organic products (integrated organic agriculture)
- Production of charcoal briquettes using waste materials

b) Manufacturing.

b.1. Manufacture of food products:

- Processing of fruits into jam, vinegar and candies
- Coffee and tea
- Agro-products made into chips
- Gourmet tuyo
- Canned fish

b.2. Manufacture of beverages:

- Processing of fruits into wine
- Processing of vegetables/fruits into juices

b.3. Manufacture of textiles:

- Production of handicrafts and other souvenir items/products

b.4. Manufacture of apparels:

- Production of clothing apparel using traditional/non-traditional raw materials abundant in the area
- Production of bags
- Production of foot wear

b.5. Manufacture of non-timber forest products:

- sap, resin and natural dyes
- Production of small/medium furniture

b.6. Manufacture of pharmaceuticals and cosmetics

- Medicines, supplements
- Skin and body care products
- Essential oils

c) Services

- Tour guiding
- Homestay
- Boating
- Habitat restoration
- Reforestation
- Service contractor
- Health and wellness
- Agri-tourism
- Community-based ecotourism: income sharing with entrance fees, collection of fees for homestay (if there are existing villages within PAs/KBAs)
- Public-private-community partnership for park development and management
- Allowances generated as forest/sea/lake guard/guide with priority hiring of Indigenous Peoples
- Fees collected from tour guiding/park interpretation and assistance in spelunking
- Payment for monitoring/assuring the survival of trees planted in the reforestation areas

Examples of sustainable livelihood options for coastal ecosystems (reference: DENR sustainable livelihood options in the Philippines, Coastal Ecosystem, 1997)

1.

Existing models of biodiversity-friendly enterprises that can be replicated/explored.

A market-driven strategy should be the starting point of business strategy. It provides a wide-spread perspective, resulting to more effective integration of activities and processes that impact the customer value. It is not a short-term endeavor, time is necessary to build a market-driven organizational culture and processes. This means

that the main point in every business activity should be focused always on the market and customers because the enterprise should always understand what the customers do, their behaviours, and measure the interaction among them.

In the case of biodiversity conservation, market-driven solutions that involve strong partnership with the private sector are important to reduce threats to biodiversity due to agricultural growth, unsustainable practices in harvesting forest and marine resources as well as growing tourism infrastructure development.

Some of the market based models obtained from other countries provide powerful incentives to encourage the stakeholders, the private sector, and the community to protect the ecosystems rather than exploit them. These models that can be tested and replicated include the following:

- a) **Market-driven Solution to Threats from Agricultural Expansion.** Agricultural expansion, although it provides a solution to concerns on food security, poses a threat to biodiversity leading to deforestation and other social and ecological impact. Biodiversity-rich areas are converted to farmlands which entails cutting of trees and other forest resources. This eventually results to erosion which in turn affects the community around the area. Agricultural expansion likewise has detrimental effect on fresh water and marine resources because of the high rates of nitrogen and phosphorous released from the agricultural lands. Forest conversion also leads to habitat loss.

The impact of agricultural expansion can be addressed through the promotion of biodiversity-friendly agricultural practices that within the context of Protected Areas and Key Biodiversity Areas, are the practices that use traditional and modern technologies, and agriculture and fishery management techniques to contribute in the maintenance of ecosystem resilience; protect biodiversity reserves and sanctuaries including agriculture important species, habitat networks and biological corridors; facilitate regeneration of natural habitat; protect watersheds and wild habitat against conversion to other uses; using low-input or less environmentally damaging systems that reduce soil erosion and water run-off; and adopt the principles of sustainable livestock and poultry husbandry and use of water, and coastal and marine resources.

These practices also aim to increase soil fertility and productivity, balance insect population and reduce air, soil and water pollution that affect important habitats of plants and animals. Likewise, diversification of agricultural products and promoting production of commodities with high market potential such as coffee, cacao, and other agroforestry crops may also be applied. The national government agencies, local government units, communities and private sector plays a vital role in pursuing this.

- b) **Connecting conservation-minded consumers to wildlife-conserving producers.** The process of uniting consumers and producers as constituencies for wildlife conservation demands two things: (1) a direct incentive for producers to conserve wild animals that have meaning to consumers, and (2) an explicit and

common sense link between a preferred system of production (manufacture or collection) and the conservation of iconic wild animals.

- c) **Market financing for biodiversity conservation.** Conservation organizations have long sought to use market-based financing to protect nature. Ecotourism, hunting fees, and conservation banking are some of the many market-driven efforts to conserve wildlife and protect wild lands from destructive activities. More recently, the biodiversity sector has sought consumer financing for conservation incentives. Among these efforts are various product-labelling and certification schemes—eco-labels—meant to offer a price premium or enhanced market access to producers who support wildlife conservation.
- d) **Ecotourism.** Ecotourism is the segment of sustainable tourism which is related to visitation of relatively undisturbed natural areas, including protected areas. By definition, ecotourism is a tool for conservation of natural and cultural resources (including biodiversity) and an instrument for sustainable development, especially in rural areas.