



**DEPARTMENT OF AGRICULTURE (DA)
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES (DENR)**

OCT 06 2021

DA-DENR Joint Administrative Order
No. 2021- 01

**SUBJECT : MAINSTREAMING BIODIVERSITY-FRIENDLY
AGRICULTURAL PRACTICES (BDFAP) IN AND
AROUND PROTECTED AREAS AND PROMOTING
THE SAME IN WIDER AGRICULTURAL
LANDSCAPES**

Pursuant to Article II, Section 16 of the 1987 Constitution on the policy of the State to protect and advance the right of the people to an ecologically balanced environment; Republic Act 7586 or the National Integrated Protected Areas System (NIPAS) as amended by RA 11038 or the Expanded NIPAS Act of 2018; Republic Act 10068 or the Organic Agriculture Act of 2010; Republic Act 10816 or the Farm Tourism Development Act of 2016; Republic Act 8435 or the Agriculture and Fisheries Modernization Act of 1997; Republic Act 10771 or the Philippine Green Jobs Act of 2016; Republic Act 8371 or the Indigenous Peoples' Rights Act; DA-DAR-DENR-DILG Joint Administrative Order No. 01 s. 2015 on Strengthening the Implementation Framework for the DA-DAR-DENR-DILG National Convergence Initiative for the Sustainable Rural Development (NCI-SRD); E.O. 578 Establishing the National Policy on Biodiversity; and the DENR Administrative Order No. 2016-12 Adopting the Philippine Biodiversity Strategy and Action Plan (PBSAP) 2015-2028; General Appropriations Act on Protection of biodiversity; and in compliance with the country's commitments to international agreements such as the Convention on Biological Diversity (CBD), the Cartagena Protocol on the Reporting System for Biosafety, and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA); this Order is hereby issued.

Section 1. Statement of Policy. It is the policy of the State to protect, conserve, and sustainably use biological diversity for agriculture development to ensure and secure the well-being of present and future generations of Filipinos. This Joint Administrative Order is anchored on the Sustainable Development (SD) Framework and Goals particularly on:

- a) SD Goal No. 2 End hunger, achieve food security and improved nutrition, and promote sustainable agriculture;
- b) SD Goal No. 12 Ensure sustainable consumption and production patterns;
- c) SD Goal No. 14: Conserve and sustainably use the oceans, seas and marine resources;
and
- d) SD Goal No.15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation, and halt biodiversity loss.

Section 2. Objectives. Specifically, the objectives of this Order are as follows:

1. To promote agricultural development that is compatible with the conservation of the ecosystem in areas where agricultural and fisheries activities are carried out.
2. To ensure judicious use of the country's natural resources for sustainability and to conserve genetic diversity of biological resources used for food and agriculture.
3. To initiate/strengthen the institutionalization of BDFAP in multiple use and buffer zones of protected areas, and tenured areas within key biodiversity areas through the mainstreaming of its use by occupant-tiller/farmers and tenured migrants.
4. To provide the framework as basis for the future formulation of standards on BDFAP and relevant certification and recognition systems.
5. To provide framework for covering the wider agricultural landscapes including those covered by Ancestral domains and private agricultural lands.

Section 3. Scope and Coverage. This guideline shall apply to all protected areas under the NIPAS, except Strict Nature Reserves and strict protection zones of protected areas including portions thereof that are placed under the management of other government agencies by virtue of an Executive Order, Proclamation, or Law. This also applies to the wider agricultural landscapes.

Specifically, BDFAP may be allowed in the following areas:

- a) Tenured areas in the multiple-use zones and buffer zones of protected areas;
- b) Private agricultural lands;
- c) Agricultural lands in ancestral domains; and
- d) Community-Based Forest Management and Integrated Social Forestry areas in classified forestlands.

