



Republic of the Philippines

Department of Environment and Natural Resources

BIODIVERSITY MANAGEMENT BUREAU

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OCT 06 2021

MEMORANDUM

FOR : The Regional Executive Director
DENR Region CAR, I, II, III, NCR, IVA, IVB, V, VI, VII, VIII, IX,
X, XI, XII, and XIII

FROM : The Director

SUBJECT : **DRAFT DENR-DILG JOINT ADMINISTRATIVE ORDER ON
ESTABLISHING THE URBAN BIODIVERSITY PROGRAM AND
ITS IMPLEMENTATION GUIDELINES**

The Biodiversity Management Bureau (BMB) is presently drafting a policy on Urban Biodiversity to provide the institutional arrangements and coordinating mechanism for the promotion and implementation of Urban Biodiversity Program by the DENR, local government units with support from stakeholders from other government agencies and the private/business sector. The development of such guideline is in pursuit of the Philippine Biodiversity Strategy and Action Plan (PBSAP) 2015-2028 adopted through DAO 2016-12. The Convention on Biological Diversity (CBD) prescribes the use of the City Biodiversity Index (CBI) which was adopted by the PBSAP as the framework or reference in developing national program on urban biodiversity.

This Bureau intends that the proposed policy shall be issued as a Joint Administrative Order between the DENR and DILG to facilitate the effective mainstreaming of the program in the urban development planning process of local government units throughout the country. The proposed JAO is also in support of the recently issued Executive Order No. 138 "*Full Devolution of Certain Functions of the Executive Branch to Local Governments, Creation of a Committee on Devolution, and For Other Purposes*" and the DILG program on *Seal of Good Local Governance*.

In pursuit of the targets of the PBSAP, we would like to convey that the BMB is currently piloting the process in the implementation of the Urban Biodiversity Program in five (5) largest cities (Caloocan City, City of Manila, Quezon City, Cebu City and Davao City). Among other targets, those related to urban biodiversity are: that by 2028, there will be a 5% increase in the proportion of terrestrial natural areas in the 5 largest cities; and that by 2028, as a result of improved conservation, ecosystem services provided by key biodiversity areas will be enhanced. The initial experience in carrying out the process for promoting urban biodiversity with LGU such as urban biodiversity assessment, mapping of green spaces, management planning and development of local biodiversity index has been adopted in the proposed JAO.

In relation to this, may we request for your comments on the attached draft policy for its further enhancement. We would appreciate receiving your inputs on or before October 25, 2021.

Should you have any clarification/inquiry related to this, your staff may kindly get in touch with Ms. Argean S. Guiaya of this Bureau through argean.guiaya@bmb.gov.ph.

For consideration.



Republic of the Philippines
Department of Environment and Natural Resources
BIODIVERSITY MANAGEMENT BUREAU



BMB202107173

DATU TUNGKO M. SAIKOL



JOINT DENR-DILG Administrative Order
No. 2021 - _____

SUBJECT: ESTABLISHING THE URBAN BIODIVERSITY PROGRAM AND ITS IMPLEMENTATION GUIDELINES

Pursuant to Republic Act (RA) No. 7586¹ as amended by RA No. 11038², RA No. 9147³, RA 7160⁴, RA No. 7279⁵, RA No. 9729⁶, RA No. 10121⁷, Presidential Decree (PD) No. 957⁸ as amended by PD No. 1216⁹, Executive Order (EO) No. 578¹⁰, EO No. 72¹¹, EO No. 138¹² and their respective implementing rules and regulations, and in furtherance with DENR Administrative Order (AO) no. 2016-12¹³, DENR AO no. 1992-30¹⁴, DENR-DILG Joint Memorandum Circular No. 98-01¹⁵; and other relevant laws, rules and regulations, and support policies, this guidelines is hereby promulgated for the information and guidance of all concerned.

Section 1. Basic Policy. It is the policy of the State to protect and advance the rights of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature. Further, it is the policy of the State to ensure sustainable use, development, management, protection and conservation of the country's environment, natural resources and cultural heritage, for the enjoyment and benefit of the present and future generations. It is also the policy of the State to integrate the conservation and protection of the environment into the local development planning process in pursuit of sustainable development.

Section 2. Scope and Coverage. This Order shall apply to all urban areas as defined under the National Statistical Coordination Board (NSCB) Resolution No. 9 – “Adoption of the Operational Definition of Urban Areas in the Philippines.

