Aquaculture in Myanmar

Key Statistics

8.1 million hectares (ha) inland freshwater areas

- 1.3 million ha are permanent
- >200,000 ha are used as aquaculture ponds - mostly for fish and shrimp

DOF, 2020

US$ 785 million export value of fishery products in FY 2020-2021

- 8.6% decrease from previous FY, after 16% average annual growth from 2014/15 - 2019/20

GNLM, 2022; SEAFDEC, 2022

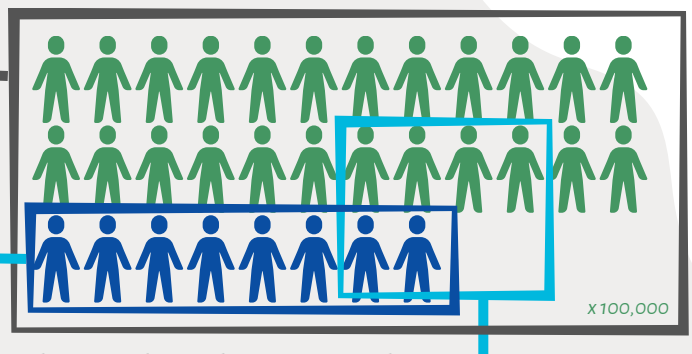
>5 MMT total fisheries production

- Around 20% are contributed by aquaculture

GNLM, 2022; SEAFDEC, 2022

3.2 million total employments in fisheries

- Around 800,000 are full-time



- >600,000 people are directly employed in aquaculture

DOF, 2020

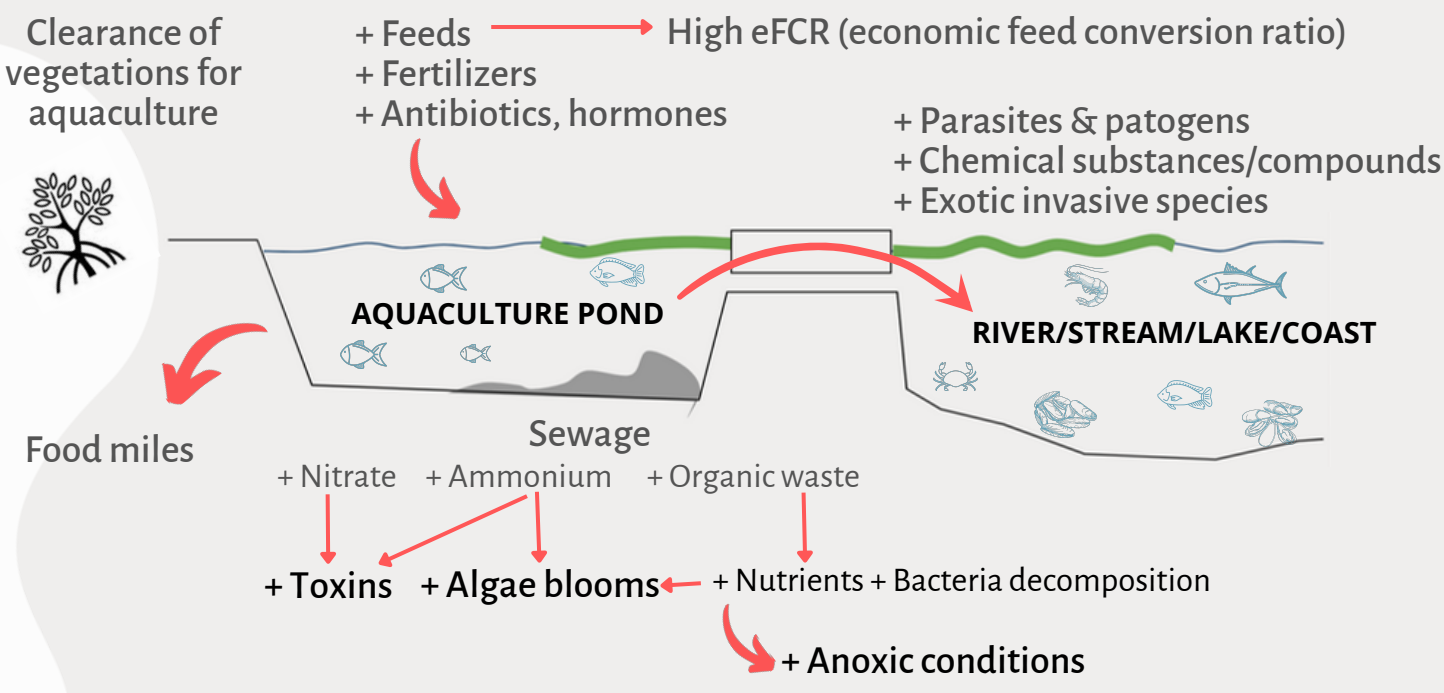
- 27% higher average daily wages at aquaculture farms compared to crop farms
- Fish farms require almost four times more labor per acre than crop farms
  - Small growout farms generate demand for 152 labor days per acre per year
  - Medium-sized farms generate demand for 41 labor days per acre per year
  - Large-sized growout generate demand for 17 labor days per acre per year