Section 4. Definition of Terms. As used in this Order, the following terms shall mean as follows:

1. *Agriculture-Important Species* – relevant harvested and non-harvested species that contributes to or supports food production on-site (e.g. vegetables) and off-site (e.g. grass for livestock) in the wider environment. . They are also known as Sustainable Crops for Food Production.
2. *Agricultural Biodiversity or Agro-biodiversity* -includes all components of biological diversity of relevance to food and agriculture, and all components of biological diversity that constitute the agricultural ecosystems, also named agro-ecosystems: the variety and variability of animals, plants and microorganisms, at the genetic, species and ecosystem levels, which are necessary to sustain key functions of the agro-ecosystem, its structure and processes.
3. *Aquatic farms*- refer to waters and surrounding terrestrial areas used for commercial production of fishes and other aquatic resources. Waters in these farms can be characterized based on their salinity/salt content (i.e.fresh water, brackish water, and saltwater). Aquatic farms situated in inland (i.e. ponds, lakes, streams, and rivers) and estuarine bodies of water are categorized as inland aquaculture types while aquatic farms located on coastal and marine waters are considered marine aquaculture (mariculture) types.

4. *Biological diversity* or *Biodiversity* – refers to the variability among living organisms from all sources including, *inter alia*, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. This includes diversity within species, between different species and various ecosystems.
5. *Biodiversity-friendly Agricultural Practices (BDFAP)* – within the context of PAs and KBAs, are the practices that use traditional and modern technologies, and agriculture, fishery, agroforestry and multi-cropping 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 production and use of water, and fishery 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.
6. *Buffer zones* - refers to identified areas outside the boundaries of and immediately adjacent to designated protected areas that need special development control in order to avoid or minimize harm to the protected area.
7. *Community seed bank* - are mainly informal institutions, locally governed and managed, whose core function is to preserve seeds for local use. Community seed banks can take different forms, for example, seeds can be stored in pots in a shed or community buildings. Once the seeds are collected from the farmers, they are stored in a community seed bank and are shared within the community. Seeds are continually collected by farmers or replenished for the purpose of sharing.
8. *Ecosystem* – a dynamic complex of plant, animal, microorganism communities and their non-living environment interacting as a functional unit.
9. *Ex situ conservation* – refers to the conservation of plant genetic resources for food and agriculture (PGRFA) outside their natural habitat.
10. *Indigenous species* – is a species which naturally exists at a given location or in a particular ecosystem (i.e. it has not been moved there by humans). It refers to species native to a given territory that has been observed in the form of naturally-occurring and self-sustaining population in historic times; “species” in the sense of this recommendation refers to both species and the lower taxonomic categories, subspecies, varieties, etc.
11. *In situ* conservation – comprises of two main methods of conservation: (i) in situ conservation in the strict sense, which involves conservation of wild PGRFA in natural surroundings, and (ii) on-farm conservation, which can be understood as the conservation of mostly cultivated PGRFA in the agro-ecosystems where they have evolved.
12. *Key Biodiversity Areas (KBAs)* – are sites of global significance for biodiversity conservation. They are identified using globally standardized criteria and thresholds, based on the needs of biodiversity requiring safeguards at the site scale. These criteria are based on the framework of vulnerability and irreplaceability widely used in systematic conservation planning.
13. *Marine Protected Areas (MPAs)* – means a defined area of the sea established and set aside by law, administrative regulation, or any other effective means in order to conserve and protect a part of or the entire enclosed environment through the

establishment of management guidelines. It is considered a generic term that includes all declared areas governed by specific rules or guidelines in order to protect and manage activities within the enclosed area.