Section 3. Objective. This Joint administrative Order aims to established the **Urban Biodiversity Program** and the guidelines for its implementation. Specifically, the Urban Biodiversity Program aims to:

¹ “National Integrated Protected Areas System Act of 1992”

² “Expanded National Integrated Protected Areas System Act of 2018”

³ “Wildlife Resources Conservation and Protection Act”

⁴ “Local Government Code of 1991”

⁵ “Urban Development and Housing Act of 1992”

⁶ “Climate Change Act of 2009”

⁷ “Philippine Disaster Risk Reduction and Management Act of 2010”

⁸ “Subdivision and Condominium buyer's Protective Decree”

⁹ “Defining “Open Space” in Residential Subdivisions and Amending Section 31 of Presidential Decree No. 957 Requiring Subdivision Owners to Provide Roads, Alleys, Sidewalks and Reserve Open Space for Parks or Recreational Use”

¹⁰ “Establishing the National Policy on Biodiversity, prescribing its Implementation throughout the Country, particularly in the Sulu Sulawesi Marine Ecosystem and the Verde Island Passage Marine Corridor”

¹¹ “Providing for the Preparation and Implementation of the Comprehensive Land Use Plans of Local Government Units Pursuant to the Local Government Code of 1991 and other Pertinent Laws”

¹² “Full Devolution of Certain Functions of the Executive Branch to Local Governments, Creation of a Committee on Devolution, and For Other Purposes”

¹³ “Adopting the Philippine Biodiversity Strategy and Action Plan (PBSAP) 2015-2028)”

¹⁴ “Guidelines for the Transfer and Implementation of DENR Functions Devolved to the Local Government Units”

¹⁵ “Manual of Procedures for DENR-DILG-LGU Partnership on Devolved and other Forest Management Functions”

1. Establish institutional mechanisms to facilitate collective effort and mobilize inter-agency resources in the enhancement and management of urban ecosystems and landscapes as integral part of urban development planning process;
2. Promote the development and sustainable management of green spaces and green infrastructure to provide quality urban environment and opportunities for nature recreation, health, relaxation and community cohesion, and improved general well-being of urban dwellers;
3. Restore remnants of degraded natural forests and aquatic ecosystems and the assemblage of native flora and fauna in a network of green spaces designed to regain natural ecological processes and ecosystem functions thereby contributing to achieving resiliency of urban environment against the impacts of climate change and as part of nature-based solutions for disaster risk reduction; and
4. Promote understanding, awareness, and appreciation of the importance of urban biodiversity across sectors of society through effective and gender-responsive communication, education and public awareness strategies;

Section 3. Definition of Terms. For the purpose of this Order, the following definition of terms shall be used:

- a. Biodiversity¹⁶ - the variability among organisms from all sources, including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are a part; this includes diversity within species, between species and of ecosystems;
- b. Biodiversity corridors¹⁷ - areas of vegetation that allow animals to travel from one patch of native forest to another. Biodiversity corridors can be both natural or man-made and can function at either a local or regional scale;
- c. City Biodiversity Index¹⁸ - is a pioneering self-assessment tool designed to help cities better understand how they can improve their biodiversity conservation efforts over time;
- d. Component Cities¹⁹ - cities which do not meet the requirements of the Highly Urbanized and Independent Component Cities shall be considered component cities of the province in which they are geographically located. If a component city is located within the boundaries of 2 or more provinces, such city shall be considered a component of the province of which it used to be a municipality;

¹⁶ Section 4 (a) of Republic Act No. 11038

¹⁷ Definition adopted from ForestrySA. <https://www.forestrysa.com.au/conservation/biodiversity-corridors/>

¹⁸ Chan, L., Hillel, O., Elmqvist, T., Werner, P., Holman, N., Mader, A. and Calcaterra, E., 2014. User's Manual on the Singapore Index on Cities' Biodiversity (also known as the City Biodiversity Index). Singapore: National Parks Board, Singapore.

¹⁹ Definition was lifted from Philippine Statistics Authority. Philippine Standard Geographic Code (PSGC). Retrieved http://nap.psa.gov.ph/activestats/psgc/articles/con_cityclass.asp.