USAID FSP/MSU/IFPRI, 2017

- Aquaculture continues to be a male-dominated sector. Less than 20% of MSMEs are owned or managed by women
- MSMEs also reported that less than 10% of their casual workers are women

NGA-Myanmar, 2022

Key Environmental Challenges



Negative Consequences:

Biodiversity losses | Disruption of ecosystem processes | Water contamination
Pollutants entering food chains | Low aquaculture productivity
Greenhouse gas emissions

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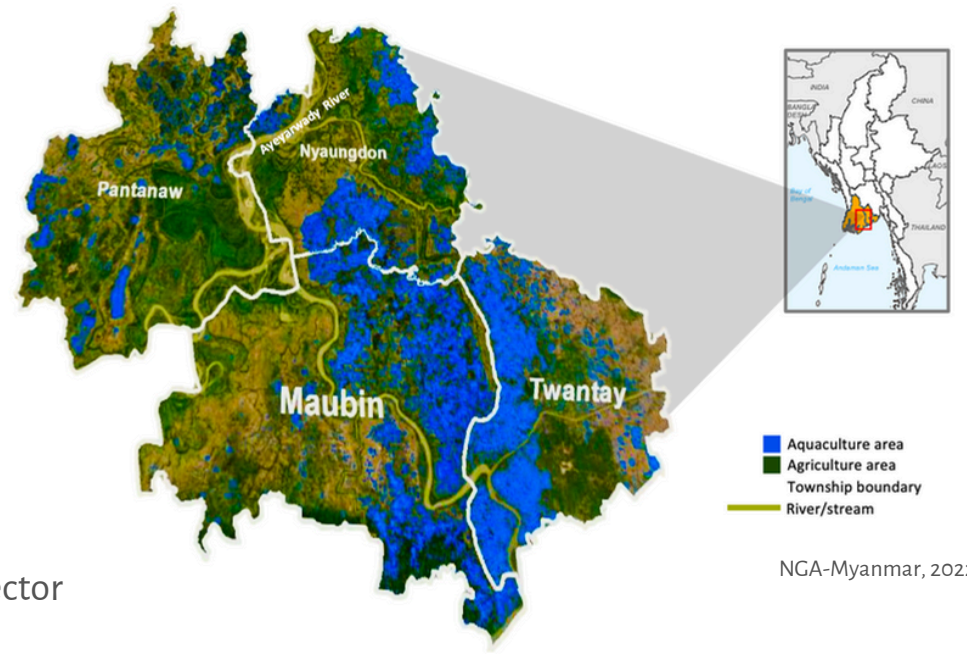
Yangon - Ayeyarwady Aquaculture Corridor

Key Production Centers



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It is home to aprox. 60% of Myanmar's farmed fish production

