



**POSITION PAPER OF WETLANDS INTERNATIONAL PHILIPPINES ON THE DRAFT FISHERIES
ADMINISTRATIVE ORDER NO. 197-2 SERIES OF 2024**

**SUBJECT: AMENDED RULES AND REGULATIONS GOVERNING THE LEASE OF PUBLIC LANDS FOR
FISHPOND AND MANGROVE-FRIENDLY AQUACULTURE**

Latian Internasyonal Pilipinas Inc. (LIPI, commonly known as Wetlands International Philippines) presents its comments and recommendations and further supports the review of Dr. Jurgenne Primavera:

“The subject of draft FAO 197-2 is the lease of public lands for fishpond and mangrove-friendly aquaculture. However, **there is no provision in the draft that is friendly to, or supportive of, mangroves.** It is all about fishpond/other aquaculture.” – J.H Primavera

The lack of a preamble that considers the importance and functions of mangroves and hence the consequential lack of reference to the reversion of Abandoned, Underdeveloped, and Underutilized, and Undeveloped (AUU or Unoccupied, Underdeveloped, Underutilized) fishponds to mangrove forests as an urgent action to boost food security (as part of the Sustainable Development Goals), as an adaptation to climate change, as an urgent action to boost food security (as part of the Sustainable Development Goals), and as required contribution to disaster risk reduction and management (RA 1101). This is a major gap that needs to be filled.

We fully support the initial review conducted by Dr. Jurgenne Primavera. To wit:

The definition in Section 1.23 of mangrove-friendly aquaculture **does not specify how aquaculture can be mangrove-friendly, and has no metrics.** It should be revised as follows:

Mangrove-friendly aquaculture – aquaculture method which (a) allows mangrove vegetation in at least 20% of the total aquaculture pond/pen area, and (b) does not interfere with tidal flow which is required for mangrove survival and growth because they are intertidal trees.

Pond culture (of fish, etc.) cannot be classified as mangrove-friendly aquaculture because fish require a water column or permanent high tide by means of dikes, which will destroy the mangroves by drowning because these trees need a regular ebb/low tide and flow/high tide of seawater. According to J.H Primavera, one of the scientists who conducted mangrove-friendly aquaculture experiments by the Southeast Asian Fisheries Development Center (SEAFDEC) Aquaculture Department in Ibabay, Aklan, stated that in the early 2000s kept pond water permanently at a high level to support milkfish, thereby causing the death of mangrove trees by drowning.

II. Leases and Permits should be deleted. There are no more available areas for fishpond development. All FLA AUU ponds should be reverted administratively (to DENR) and biophysically (to mangroves) based on:

- a) The **Fisheries Code or R.A. 8550** (as amended by RA 10654), Section 49 – which mandates automatic reversion back to mangroves of FLA ponds once they become AUU.

- b) According to Barbier et al. (2008), a **4:1 mangrove -pond ratio is required for environmental sustainability and maximum economic value** from combined mangrove goods, services and uses including aquaculture ponds. At present, the Philippines has a 1:1 mangrove-pond ratio (at approx. 250,000 ha each). This needs to be restored to 4:1 in favor of mangroves by reverting abandoned ponds.
- c) Carbon sequestration is important as a Climate Change Adaptation and Mitigation (CCAM) measure. Regenerating mangroves in abandoned ponds showed higher levels of C (~650 Mg C/ha) vs natural mangroves at ~350 Mg C/ha (Duncan et al., 2016).
- d) Existing fishponds may be encouraged, enjoined and supported to implement the 4:1 mangrove to pond ratio by crafting and implementing guidelines in close coordination with DENR for the mangrove portion as biological asset for blue carbon credit trading. This will attract fishpond owners and operators to conserve restore and rehabilitate the mangroves in their fishpond areas to get into the lucrative blue carbon market. This will also be good for BFAR and DENR and the Philippine government in general as it complies with the Ramsar Convention, the Biological Diversity Convention, the Sustainable Development Goals and even contribute to the Sendai Disaster and Risk Reduction Framework.
- e) Reverting of AUU fishponds along the coastline to mangrove forests needs to be prioritized as a greenbelt of 100 meter-strip for protection from storm surges with increasing occurrence of extreme events associated with climate change.

The key elements to strengthen the language are (a) Specificity on the required permit/lease, (b) Consequences for non-compliance, (c) Lack of exceptions/loopholes, and (d) Assignment of enforcement responsibility.