- e. Comprehensive Development Plan²⁰ – action plan utilized by every local administration to develop and implement priority sectoral and cross-sectoral programs and projects in the proper locations to put flesh on the skeleton as it were, gradually and incrementally, until the desired shape or form of development is eventually attained over the long term;
- f. Comprehensive Land Use Plan²¹ - is the long-term guide for the physical development of the local area, the framework for the management and co-management of the local territory;
- g. Ecosystem service²² - refers to the multitude of material and non-material provisions and benefits of healthy ecosystems necessary for human sustenance, well-being, and survival, including support processes, provisioning and environment regulating services, and cultural resource preservation services;
- h. Endemic species²³ - refers to species or subspecies of flora and fauna which are naturally occurring and found within the specific areas in the country;
- i. Green infrastructure²⁴ - are strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem service;
- j. Green space²⁵ land that is partly or completely covered with grass, trees, shrubs, or other vegetation. Green space includes parks, community gardens, and anthropogenic green spaces such as roof garden, roadside planting, private gardens, and urban parks;
- k. Independent Component Cities²⁶ - Cities whose charters prohibit their voters from voting for provincial elective officials. Independent component cities shall be independent of the province;
- l. Highly Urbanized Cities²⁷ - cities with a minimum population of (200,000 inhabitants, as certified by the National Statistics Office, and with the latest annual income of at least P50,000,000.00 based on 1991 constant prices, as certified by the city treasurer □
- m. Open space²⁸ – are reserved exclusively for parks, green spaces, playgrounds, recreational uses, and other similar facilities and amenities;
- n. Urban areas²⁹ – an area is classified as urban if it meets any of the following:

²⁰ Definition was lifted from DILG Local Planning Illustrative Guide: Preparing and Updating the Comprehensive Development Plan

²¹ Definition was lifted from the DILG Rationalized Local Planning System, A Source Book 1st Edition, 2008.

²² Section 4 (i) of RA 11038

²³ Section 4(j) of RA 11038

²⁴ Definition was from European Commission. Retrieved from https://ec.europa.eu/environment/nature/ecosystems/benefits/index_en.htm

²⁵ Section 2 (a) of BMB Technical Bulletin No. 2018-02

²⁶ Definitions were lifted from Philippine Statistics Authority. Philippine Standard Geographic Code (PSGC). Retrieved from http://nap.psa.gov.ph/activestats/psgc/articles/con_cityclass.asp.

²⁷ Section 452 of RA 9170

²⁸ Rule II Section 4 (c) of PD 1217

²⁹ Definition was lifted from NSCB Resolution No. 9: Adoption of the Operational Definition of Urban Areas in the Philippines.

- i. If a barangay has a population size of 5,000 or more, then a barangay is considered urban, or ☐
- ii. If a barangay has at least one establishment with a minimum of 100 employees, a barangay is considered urban, or ☐
- iii. If a barangay has 5 or more establishments with a minimum of 10 employees, and 5 or more facilities within the two-kilometer radius from the barangay hall, then a barangay is considered urban. ☐

Further, all barangays in the National Capital Region are automatically classified as urban and all highly urbanized cities would be subjected to the urban-rural criteria in order to determine its urban-rural classification. ☐

- o. Urban biodiversity³⁰ - is the variety and richness of living organisms including genetic variation and habitat diversity found in and on the edge of human settlements. This biodiversity ranges from the rural fringe to the urban core. At the landscape and habitat level it includes - remnants of natural landscapes like leftovers of primeval forests, traditional agricultural landscapes like meadows, areas of arable land, urban-industrial landscapes like city centers, residential areas, industrial parks, railway areas, formal parks and gardens, and brown fields;
- p. Urban ecosystem³¹ – An urban ecosystem, which includes cities, towns, and urban strips, is a hybrid of natural and man-made elements wherein interactions are affected not only by the natural environment but also by culture, behavior, politics, economics, and social organization;

Section 4. Guiding principles. The implementation of the Urban Biodiversity Program is guided by the following principles:

- a. **Biodiversity and ecosystem services are critical natural capital.** Biodiversity and ecosystem services are the foundation of human survival that provide the material goods, food, air, water, and the environmental conditions essential for human well-being, as well as defines our capacity to develop economically, evolve culturally, adapt to the ever changing environment, and mitigate and adapt to effects of climate change and environmental perturbations. Thus, whether in urban or rural setting, biodiversity and ecosystem services are indispensable requirements for a resilient and sustainable future of human communities.

As natural landscapes are transformed for development, species survival is compromised and remnant habitats become isolated from established patterns of ecological processes and genetic exchange. Thus, urban biodiversity planning should consider the establishment of biodiversity corridors to connect patches of remnant urban forests and natural bodies of water to the surrounding natural ecosystems to enhance ecological functions and expand habitats of urban wildlife. The key to successful ecological planning is by conserving remnant biodiversity, building

³⁰ Section 4(c) of BMB Technical Bulletin No. 2018-02

³¹ Srivastava, N., Prashar, S., Surjan, A. and Shaw, R. (2012), "Redefining Urban ecosystems", Uy, N. and Shaw, R. (Ed.) Ecosystem-Based Adaptation (Community, Environment and Disaster Risk Management, Vol. 12), Emerald Group Publishing Limited, Bingley, pp. 145-173. [https://doi.org/10.1108/S2040-7262\(2012\)0000012014](https://doi.org/10.1108/S2040-7262(2012)0000012014)

connectivity and assisting ecosystems affected by developmental activities to restore ecosystem functions and processes in the long term.

