



Philippine Policies Affecting Management of the Laguna de Bay Region

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INTRODUCTION

Factors deteriorating Laguna de Bay Region (LDBR)

In general, the policies governing LDBR generally aim at the judicious use of the lake resources by the various stakeholders, as well as the protection of the lake from pollution and the conservation of the lake and its watershed. The increase in population of the country generally, and within the LDBR watershed, in particular, has put pressure to the lake, especially in terms of its carrying capacity and its ability to provide the expected ecosystem services and functions.

There are many stressors of the LDBR and these are considered to be the major causes of the lake's eutrophication state. These include the change in land cover in the watershed, including urban sprawl not only in terms of increased urban dwelling places, but also industrial and commercial areas. These brought about an increase in the volume of discharges to the lake. The reclamation of shoreland areas is also another manifestation of urban sprawl. Deforestation and agriculture are also major causes of change in land cover within the LDBR, and this has contributed to heavy siltation and shallowing of the lake. For instance, Israel (2007) found out that one of the major problems affecting the Laguna de Bay basin is rapid deforestation in the watershed, which is leading to soil erosion of mountain slopes, riverbanks, agricultural lands, and siltation of the lake. In fact, an estimated 2 million tons of suspended sediment entered the lake in 2010. Siltation and sedimentation have made Laguna de Bay shallow and reduced the living space for the fish and other aquatic animals as well as navigational space for man. This sedimentation is significantly affecting the water storage capacity of the lake by making the periphery of the lake shallower (LLDA, 2016). The major threats to river basins are siltation, water impoundment, water pollution, over-exploitation of fish stocks, and clearing of riverine and floodplain vegetation. Water impoundment prevents the migration of sediment banks in the lower reaches of rivers, thus affecting the habitat of fish and other riverine species. The

estimated biological oxygen demand (BOD) load contribution of 26% from domestic wastes in 1976 (WHO/UNDP/LLDA 1978) has increased to 68% in 2000 (Borja and Nepumuceno, 2006).

Aquaculture activities within the lake has generated a lot of dispute. The contribution of these activities to the pollution loading has been a primary issue for discussion, as there has to be balance with economic contribution of aquaculture, not centered entirely to the small and commercial fishers, but also to the consumers who depend on the lake as a source of affordable food. Resource-extraction activities are also major stressors, including use of water for domestic purposes, irrigation, industrial cooling and quarrying. Navigation and tourism are also activities that use the lake resources.

This paper provides a review of the various policies affecting and governing the management of the LBDR. The policies are categorized at the national and encompassing policies and specific policies on Laguna Lake.

POLICY ENVIRONMENT FOR THE LAGUNA DE BAY REGION (LDBR)

Existing Policy Framework for LDBR

Policies and programs are in place to address the adverse effect of these stressors. The discussion on policies are classified into general, or national policies, and specific policies on LDBR. General or national policies are those formulated at the national level and are intended for application nationwide and there is the legal framework specific for aquaculture.

National Policies

Agricultural, fisheries and other related policies

All prior legislations in fishery were condensed into the Fisheries Decree of 1975 (Presidential Decree (PD) 704). The law provided opportunities to foreign investors (but maintaining 60% capital stock to local investors) to improve global competitiveness by modernizing the industry through these investments. It encouraged maximum economic utilization of fishery resources in an integrated manner while putting some limits to fishing by reserving the seven-kilometer zone to small fisherfolk (Aquino *et al.*, 2013).

Two major policies, Republic Act 7160 or the Local Government Code and Republic Act (RA) 8550 or the Fisheries Code, provide the scope for fisheries and management of aquaculture of the Local Government Units (LGUs) LGUs. Both policies clearly recognize the jurisdiction of LGUs to manage all aquaculture occurring in municipal waters. The authority of LGUs to manage the environmental impacts of land-based aquaculture can be derived from its general powers of land use planning, maintaining peace and order, maintaining ecological balance, taxation, enforcement, and legislation which is guaranteed by the Local Government Code well as other national policies. However, in 1998, the Fisheries Code was amended through RA 10654. The amendment is about how to discourage and eliminate illegal, unreported and unregulated fishing. Salient features of the aforementioned Code, specifies new management and conservation measures to conserve and manage living marine resources, fisheries and aquaculture in the Philippines and the reconstitution or establishment of fisheries institutions both at the national and local level.

Agriculture and Fisheries Modernization Act of 1997 (RA 8435) simply known as AFMA is the policy instrument defining measures to modernize simply compete in the global market.