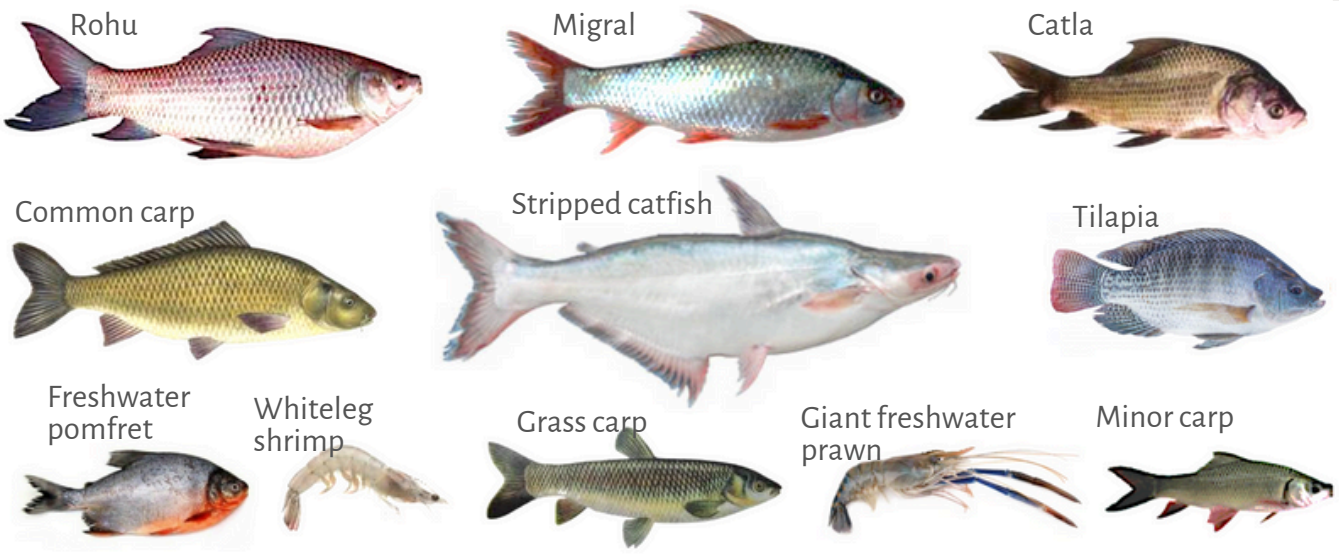
MSMEs dominate the sector

- 49% Micro enterprises (incl. informal fish farming households)
- 32% Small enterprises
- 19% Medium enterprises
- Large enterprises

NGA-Myanmar, 2022

Ponds are mainly stocked with native carp – with rohu topping the list, followed by common carp, catla and non-native tilapia

Other common species are freshwater pomfret, stripped catfish and giant freshwater prawn. Whiteleg shrimp has been more recently introduced but slowly gaining popularity.



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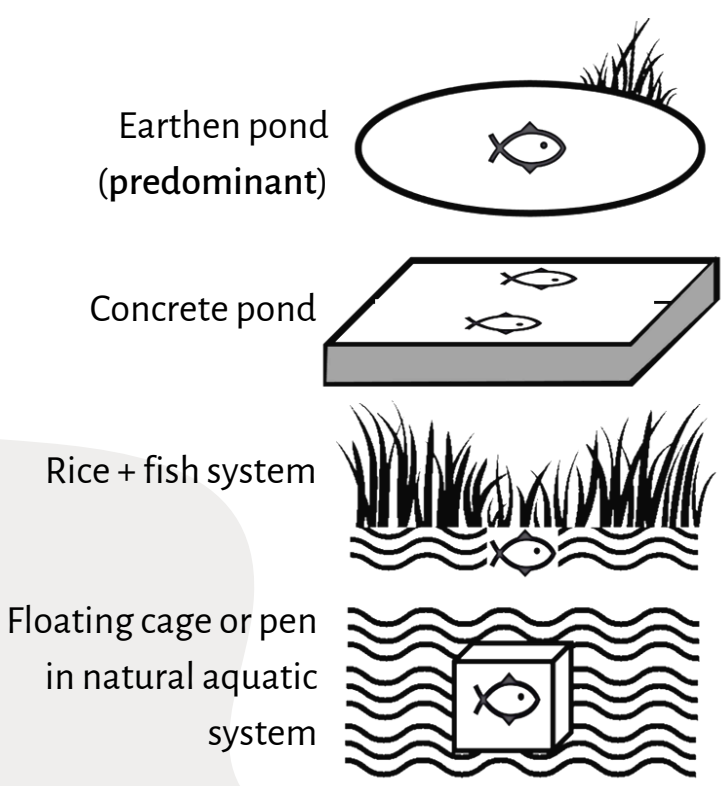
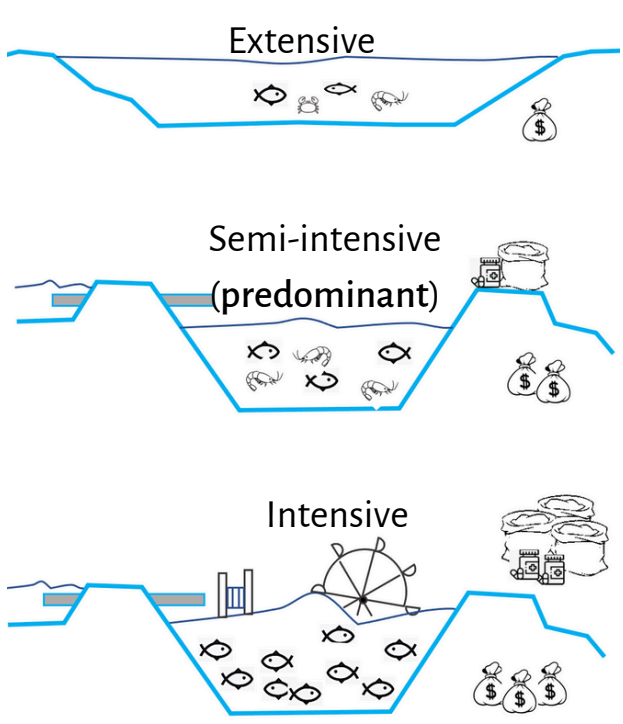
Common Production Systems