While urbanization poses challenge to the maintenance of biodiversity, urban communities have great potential to implement innovations and governance tools to achieve the urban environment that they desire. This had been demonstrated in many highly urbanized cities of the world that enjoys clean, quality, resilient and aesthetically designed greeneries in natural and man-made settings.

- b. **Biodiversity is the foundation of human-health.** Biodiversity provides ecosystems goods and services vital to our survival and well-being. It is proven that nature and biodiversity have enormous positive tangible and intangible effects on human health and well-being.

City biodiversity exposes urban residents to an environment or landscape which facilitates their appreciation for nature. Urban Biodiversity provides wide array of social, health, economic and environmental benefits to individuals as well as to the community. It provides opportunities for recreation, health, relaxation and community cohesion. Green area accessibility has been linked to reduced mortality and improved perceived and actual general health. Psychological benefits of green space increase with biodiversity and that a green window increases job satisfaction and reduces stress. (PBSAP, 2015).

Green spaces enhance opportunities for social cohesion and inclusion as they connect and build strong and resilient communities by providing opportunities for urban dwellers for leisure, recreational, and cultural and heritage appreciation. Thus, green spaces and urban parks are important component of human settlement development because they facilitate social cohesion by creating space for social interaction.

Clean water and air, effective sanitation, and the healthy management of livestock are core elements of urban public health. More positively, the health benefits that we derive from direct contact with ecosystems range from improving immune function, mood, and concentration to reducing stress, better resilience in times of adversity, improved mental and psychological well being and enhanced recovery time from sickness and injury, and enhancing the benefits of physical exercise.

Green spaces and public-transport designs that encourages walking and/or use of bicycle can lead to increased physical activity and reduced greenhouse gas emissions. Large parks containing many trees with wide canopies and minimal paving as well as green roofs and green walls contribute to the reduction the urban heat island effect by providing shade and cooling, contributing to urban heat abatement.

Urban farming is also part of urban biodiversity as it promotes dietary diversity and improve nutrition and food security while also supporting agricultural species conservation and limiting the urban food-supply "footprint." Urban farming takes advantage of underutilized spaces on the ground and overhead to bring nutrition to people. Urban agriculture is an important source of income for a substantial number of urban households. In addition to income from sales of surpluses, farming households save on household expenditure by growing their own food.

- c. **Integrated urban planning.** Urban biodiversity must be integrated in urban policy and planning in order to manage biodiversity conservation efforts and promote socially and environmentally sustainable cities. Effective land use and management of natural ecosystems in urban areas can be beneficial to both residents and biodiversity that exist within and around the city because properly-designed cities and urban areas allows for greater resource use efficiency, conservation of natural areas and green spaces and can sustainably accommodate large population in a relatively limited land area, offering improved quality of life.

Designing green spaces for biodiversity also provides resilience to urban areas and communities. This can be achieved with urban policy and initiatives such as establishment of urban parks, urban revegetation, effective zoning that considers permeable green spaces, maintenance of natural systems as part of urban design/zoning, observance of easement from natural water bodies promotion and application of green infrastructure and Nature-based Solutions/Ecosystems-based Approach for disaster risk reduction management and climate change adaptation.

Thus, it is imperative that the Local Government Units (LGU) to integrate biodiversity considerations into urban planning and policy in order to promote urban inclusiveness highlighting the importance of green spaces towards a holistic approach in creating model of healthy and sustainable cities.

- d. **Sustainable development.** Biodiversity conservation is one of the pillars of sustainable development. The UN Sustainable Development Goals (SDGs) provided visualization of interconnectedness of the goals on biodiversity and creating a sustainable and resilient urban communities. SDG 9 (Industry, Innovation and Infrastructure) aimed at resilient infrastructure that depends on the services provided by the natural habitats and ecosystems. SDG 11 (Sustainable cities and communities) intended to make cities sustainable by creating career and business opportunities, safe and affordable housing, and building resilient societies and economies. It involves creating green public spaces, improving urban planning and management in participatory and inclusive ways. SDG 12 (Sustainable consumption and production) requires carefully planned approach to minimize resource use at the time of production and to maximize satisfaction at the time of consumption. It aims to increase net welfare gains from economic activities by reducing resource use, degradation, and pollution, while increasing the quality of life. Likewise, urban development would impact SDGs 14 (Life below water) and 15 (Life on land), and SDG 13 climate change in turn has consequences on biodiversity.

Thus the promotion of urban biodiversity should be part of sustainable development agenda of local government units and a critical element of the seal of local good governance.