13. *Multiple-use zone* – refers to the area where settlements, traditional and sustainable land uses including agriculture, agroforestry, extraction activities, and income generating livelihood activities may be allowed to the extent prescribed in the protected area management plan.
14. *National Integrated Protected Areas System (NIPAS)* – refers to the classification and administration of all designated protected areas to maintain essential ecological processes and life-support systems, to preserve genetic diversity, to ensure sustainable use of resources found therein, and to maintain their natural conditions to the greatest extent possible.
15. *Occupant-tiller/farmer* – refers to Integrated Social Forestry (ISF) contract dwellers, Community Based-Forest Management (CBFM) organizations, tenured migrants of protected areas, and indigenous peoples and non-tenured occupants.
16. *Protected Area Management Board (PAMB)* – refers to the multi-sectoral overseer policy-making body created in accordance with the NIPAS Act of 1992 as amended by ENIPAS Act of 2018 for each protected area.
17. *Protected Area (PA)* – refers to identified portions of land and water set aside by reasons of their unique physical and biological significance, managed to enhance biological diversity and protected against human exploitation.
18. *Sustainable Use* – refers to the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.
19. *Tenured areas* – refers to areas covered by land tenure instruments issued by government for the development and utilization of land and natural resources in a protected area.
20. *Tenured migrants* – refers to a protected area occupant who has been duly recognized as actually continuously and presently occupying a portion of the protected area for five (5) years before the proclamation or law establishing the same as a protected area, and are solely dependent therein for subsistence.
21. *Terrestrial farms* – refer to ground-based agriculture areas deriving its main resources for production from the soil, where water needs are derived from rain-fed or irrigated supply. These farms can be situated within the multiple-use zones of protected areas, key biodiversity areas; and the wider agricultural landscapes.
22. *Wider agricultural landscapes* – refer to agricultural areas and landscapes, which may or may not share similar physical characteristics with PAs and KBAs. It is where biodiversity friendly practices may be voluntarily adopted by farmers/farm owners.

Section 5. Principles of Biodiversity-Friendly Agricultural Practices (BDFAP). In the promotion of BDFAP, the following principles shall be observed:

1. **Balance of Production and Conservation:** Agriculture production shall be in harmony with natural resource conservation. Agriculture practices shall integrate best practices in both indigenous and modern technologies;

2. Sustainable Use of Resources: Rational use of land and water shall take into consideration the bio-physical characteristics of the PAs, Buffer Zones and forest lands to include, among others, slope, elevation, soils, climate, and vegetative cover;
3. Sensitivity to the Local Needs, Culture and respect the rights of farmers and Indigenous Peoples and Local Communities: BDFAP shall be sensitive to the local needs, aspirations, gender considerations and condition and customary practices of the local communities and indigenous peoples;
4. Responsiveness to Ecosystems Requirements: BDFAP shall support and sustain the integrity and viability of ecosystems;
5. Responsiveness to Biodiversity Conservation Goals: BDFAP shall promote the biological diversity of species, genes and ecological systems including the protection of soil, water and air;
6. Multiplicity of Biodiversity Benefits: BDFAP shall adopt a production system that is supportive of both biodiversity conservation and climate change adaptation and mitigation in preventing land and water degradation. Alternative biodiversity-friendly practices should be sought and promoted to replace harmful technologies;

Section 6. Strategies and Approaches for Mainstreaming BDFAP. Guided by the principles herein, the DENR and DA shall encourage the adoption and application of BDFAP by PA and forest lands occupants through the following strategies and approaches:

1. Identification of relevant and applicable BDFAP, by taking into account the physical conditions of their areas and their farming experiences and/or the recommended best practices as mentioned in Section 7.
2. Consultation of occupants-tillers/farmers and tenured migrants with their respective Protected Area Management Boards (PAMBs) and Community-Based Forest Management (CBFM) organizations on their BDFAP for approval and incorporation into their Protected Area Management and Community Resource Management Plans.
3. Provision of technical assistance by the DA, DENR, and in coordination with relevant LGUs for the:
 - 3.1 Identification of tenured holders or occupants/tillers/farmers engaged in farming in and around the concerned PAs
 - 3.2 Promotion of a farming systems that are friendly to biodiversity which will be applied and/or incorporated in their land-use or protected area management plans through communities
 - 3.3 Monitoring the implementation of BDFAP impacts through the PAMBs and CBFM organizations
4. Extension of technical assistance by DA and DENR to stakeholders for the promotion of BDFAP in the wider agriculture landscapes

Section 7. Technical Considerations for BDFAP. A BDFAP may incorporate any of the following considerations, as appropriate and applicable:

Terrestrial Farm

The terrestrial farm consideration will cover both (i) “above the ground” (otherwise known as farm level) and (ii) below the ground biodiversity.