Environmental Policies

Environmental laws help ensure the environment and the economy are equally protected and promoted because both are essential to the existence of the other. Former President Marcos implemented decrees equivalent to the Philippines Basic Environment Law which deals with environmental issues in general. These were the PD 1151 or the Philippine Environmental Policy and the Presidential Decree 1152 otherwise known as the Philippine Environmental Code, both approved in 1977. PD 1151 aimed to protect the rights of the people to a healthy environment through a requirement of environmental impact assessments and statements. In general, the conflicting demands of population growth, urbanization, industrial expansion, rapid natural resources utilization and increasing technological advances have resulted in a fragmentary concept of environmental protection. Meanwhile, PD 1152 was focused on achieving and maintaining air quality level as to protect public health and to prevent to the greatest extent practicable, injury and/or damage to plant and animal life and property, and promote the social and economic development of the country. These two PDs provided for the action of the Marcos Administration to formulate an intensive, integrated program of environmental protection that will bring about a concerted effort towards the protection of the environment through a requirement of environmental impact assessments and statements.

In addition to these laws and provisions on environmental policy, other statutes deal with the abatement, control, and prevention of pollution. Some of these are Republic Act (RA) 9003 (Ecological Solid Waste Management Act of 2000); and RA 9275 (Philippine Clean Water Act of 2004). The Ecological Solid Waste Management Act of 2004 aims at adopting a systematic, comprehensive and ecological solid waste management program that ensures the protection of public health and the environment and the proper segregation, collection, transport, storage, treatment and disposal of solid waste through the formulation and adoption of best environmental practices. It underscores the need to create the necessary institutional mechanisms and incentives, as well as imposes penalties for acts in violation of any of its provisions. The law mandates the LGUs to adopt a systematic, comprehensive and ecological solid waste management program that will ensure the protection of public health and environment. Meanwhile, the Philippine Clean Water Act of 2004 is the governing law that mandates the improvement of water quality and prevention of pollution through comprehensive and integrated water management. The act was the first attempt of the Philippine government in consolidating different laws concerning water resources management as well as water supply and sanitation. The main objective of the act was to improve sanitation and wastewater treatment in the country.

Water quality guidelines

The basic policy for Water Quality Guidelines and General Effluent Standards were taken from RA 9275 otherwise known as the Philippine Clean Water Act (Gonzales and Cleofas, 2016). The guidelines for Water Quality and General Effluents Standards is specified under the Department of Environment and Natural Resources (DENR) Administrative Order (AO) No. 2016-08. This AO provides the guidelines for the classification of water bodies in the country; determination of time trends and the evaluation of station of deterioration/enhancement of water quality;

evaluation of the need for taking action in preventing, controlling or abating water pollution; and designation of water quality management (WQMA). It also set the General Effluent Standards.

Policies on drainage, sewerage, and pollution

The country's rapid population growth coupled with industrialization efforts produced pressures to the capacity of the environment to absorb generated wastes. Untreated wastes are hazards to health and environment. Epidemics, fish kills, floods, and other related disasters proved the menace brought by poor management of wastewater. Wastewater, if not properly handled, will further reduce the remaining limited quantity of good water to the detriment of all. Being aware of these, the Philippine government has formulated policies and guidelines that will ensure proper management of the country's wastewater.

Majority of cities in the Philippines have drainage systems of particular type. However, the installation and maintenance of drainage systems is one of the major responsibilities of the LGUs. The policies, however, are directed towards the institution of systems and regulations related to proper disposal of wastes and wastewater management. For excreta disposal this is taken up under the Excreta Disposal and Drainage of the Code on Sanitation of the Philippines of 1975 (PD 856). These sanitation rules and regulations apply to all individuals, firms, public and private operators, owners and administrators engaged in the desludging, collection, handling and transport, treatment, and disposal of domestic sludge from cesspools, communal septic tanks, imhoff tanks, domestic sewage treatment plants/facilities and septage from household septic tanks. The Domestic Wastewater Disposal Policy of 1982 (PD 1096) is the law that directs for the domestic wastewater to be properly collected, conveyed, treated and disposed of in such a manner as not to pollute the environment in order to protect public health and the country's water resources as well as fish and other aquatic life, enhance the aesthetic quality of recreational areas and prevent eutrophication of lakes and other deteriorative effects of water pollution. Related to this is the formulation of the policy reforms to rationalize the planning, implementation and management of the water supply and sanitation sector. One of these reforms is the NEDA Board Resolution No. 4, series of 1994 that clarifies the roles of LGUs and National Government Agencies within the context of the Government's decentralization thrust in the Local Government Code of 1991. Excerpts of the IRR include the defined roles to be played by the LGUs in the development of water supply and sanitation and in the formation of Waterworks and Sanitation Companies and the Barangay Water Works and Sanitation Associations.