Ecosystem structure



Technology & inputs



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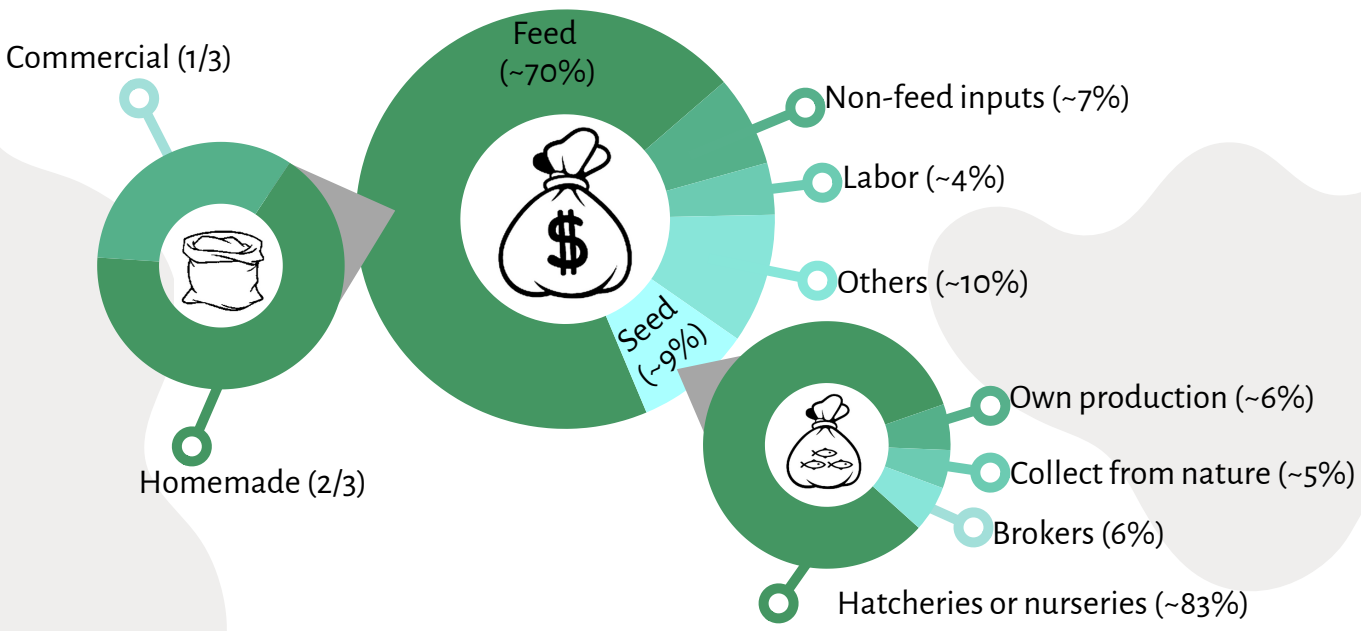
Yangon - Ayeyarwady Aquaculture Corridor