1. The farm is following biological or integrated pest control protocols through parasite and weed control methods that have no or minimal impacts to the animal and plant species living in the agroecosystem.
2. The farm applies methods of soil amelioration that cause no or minimal impacts to the animal and plant species living in the agroecosystem by using organic matter, fertilizers and agronomic practices suitable to restore soil fertility.
3. The farm has permanent woodland or hedge areas that minimize soil erosion and covers slope surfaces.
4. The farm helps the activity of pollinators such as bees and bats and supports the widespread propagation of endemic and indigenous flowering plants.
5. The farm employs a diversified farming and cropping system taking into consideration native/indigenous species of plants.
6. The soils of the farm are biologically active in contributing to the stability and resiliency of the agricultural system. This can be indicated by rich soil fauna.
7. The amount of soil organic matter shall be indicated by one or more of the following microbial indicators: microbial diversity, microbial abundance, soil biomass/density, and soil respiration.
8. The water source that supplies the farm has good surface water quality as indicated by live biological indicators. The quality of surface water shall also apply to on-farm water supply.
9. The air quality of the farm and its neighbouring areas should be categorized as good, following the metrics/standards set by DA-BAFPs based on the presence of biological indicators like epiphytes (small harmless plants that live on bigger plants e.g. tree trunks/barks and are dependent on moisture and nutrients from the air).
10. The farm employs water resources conservation and management including rainwater harvesting, taking into consideration the water requirement of each crop.
11. The farm employs recycling of agricultural wastes for reuse and/or generation into other farm inputs.
12. The energy used by the farm is derived from renewable sources of energy such as biomass that are produced partially inside the farm.
13. The farm contributes to the biological complexity of the agro-ecosystem and has positive influence on conservation and biodiversity increase through the use of practices such as the utilization of indigenous species.
14. The farm shall establish an in situ and ex situ conservation system. For ex situ conservation, farmers may adopt different forms of community seed banks depending on the agreed storage system of the community.

Aquaculture or Aquatic Farm

Aquaculture farms shall cover: aquatic biodiversity areas within the farm, and terrestrial areas surrounding the aquatic farm.

Freshwater Ecosystems

1. The farm conserves the integrity of aquatic communities and ecosystems by controlling non-native/invasive species in waters considered as critical habitats of endemic species.
2. The farm prevents the escape of farmed fish to prevent genetic contamination and spread of invasive species and diseases.
3. The farming practices regulate the production, sale, transport of eggs, larvae/fry, and other live fish stocks (brood stock) to minimize risk of disease and other adverse effects on farmed stocks.

4. The farm supports the conduct of researches on the development of culture techniques for endangered species to protect, rehabilitate and enhance their stocks to conserve genetic diversity of endangered species.
5. The farm promotes the selection and use of appropriate feeds, feed additives and fertilizer (including manure) inputs consistent with conservation principles.
6. The farming practice ensures the safe, effective and minimal use of therapeutants, hormones and drugs, antibiotics and other disease-control chemicals for farm and fish health management.
7. The use of farm inputs (e.g. feeds, fertilizers and fry or fingerling) results in minimal impacts to the environment.
8. The farm ensures proper disposal of aquaculture wastes (e.g. feeds, sludge, dead or diseased fish, excess veterinary drugs and other hazardous chemical inputs) to avoid hazard to human health and biodiversity.
9. The farm promotes the conservation of native cultured species including the indigenous aquatic plants.
10. The farm ensures unhampered recovery of fish stocks including aquatic plants.
11. Aquaculture activities do not obstruct and ensure that migratory species are able to migrate free from man-made infrastructures.