- e. **Environment is a social responsibility.** Recognizing that maintaining the integrity of our environment is a shared responsibility of all members of the society, it is important that strategies for the promotion of urban biodiversity should consider multi-scale, multi-sectoral, and multi-stakeholder approaches. This shall facilitate avenues and opportunities for all sectors, organizations, and individual citizens to be engaged in the biodiversity enrichment of urban landscape through volunteerism or in the case of

organizations and business groups, achieve common organizational objectives. Also, social mobilization for the promotion urban biodiversity and the realization of its benefits provide learning arenas in shaping the community values and appreciation, especially of the young generation, for a resilient and sustainable environment.

- f. Environmental equity - Urban biodiversity development should ensure the distribution and accessibility of green space to different socioeconomic groups, regardless of income, household location (e.g. subdivisions, common residential areas, informal settlements) education, gender, including differently abled members of the society. Consequently, urban biodiversity program should empower communities to become better stewards of the environment to sustain green spaces as normal part of human settlement planning and development.

Section 6. Program Components. The Program shall consist of the following components:

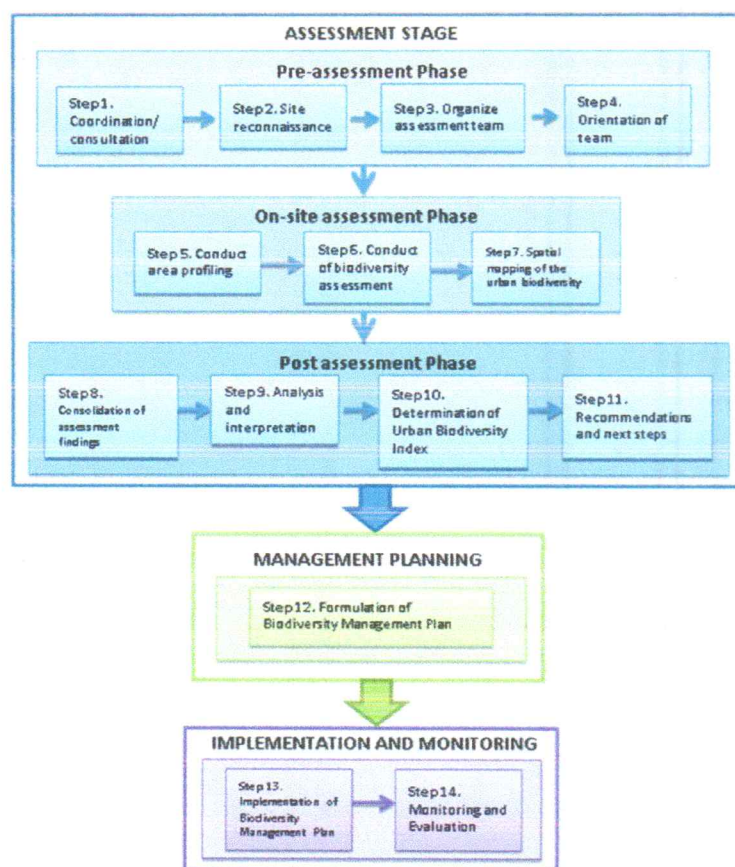
6.1. Establishment and development of Urban Green Spaces. The fundamental component of urban biodiversity is the establishment and development of open spaces into network of functional green spaces. Urban Green spaces include:

- a. Remnants of natural landscapes: forests, in-land wetlands such as rivers, marsh lands, lagoons, lakes, etc; and coastal wetlands such as estuaries, mangroves, beach areas etc. to develop public urban forest parks for forest bathing and recreation, wetland parks among other community facilities;
- b. Urban-industrial landscapes: city centers, residential areas, industrial parks, railways and transport routes, parking lots, public/government facilities (schools, government offices, etc.), private facilities and properties (e.g subdivisions, residential yards), public parks and gardens;
- c. Traditional agricultural landscapes: arable/cultivated lands within private and public lands, including private and public structures suitable or designed for urban family farming.

The development or rehabilitation of these urban green spaces shall serve to regain ecological connectivity, ecosystem functions and services, habitat of wildlife, increase aesthetics of urban areas and quality environment, and to improve human health and well-being, among other benefits

Developing urban green spaces shall also integrate the promotion of agrobiodiversity or urban family farming including food crops, herbal medicines and perennial fruit trees, in individual households, and subdivisions to contribute to food security, health and wellness, and increasing vegetation cover.