Moreover, the restoration of the mangrove ecosystems will also restore the lost function of nursery habitats for juvenile fish, shrimp, and crabs that supply the capture fisheries in the country. Hence, it is a win-win nature-based solution that must be aspired for the benefit of all stakeholders at present and in the future. In Kalimantan, Indonesia, Blueyou is working on expanding its already-proven concept, "Selva Shrimp." Selva Shrimp focuses on producing high-quality, sustainable seafood for a high-end market by integrating a no-input aquaculture approach with mangrove conservation and restoration.

Section 23d (Terms and Conditions of the FLA/ASC and GP) - ... mangrove-friendly aquaculture. The sentence: "***It may also be utilized for salt production.***" should be deleted. Once fishponds are used for salt production, rehabilitation, or reversion to mangrove forests will be difficult or limited to an undesirable single-species if possible.

Section 23e (Terms and Conditions of the FLA/ASC and GP) requires the ASC lessee to achieve commercial fish production at 1,500 kg/ha in 5 years. This will require clearing mangroves (for more water volume for fish) and constructing dikes to retain a permanent water column. In contrast, mangrove-friendly aquaculture produces an average of only ~300 kg/ha (Primavera, 2000). So under this draft FAO 197-2, **mangroves will be killed either by drowning (due to dike enclosure) and/or clearing (to allow more space for higher stocking density of fish)**. Therefore, this requirement should be revised to the more realistic level of about ~300 kg/ha (Primavera, 2000) production of mangrove-friendly aquaculture. Note that even though biomass production may be considered low, the value may be high if high-value species such as shrimp and/or crabs are cultured. Please see example for sustainable shrimp farming in Indonesia, or what they call "shrimp carbon," at the website- <https://bluenaturalcapital.org/projects/sustainable-shrimp-farming-in-indonesia>.

Section 23j (Terms and Conditions of the FLA/ASC and GP) - restoration with at least 50 meters along river banks, bays, and seashore, **whenever possible**. The last two words (conditional phrase) should be deleted. Restoration of mangroves along these waters should be done for food security, disaster risk reduction, climate change adaptation and mitigation. This is also consistent with environmental laws that protect easements of rivers, lakes, and coastlines. Associated Mangrove Aquaculture, an approach that is mangrove-friendly and a win-win situation for sustainable use adapts the restoration of mangroves along waterways and that is socio-economic viable (<https://www.wetlands.org/publication/technical-guidelines-associated-mangrove-aquaculture-farms/>).

Sections 23o and 23p (Terms and Conditions of the FLA/ASC and GP) only mention fishponds (species/no. of fish produced, etc.) in the required Annual Report but **do not mention mangroves at all** – their growth and survival. This means that the **ASC and GP will be renewed so long as commercial fish production (min. 1,500 kg/ha) is attained and even if some/all mangroves are destroyed. Therefore, specific requirements for mangrove growth and survival should be included in the terms and conditions for the FLA/ASC and GP.**

Based on the above arguments, mangrove-friendly aquaculture, as defined in the draft DAO 197-2 and also in the original DAO 197-1, is both **ecologically and legally infirm. It is not at all friendly to mangroves, therefore draft DAO 197-2 should not be approved. Likewise, the present DAO 197-1 should be repealed.**

Moreover, the comments and suggested/recommended revisions should be strongly considered and campaigned for among stakeholders. The needed standards and guidelines for blue carbon credits in the country must be crafted with close coordination and collaboration between BFAR, DENR, and other stakeholders. We owe it to all the stakeholders to ensure benefits for everyone, including the future generations.

We made a comprehensive review; please see the attached input and recommendations.

References

- Barbier EB, Koch EW, Silliman BR, Hacker SD, Wolanski E, Primavera J, Granek ED, Polasky S, Aswani S, Cramer LA, Stoms DM, Kennedy CJ, Bael D, Kappel CV, Perillo GME and DJ Reed. 2008. Coastal ecosystem-based management with non-linear ecological functions and values. *Science* 319: 321-323
- Blue Natural Capital Financing Facility, IUCN. 2018. Selva Shrimp Kalimantan Mangrove Shrimp Program (KMSP). The BNCF is a project in Indonesia funded by the Ministry of Environment, Climate and Sustainable Development, Government of Luxembourg. See report: <https://bluenaturalcapital.org/projects/sustainable-shrimp-farming-in-indonesia/>
- Duncan C, Pettorelli N, Koldewey HJ, Thompson JR, Loma RJA, Primavera JH. 2016. Rehabilitating mangrove ecosystem services: a case study on the relative benefits of abandoned pond reversion from Panay Island, Philippines. *Mar. Poll. Bull.* 109: 772-787
<http://dx.doi.org/10.1016/j.marpolbul.2016.05.049>
- Primavera, J.H. 2000. Integrated mangrove-aquaculture systems in Asia. *Integrated Coastal Zone Management*. Autumn edition: pp. 121-130