Marine and Coastal Ecosystems

1. The quality and type of fishing gears and practices conform to the Fisheries Code or R.A. 8550 as amended by R.A. 10654 and promote sustainable fishing;
2. The health and resilience of coastal ecosystems (e.g. seagrass beds, mangrove areas, soft bottom and even plankton community) are maintained;
3. The managed area is established with defined “no-take zones” to protect the minimum critical spawning stock biomass of fish;
4. There are spatial closures to allow fish to recover its stock;
5. Access to fishing areas, where there is spill-over from fish recovery zones or marine protected areas (MPAs) is in accordance with the management plan;
6. Consider the carrying capacity of the lake/ bay/ marine areas when setting up aquaculture farm or mariculture parks.

Section 8. General Considerations for BDFAP within Protected Areas. The implementation of BDFAP within protected areas shall be governed by the provisions of the NIPAS Act, as amended, and other relevant laws, rules and regulations, as follows:

a. Allowable BDFAP in Protected Areas

1. Traditional and sustainable agriculture and aquaculture practices shall be allowed in designated zones of protected areas¹, except in strict protection zones or when explicitly prohibited by the specific legislation or proclamation of the protected area;
2. The extent of agriculture and aquaculture practices allowed within the multiple use zone of the protected area shall be in accordance with the Protected Area Management Plan approved by the PAMB and affirmed by the DENR Undersecretary for Policy, Planning and International Affairs;². The areas covered by terrestrial and aquatic farms, as well as areas of open fisheries, shall be identified, mapped and reflected in the Protected Area Management Plan;³

¹ Rule 9.5, DENR Administrative Order 2019-05

² Section 4 (t), RA 7586, as amended by RA 11038

³ Section 9, RA 7586, as amended by RA 11038

b. Conservation of Native Species

1. The extent of agriculture and aquaculture practices allowed within a protected area shall be based on environmental impact study, which shall focus on the bioecology, socioeconomic and related aspects of the area where the project will be located;
2. For protected areas where open fishery is practiced, the Protected Area Management Office (PAMO) and the PAMB, with the assistance of relevant agencies, and supported by scientific studies, may adopt close and open seasons for harvest of a specific species;⁴
3. No exotic species, including genetically modified organisms (GMOs) and invasive alien species, shall be introduced into protected areas;⁵

c. Protected Areas Sharing Boundaries with Ancestral Domains

The Indigenous Cultural Communities (ICCs) and Indigenous Peoples (IPs) concerned shall govern, maintain, develop, protect, and conserve ancestral territories covered by Certificate of Ancestral Domain Title (CADT) or Certificate of Ancestral Land Title (CALT), that share common areas with protected areas, in accordance with their Ancestral Domain Sustainable Development and Protection Plan (ADSDPP) or Community Conservation Plan (CCP). These areas shall not be converted to agricultural use, without prejudice to the traditional and subsistence use by the Indigenous Peoples.

- d. Participation of Local Communities. Individuals engaging in BDFAP in protected areas shall be organized and form a Peoples' Organization in accordance with the provisions of DENR Administrative Order 2004-32. The Peoples' Organization may enter into a Protected Area Community-Based Resource Management Agreement (PACBRMA) with the DENR if the members are qualified tenured migrants.

The operation of community-based terrestrial and aquatic farms and open fisheries shall be in accordance with the approved Community Resource Management Plan (CRMP) of the Peoples' Organization.

The implementation of BDFAP shall not encourage migration into PAs but it may be used as an incentive in order to discourage dependence of its occupants on its resources.

Section 9. Support to BDFAP in Protected Areas and Forest Lands

1. Institutional Support to On-Farm Conservation

The DA and the DENR shall develop and adopt protocols for on-farm conservation of biological diversity, particularly for indigenous species with counterparts found in the wild (i.e. in PAs and forest lands).

2. Standards Development

The DA and DENR shall formulate standards for BDFAP based on technical considerations and experience gained from implementing these. The standards shall serve as the basis for future recognition and certification system of biodiversity-friendly terrestrial farms and aquatic farms.