The steps in the establishment and development of green spaces shall follow the process flow provided under the BMB Technical Bulletin No. 2018-02 because it will provide for a strategic framework/perspective for assessing the current biodiversity portfolio of the area and serve as a guide for the formulation of the urban biodiversity conservation:



6.1.1. *Urban Biodiversity Profiling and Assessment.* This shall include the identification of ecosystem types and flora and fauna present in urban areas, and mapping of open spaces for urban green spaces, including potential biodiversity corridors. Data and information gathered shall serve as baselines for urban biodiversity management planning and designing of the network of green spaces. The profiling and assessment process shall be spearheaded by the LGU with assistance from the concerned DENR field office. Experts from the academe may be involved as necessary. The profiling and assessment shall be conducted in accordance with the guidelines on assessing urban biodiversity and the City Biodiversity Index (CBI) as provided under BMB TB 2018-02, and other standard methods to be provided by the DENR through the BMB;

6.1.2. *Management Plan Development.* Each urban area shall be encouraged to develop their local Urban Biodiversity Management Plan (UBMP) through a multi-stakeholder process. The UBMP shall include short, medium and long term plans for urban biodiversity developmental activities. The plan shall also mainstream climate change adaptation, disaster risk reduction, financing mechanisms, and should be gender responsive. The plan shall highlight the collective efforts of the LGU, the DENR, other government agencies, academe, business sector, NGOs, local communities and other support groups in the implementation of targeted activities making sure the urban biodiversity is a community affair of all sectors.

The formulation of the urban management plan involves the following process:

- a. Pre-planning phase. In this stage, all data and information of all the open/green spaces/parks potential for greenery in the city are compiled, reviewed and analyzed in accordance with BMB TB 2018-02. Activities includes:
 - Characterization of the existing biodiversity, resources and conditions (includes the biological, physical and socio-economic baseline and maps that are useful to the management planning);
 - Identification of local City's Biodiversity Index;
 - Identification and assessment of existing plans and policies;
 - Identification of issues, concerns, threats, and opportunities (including key management issues and planning concerns); and
 - Identification and engagement of stakeholders.
- b. Drafting of management plan. In this phase, the Urban Biodiversity Composite Team shall identify and develop the vision, goals, strategies, management principles and zoning that will guide the management of the green spaces. Activities shall include the:
 - Development of management vision, mission, goals, and objectives;
 - Identification of management strategies, interventions, and activities including zoning;
 - Preparation of Implementation Plan; and
 - Development of Financial plan.
- c. Finalization and approval of management plan. Upon the recommendation of the DENR-LGU Urban Biodiversity Composite Team, the DENR Regional Executive Director shall approve the management plan.
- d. The DENR Regional Office shall endorse the Management Plan to the concerned Local Government Unit (LGU) for the adoption of the Plan through ordinance or resolution.

The UBMP shall also be integrated with the local development plans such as, but not limited to, the Comprehensive Land Use Plan (CLUP) and Comprehensive Development Plan (CDP) of the LGUs. The formulation of the urban biodiversity management plan shall be guided by the guidelines on Urban Biodiversity Management Planning Process set the DENR through the BMB;

In the development/identification of strategies for urban biodiversity conservation, the indicators provided under the CBI shall be considered.

- 6.1.3 *Establishment of nurseries of native plants.* Plant nurseries are critical support facilities in the establishment and development of green spaces. As such, LGUs of urban areas are encouraged to maintain plant nurseries of native and

endemic species, including fruit trees/crop for agrobiodiversity. This shall complement existing plant nurseries of the DENR. The plant nurseries shall be capable of serving the scale of greening activity of a given urban area.

To support the LGU in the establishment of nurseries of native and endemic plant species, the DENR field offices shall provide planting materials and/or allow the LGUs to collect propagules or wildings in forests in their locality to ensure that native species suited to local conditions are utilized in the greening activity and thereby contribute in the conservation of native biodiversity. Such collection shall be in accordance with existing DENR protocols or guidelines. The LGUs may also source planting materials from DENR-accredited plant nurseries. Specific guidelines on the use of species for urban biodiversity development shall be provided by the DENR through the ERDB.

6.1.4 *Application of Green Infrastructure.* Approaches, technologies, and best practices on green infrastructure shall be adopted in development projects, both vertical and horizontal infrastructures such as buildings, and roads, pathwalks, etc and in urban planning and zoning in general to create a strategically design network of natural and semi-natural areas designed to deliver a wide range of ecosystem services, provide quality urban environment and bring positive impacts to mental and physical well-being of urban dwellers.

To achieve this target, LGUs shall ensure that developmental projects whether public or private shall strictly adhere to the National Building Code of the Philippines on the provision for open spaces and observance of easements from natural water bodies in accordance to the Philippine Water Code.