Key Features

Feed is the largest operating expenditure, on average accounting for around 70%



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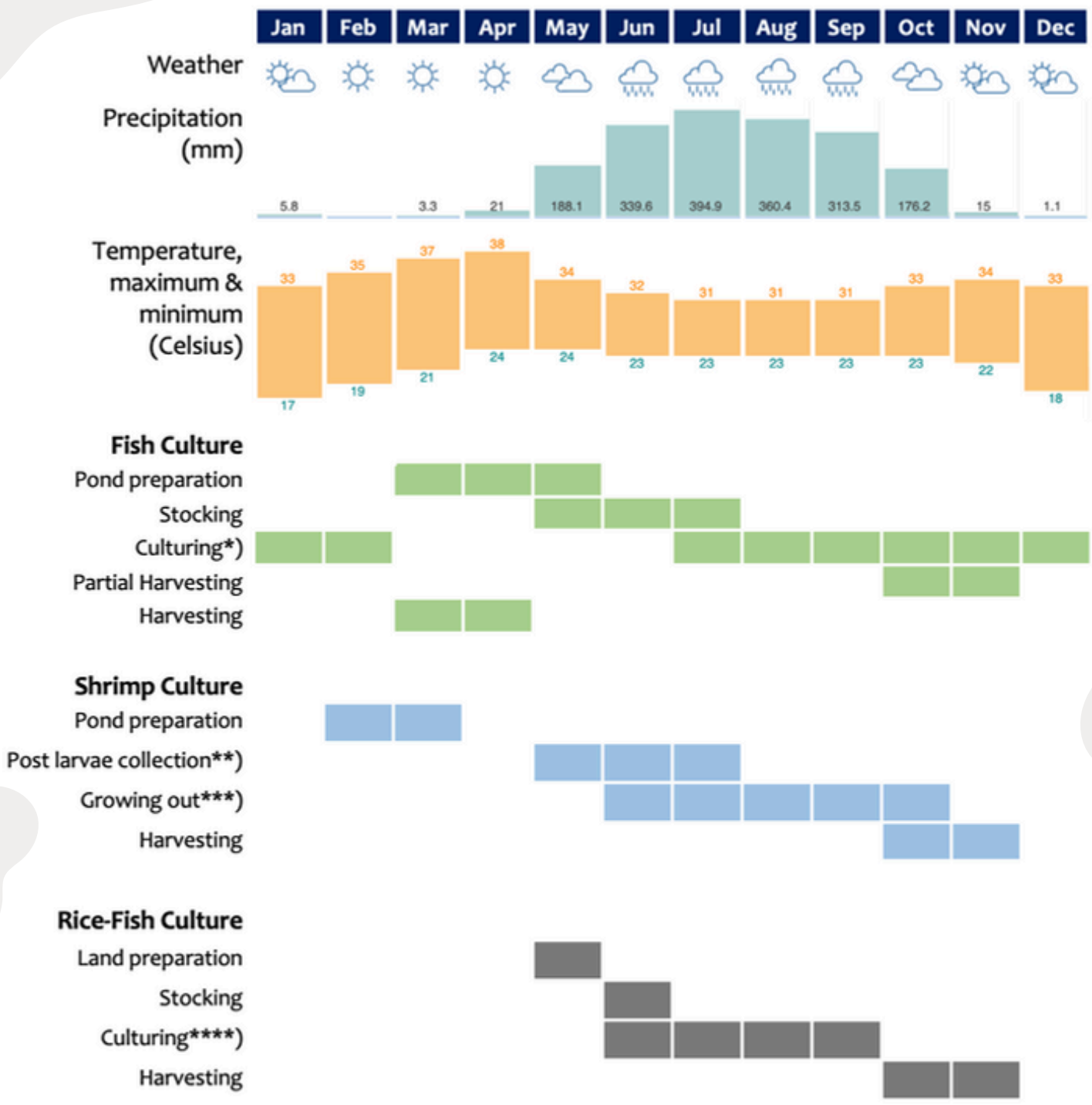
Production period varies depending on different factors, mainly variety grown



*) Period of fish culture depends on species, some are around 6-8 months, but Mrigal can take up to 2 years
**) For P. Monodon, while Vannamei post larvae comes from hatchery
***) P Monodon will take around 5-6 month growing period, while Vannamei only 2-3 months
****) Climbing perch, tilapia, or other common carp are among common fishes

NGA-Myanmar, 2022

~5 TON/HA **average yield**; relatively modest but has high potential to be increased; yield varied according to level of intensification and variety gown

Aquaculture creates local markets for goods and services, including labor, rental boats, delivery vehicle, ice, fingerling, other inputs

>2 TIMES/HA **returns generated from aquaculture compared to crop farming**; fish farming households or MSMEs are better off than the general population

Aquaculture is highly commercialized with traders from Yangon's San Pya seafood wholesale market as main buyer