⁴ *Id.*

⁵ Section 20(r), RA 7586, as amended by RA 11038

3. Capacity Building

The DENR and the DA shall lead: (1) the conduct of training needs assessment; (2) module development; (3) communication, education and public awareness (CEPA); (4) conduct of training of trainers for PAMB, LGUs and other stakeholders on biodiversity-friendly agricultural practices.

4. Extension Support through the Establishment of Demo Farms

The DA and the DENR shall pursue CEPA and provide technical assistance to LGUs in the establishment of demo farms. Demo farms will be established to showcase BDFAP in and around PA and will serve as farmers' learning centers. A demo-farm will integrate various technologies suitable to specific bio-physical land characteristics. The establishment of demo farms shall cover the identification, selection, and generation of baseline data and information needed for conservation farm planning. Demo-farms shall be community-based or established in partnership with duly organized and registered farmer groups/associations.

5. Local Policy Support

The LGUs adopting BDFAP will be assisted towards the formulation of their respective biodiversity-friendly agriculture development plans including the crafting of relevant biodiversity-friendly ordinances/resolutions e.g. LGUs to allot funds and incentives on the adoption of BDFAP in the LGU's Annual Investment Plan. The local policy adopting BDFAP can also be strengthened by a Biodiversity-mainstreamed Local Environment Code (LEC), which contains provisions and incentives for BDFAP and wise use of agricultural resources (e.g. soil and water).

6. Research and Development

The DA and the DENR shall support the conduct of research and development on biodiversity-friendly technologies and practices.

7. Incentives

The DA and the DENR shall formulate criteria for the provision of incentives including recognition for farmers, fishers, and other stakeholders observing BDFAP. The DA and the DENR shall nominate biodiversity-friendly farms to local and international recognition bodies.

Section 10. National and Regional Technical Support. At the national level, the DENR and DA shall create an oversight committee and identify composition of the technical support teams for the implementation of this Order. At the regional level, the DENR and DA regional field operating units shall also organize a Regional Technical Working Group (RTWG) or regional technical support team, which will be capacitated within one year after the issuance of this Order. The team shall work in partnership with the protected area management boards (PAMBs), fisheries and aquatic resources management council (FARMCs), state universities and colleges (SUCs), and other stakeholders in the provision of technical assistance through various but not limited to the following activities:

- a) Conduct of assessment of the BDFAP using an assessment tool that will be developed;
- b) Ensure that the farms/farmers, fisherfolks adheres to BDFAP principles;
- c) Assist in the market-linkage and promotion of BDFAP products;
- d) Initiate the identification of potential BDFAP areas;

The National Convergence Initiatives for Sustainable Rural Development (NCI-SRD) as a government strategy, shall be utilized in the promotion and implementation of the BDFAP particularly in identified convergence areas, as appropriate.

Section 11. Monitoring and Evaluation. A monitoring and evaluation sub-team within the RTWG shall be organized. With the guidance of the DENR-DA Oversight Committee; the sub-team will regularly monitor and assess the implementation of BDFAP. As such, the sub-team will assist in the inter-agency coordination works and will provide feedback and report on the implementation of BDFAP.

Section 11. Funding. The DA and DENR shall provide funds for the implementation of this Order.

Section 12. Separability Clause. If any provision of this Order is declared unconstitutional or otherwise invalid, the remaining provisions shall not be affected and shall remain in full force and effect.

Section 13. Repealing Clause. The provisions of Department Orders, Memoranda, Circulars and other issuances of the DENR and the DA which are inconsistent with this Order are hereby repealed or modified accordingly.

Section 14. Effectivity Clause. This Order shall take effect fifteen (15) days after its publication in a newspaper of general circulation and upon acknowledgement thereof by the UP Office of the National Administrative Registrar (ONAR).


WILLIAM D. DAR
Secretary
DA


ROY A. CIMATU
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DEPARTMENT OF AGRICULTURE

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