The promotion of green infrastructure shall, among others:

- a) Highlight standards that provide considerations for i) rehabilitation of remnant ecosystems in urban settlements such as forest patches, rivers and creeks, lagoons, swamps and marshes, estuaries coastal and marine within and around the fringes of cities; ii) protection of wildlife from impacts of artificial structures such as noise, light pollution, and collision to facilities; iii) water and waste management; and iv) energy conservation; v) promotion of green building;
- b) Provide green spaces designed for nature recreation/parks, forest bathing for human health and wellness, and a walkable city;
- c) Build biodiversity corridors to regain connectivity of urban ecosystems with the surrounding natural forests and aquatic ecosystems allowing free movement and genetic exchange of living organisms, and continuous flow of ecological processes such as pollination, seed dispersal, and natural regeneration;
- d) Employ nature-based solutions where they are applicable in environment restoration and climate change mitigation and adaptation measures, and disaster risk reduction management e.g.

restoration of natural wetlands or construction of artificial wetlands for flood control; vegetation for river bank stabilization instead of cement

LGUs shall promote the green infrastructure approach and designs in the issuance of clearances/permits, especially for government projects. The LGUs and the DENR may also develop incentive schemes for projects/entities that integrates green infrastructure in their project designs.

In coordination with the DENR field offices employment of various approaches for management and protection of remaining natural forests, swamps, marshes, lagoons, rivers and their tributaries through the establishment of protected areas, tree parks, critical habitats, local conservation areas, marine sanctuaries in accordance with existing laws and in pursuit of devolution of environment and natural resources functions.

The technical guidelines for the promotion of green infrastructure shall be developed by the BMB in consultation with experts from relevant disciplines.

6.2 Research and Development. To promote the use of endemic and native species and make them widely available for the efficient implementation of the Urban Biodiversity Program, the DENR through the ERDB shall make available the list of native and endemic species suitable of urban greening. It shall facilitate research activities to develop the propagation techniques for these native and endemic plants. The ERDB shall endeavour to make available the manual on such techniques to managers of DENR and LGUs and to the public through publications, print and media information exchange platforms and capacity building activities. ERDB shall also conduct research and development activities on, but not limited to, valuation of green spaces/parks, carbon stock capacity of green spaces, assessment of ecosystem services of green spaces, health benefits of urban biodiversity and other research areas on green spaces and urban biodiversity. The ERDB shall also recommend nature-based solution techniques, approaches and best practices applicable for developing green spaces and rehabilitation of remnant ecosystems.

6.3 Capacity Building. This will focus on the capacitation of DENR and DILG staff at the national and regional/field offices to develop their knowledge, skills and expertise on urban biodiversity conservation and management. The DENR and DILG shall develop a gender-mainstreamed training program to capacitate their respective personnel on urban biodiversity and periodically conduct training-of-trainers to roll-out modules for the program to LGUs, other stakeholders, and partners in the field. For this purpose, the DENR shall spearhead the development of a training module on urban biodiversity which shall be integrated in the training programs of the Environment and Natural Resources Academy and the Local Government Academy of the DENR and DILG, respectively.

6.4 Knowledge Management. A knowledge and information management system for urban biodiversity shall be developed and maintained at the national level through the BMB to serve as a repository and information exchange portal for resources, educational materials and best practices on urban biodiversity. The Regional Offices of the DENR and DILG, and the LGUs shall contribute to the enrichment of information to the system through data sharing mechanism within the system to be developed for the purpose.

6.5 Communication, Education, and Public Awareness. A comprehensive communication plan shall be developed jointly by DENR and DILG to effectively promote urban biodiversity to the business and infrastructure sectors, LGUs, youth, academe and the public. The CEPA Plan shall promote environmental consciousness and behavioral change to instigate voluntary action at the household or community levels, as well as participation in urban biodiversity initiatives. The DENR and DILG and their respective Regional Offices shall use various print and media platforms to effectively promote urban biodiversity.

6.6 Biodiversity Monitoring. To generate data on the status and trends of urban biodiversity (i.e species and ecosystems), biodiversity monitoring shall be undertaken bi-annually by the LGU with the technical assistance of the DENR field office and/or invited experts from the academe/local conservation NGO. For this purpose, an Urban Biodiversity Monitoring Team (UBMT) composed of representatives from the and the City ENRO/MENRO/LGU and DENR CENRO/PENRO concerned shall be created through a DENR-LGU Special Order. Existing DENR biodiversity monitoring standards and guidelines shall be used for monitoring urban biodiversity. Biodiversity monitoring shall focus on the generation of data and variables needed to evaluate the status of selected biodiversity indices identified in the City Biodiversity Index (CBI).

Section 7. Program Implementation.