The National Sanitation Code of 1975 focused on the proper disposal of sewage, human excrement or other liquid wastes, in any place or manner except through and by means of an approved plumbing and drainage system. On the other hand, industrial wastes or wastes detrimental to the public sewer system and to the functioning of the sewage treatment plant shall be treated and disposed of as found necessary and directed by the Provincial/City/Municipal Plumbing Official. Further stipulated in this law is the installation of the wash-hand basins in premises where only food in sealed containers is sold and that wash-hand basins specified shall be installed under specifications of the National Plumbing Code of the Philippines of 1993. This articulates that all plumbing fixtures, drains, appurtenances or accessories and appliances used to receive or discharge liquid wastes or sewage shall be connected properly to the drainage system of the building or premises. For industrial wastes, it shall be treated and disposed of as found necessary and directed by the Provincial/City/ Municipal Plumbing Official. Sewage or other waste from a plumbing system which may be deleterious to surface or subsurface waters, shall

not be discharged into the ground or in any waterway unless it has first been rendered cleared through subjection to some acceptable form of treatment.

In response to the prevention and control of environmental pollution, the National Pollution Control Commission stipulated the Letter of Instruction No. 588. This orders the effective enforcement of the implementing rules and regulations of the requirements for the construction or installation of appropriate and adequate pollution control devices. The Pollution Control Officer (PCO) shall be a technical man knowledgeable in pollution control or environmental protection. Connected to this is Revised Guidelines for Pollution Control Officer Accreditation (DENR Administrative Order No. 2014-02). This Order shall cover the accreditation of PCOs establishments that discharge solid, liquid, or gaseous wastes to the environment or whose activities, products, or activities are actual and/or potential sources of land, water, or air pollution. This Order shall likewise apply to local government units (LGUs), development authority, government-owned and controlled corporations and other public establishments.

Specific policies governing laguna lake

Laguna Lake Development Authority (LLDA) was organized by virtue of RA 4850 (The Creation of (LLDA)) as a quasi-government agency with regulatory and proprietary functions. Through PD 813 in 1975, and EO 927 in 1983, its powers and functions were further strengthened to incorporate environmental protection and jurisdiction over the lake basin's surface water. In 1993, through EO 149, the administrative supervision and policy coordination over LLDA was transferred from the Office of the President to the DENR. By 2004 through the DENR AO 2004-61, the delegation of Authority to the General Manager of the Laguna Lake Development Authority to grant or deny the issuance of Environmental Compliance Certificate/Certificate of Non-coverage (ECC/CNC) for projects located in Environmentally Critical Areas (ECAS) within the Laguna de Bay Region was granted.

LLDA has 19 categories of board resolutions (BR). These are the following: Administrative Fines, Banning of Plastic Materials, Barging Discharge Permit (DP), Environmental Users Fee (EUF), Ferry System, Fisheries Code, Hog Raisers, Implementing Rules & Regulations, Laboratory Service, LLDA Clearance (LC), Permanent Headquarters, Pollution Control Officer, Reclamation, Shoreland, Survey Services, Water Permitting, Water Quality Management Area and ZOMAP. These BRs encompasses LLDA powers summed up as follows: Regulatory Powers, Planning and Policy Making, Environmental Management, Infrastructural Development and Institutional Arrangements.

LLDA also enforced pertinent BRs related to aquaculture: Board Resolution No. 23 series of 1996 (Adoption of the Environmental Users Fee System (EUFs) and Approval of the Work and Financial Plan for its Operationalization in the Laguna De Bay Basin). EUFs are primarily aimed at reducing the pollution loading into the Laguna de Bay by enjoining all dischargers of liquid waste to internalize the cost of environmental degradation and enhancement into their business decisions or actions. These rules and regulations were applied to all development projects, installations and activities that discharges liquid wastes to the Laguna de Bay Region which covered industrial, commercial, domestic and agricultural sources. These rules governed the administration of discharge permits. Any person who shall discharge liquid waste into the Laguna de Bay Region needs to secure a discharge permit from LLDA with a filing fee of Php 1,150.00, adjustable every year. Related to this is the LLDA BR 25-1996 (Adoption of the Environmental Users Fee System and Approval of the Work and Financial Plan for its

Operationalization in the Laguna De Bay Basin) which approved the budgetary requirement of Twenty Seven Million Three Hundred Twenty Six Thousand Pesos (Php 27.326M) for the implementation of the system for the first year to form as an integral part of LLDA's Annual Corporate Operating Budget for CY 1997 and be sourced or appropriated out of the EUFs Revenue.