NGA-Myanmar, 2022

Nurturing Green Aquaculture

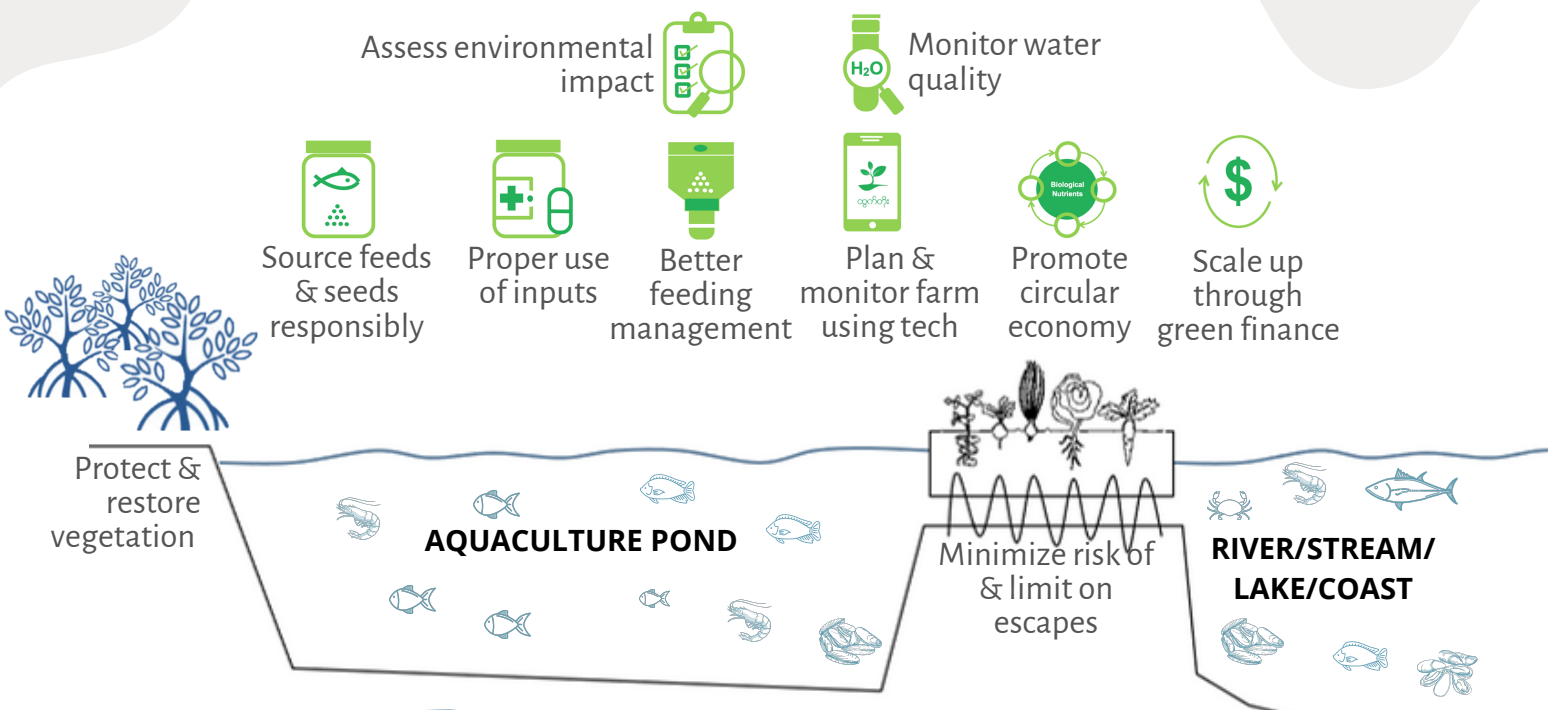
An opportunity exists to introduce green tech and production practices, to reduce costs, improve productivity while minimizing negative environmental impacts

Feed (~70%)

One of the key problems, reliance on subjective judgments made by manual labor, undermines appropriate feeding requirements and results in increased waste and cost, reduced water quality, and productivity

Improve feeding (the largest single cost item in aquaculture production) as an entry point to promote Green Aquaculture Practices (GrAqP) and tech

- Increase the feeding efficiency and lowering eFCRs, while substantially reducing feeding cost (>30%)
- Complement with other measures to further improve productivity and reduce negative environmental impacts



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Nurturing Green Aquaculture in Myanmar Programme

Quyen McGrath
Head of Projects, Village Link
quyen.mcgrath@villagelink.co

Wahyu Nugroho
Team Lead, NGA-Myanmar
wnugroho@mercycorps.org