7.1 Institutional arrangements.

7.1.a DILG through its Regional Offices shall provide oversight functions in the integration of the Program in the updating of comprehensive land use plans and other local plans as applicable, and in the annual work program of Local Government Units. It shall facilitate the inclusion of Urban Biodiversity Program as parameter for evaluation for the *Seal of Good Local Governance*. The DILG shall issue necessary administrative orders and guidelines to facilitate the implementation of the Program by the LGUs;

7.1.b. The DENR through the BMB shall provide the national standards and technical guidelines in the implementation of Urban Biodiversity Program. The BMB shall facilitate that the Program is included in the annual national planning guidelines of the Department and in the Unit Work Measurement of Regional field offices. The DENR through its respective regional field offices shall provide technical assistance and undertake monitoring and evaluation of the implementation of the Program by the LGUs;

7.1.c The Local Government Units (LGUs) shall integrate urban biodiversity program in their local development plans, policy-making, planning, and ordinances. In pursuit of the Mandanas Ruling (E.O. 138), it shall primarily responsible for allocation of funds for the Program. It shall ensure multi-sectoral, multi-scale and multi-stakeholder participation in the implementation of the Program among Government Agencies at various levels, Academe, Civil Society Organizations, as well as private/business sectors, academe, religious groups, peoples organization down to individual members of the community.

7.2 Adopt a City scheme. To encourage the participation of the business sector in the implementation of the Urban Biodiversity Management Plans of local government units, the LGUs may implement the *Adopt A City/Urban Scheme* through Partnership Agreements with business corporations. A corporation may support an urban biodiversity project such as establishment of an urban parks (e.g. forest park, wetland park, marine park), greening of transport routes, etc. The LGUs may issue certifications to partner business entities for any financial contributions made for the implementation of the Program which partners may present in the application of allowable tax deductions in accordance with existing government policies and guidelines.

7.3 Incentive scheme. The DENR-BMB and the DILG shall develop a scheme to recognize and incentivize Local governments Units with outstanding best practices and projects on urban biodiversity. An inter-agency Committee to be headed by the DENR-BMB shall be created to evaluate best practices and outstanding urban biodiversity project of LGUs and recommend awardees. Awardees shall receive recognition and other forms of incentives to further advance their urban biodiversity programs. The procedure for the implementation of incentive scheme and selection of awardee/s shall be provided in a separate administrative order to be issued by the DENR and DILG one year after the issuance of this Order.

7.4 Social mobilization for urban greening . To facilitate the participation of the broader society in the implementation of the Urban Biodiversity. The LGUs shall design greening projects that engages volunteers from all sectors of the community e.g schools, business groups, other government agencies, organizations, etc. The LGUs shall also encourage and provide directives to such entities for the greening of their open spaces within their own premises or designated public open spaces.

LGUs are encourage mobilize its constituents to participate in the observance of national and international environmental events and take opportunity of such events to mobilize volunteers from community members, groups, and organizations in the implementation of greening activities/projects. Local events e.g. foundation day and the likes, may also be a good opportunity to organized and mobilize communities for urban biodiversity related activities/projects.

Section 8. Monitoring and Evaluation. The DENR and DILG through their respective field/regional offices shall conduct joint annual evaluation of the urban biodiversity using the localized City Biodiversity Index developed as part of the LGU's UBMP, as the monitoring tool. Result of the monitoring shall serve as guide in the development of innovative strategies to achieve the desired level of urban biodiversity as visualized in the UBMP. Monitoring and evaluation reports shall be submitted to DENR-BMB and DILG-BLGD for national level assessment of the country's urban biodiversity program.

Section 9. Reporting. The DENR and DILG Regional Offices shall submit annual consolidated reports to the DENR Secretary through the Biodiversity Management Bureau, and to the DILG Secretary through the BLGD, respectively. The BMB shall prepare the status of urban biodiversity conservation to be integrated in the Philippine Biodiversity Strategy and Action Plan (PBSAP) implementation report to the Convention on Biological Diversity (CBD) as well as in the Philippine Development Plan (PDP).

Section 11. Issuances of Supplemental Guidelines. The DENR and DILG shall develop and issue clarificatory guidelines and technical bulletins to effectively implement the different components of the Program.

Section 12. Funding. The DENR and DILG shall allocate funds for the implementation of the Program.

Section 13. Separability Clause. If any part of this Order is declared unconstitutional or otherwise defective on any ground, the remaining parts not affected thereby shall remain valid and effective.

Section 14. Repealing Clause. All other orders, circulars, memoranda and other issuances, or parts thereof, inconsistent with the provisions of this Order are hereby repealed, amended or modified accordingly.

Section 15. Effectivity. This Order shall take effect after fifteen (15) days following completion of its publication in a newspaper of general circulation and upon acknowledgement of receipt of a copy thereof by the Office of the National Administrative Register.

ROY A. CIMATU
DENR Secretary

EDUARDO M. AÑO
DILG Secretary