Meanwhile, Board Resolution No. 27 series of 1996 covers the Guidelines for Fish Cage Operations. Under this BR, the permit for fishcage operations are for one (1) calendar year only providing that the no fishpen operator shall be allowed to operate a fishcage. Likewise, no fishcage operator shall be allowed to operate a fishpen. For location, relocation and transfer of site of fishcage, it must be relocated within the designated fishcage belt as per LLDA map of 1996. Request for transfer of site maybe granted, provided that relocation shall be within the fishcage belt and that the old structure be dismantled before proceeding to the construction of the new structure as per approved size and site. The operator must secure permit to relocate, duly recommended by the Head of the Lake Management Division and approved by the General Manager of the LLDA. No request for relocation shall be favorably acted upon for the unregistered fishcage operator. Moreover, no transfer of permits to operate fishcages shall be allowed except those with prior written consent of the authority. There should be only one (1) fishcage area per operator; no legitimate operator is allowed to merge his/her approved fishcage area with another operator to acquire bigger area of operation and; dummy ownership shall not be allowed in accordance with provisions of the Anti-Dummy Law. In terms of area expansion, no expansion of existing area shall be allowed. The fishcage sharing fee shall be shared with the LGUs based on the following scheme: 60% of LLDA, 35% for LGUs broken down as follows: 20% to be shared by cities/municipalities with existing fishcages off their municipal waters; 15% to be shared by all lakeshore towns and cities, 5% for the Project Development Fund.

Board Resolution No. 42 series of 1998 covers the Administrative Fines for the Violation of LLDA Rules and Regulations. The violations and administrative fines are those specifically for Operating Emission Sources such as installation without a permit to operate or discharging waste water; constructing/operating a fishpen in excess of the allowable area; construction/ of aquaculture structure without an approved LLDA repair clearance; non-observance of the required forty-meter distance between aquaculture structures; unauthorized construction of aquaculture structures outside the area approved by the LLDA; use of repair clearance/stocking clearance belonging to another person registered with the LLDA; reclamation/landfilling any portion of the Laguna de Bay and its shoreland; dredging/quarrying of materials from any portion of the Laguna de Bay and its shoreland; non-compliance with permit conditions and refusal of entry of bonafide LLDA Inspectors.

The No Fish Pen policy or the one-year moratorium on fish pens under LLDA Board Resolution 518 of 2017 (Moratorium of Operation of Aquaculture Structures Within the Laguna de Bay) is government order to restore Laguna Lake and give precedence to the small-fisherfolk whom for years have been deprived of their traditional fishing ground due to proliferation of corporate-owned fish pens. During an expert group meeting on October 6, 2016, fisheries experts agreed that there should be a comprehensive review of existing policies, including programs, technical, socio-economic and environmental considerations and health risks so that aquaculture can still be viable but proposed a moratorium on the operation of activities in Laguna de Bay. On Nov. 28, 2016, there will be no fishpen/fishcage permits that shall be issued after they expire on December 31, 2016 and no new stocking of fingerlings shall be allowed in 2017. It is declared that a one-year moratorium on the operation of all fishpens, fishcages and other aquaculture

structures shall be allowed. LLDA shall not issue any permits and clearances on any aquaculture activities in Laguna de Bay and shall direct all operators of existing fishpens/fishcages to harvest their fish stocks and demolish their structures by March 2017.

In terms of fish pen operations, surprisingly, there are no guidelines but fish pen operations but only implementing guidelines for the registration of aquaculture structures in Laguna de Bay and seven craters. These fishpen operators are large corporations and occupy a large portion of the access for fishing to the disadvantage of open water fishermen.

SUMMARY AND POLICY IMPLICATIONS

In general, national and local policies are in place but are poorly implemented. In fact, concerned agencies have lax implementation of the law. Institutionalization of the policies is quite limited as manifested by the lack in translation of national fisheries policies (i.e. RA 8550 and RA 10654) into ordinances and orders in the local level. In fact, under Section 45 of the Fisheries Code, there is an unfair provision in the law, the prohibition against fish cages in lakes. The provision states that no fish pens or fish cages or fish traps shall be allowed in lakes. About 22,000¹ fishermen rely on Laguna Lake for subsistence. These Laguna Lake small-scale fishermen should be granted the importance in the governance, legislation and institutional arrangements, highlighting rights-based administration approaches and increased assimilation of small-scale fisheries in decision-making; planning and national policies. Indeed, there is a need to harmonize applicable laws that can be used to protect Laguna Lake in general. The sole authority remains under LLDA which has the special fishery jurisdiction over Laguna.

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¹ Small fisherfolk to get Laguna Lake fisheries priority, Manila Bulletin, March 29, 2017.

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