

# Importance of Animal Welfare in Aquaculture: Health, Environment, and Sustainability

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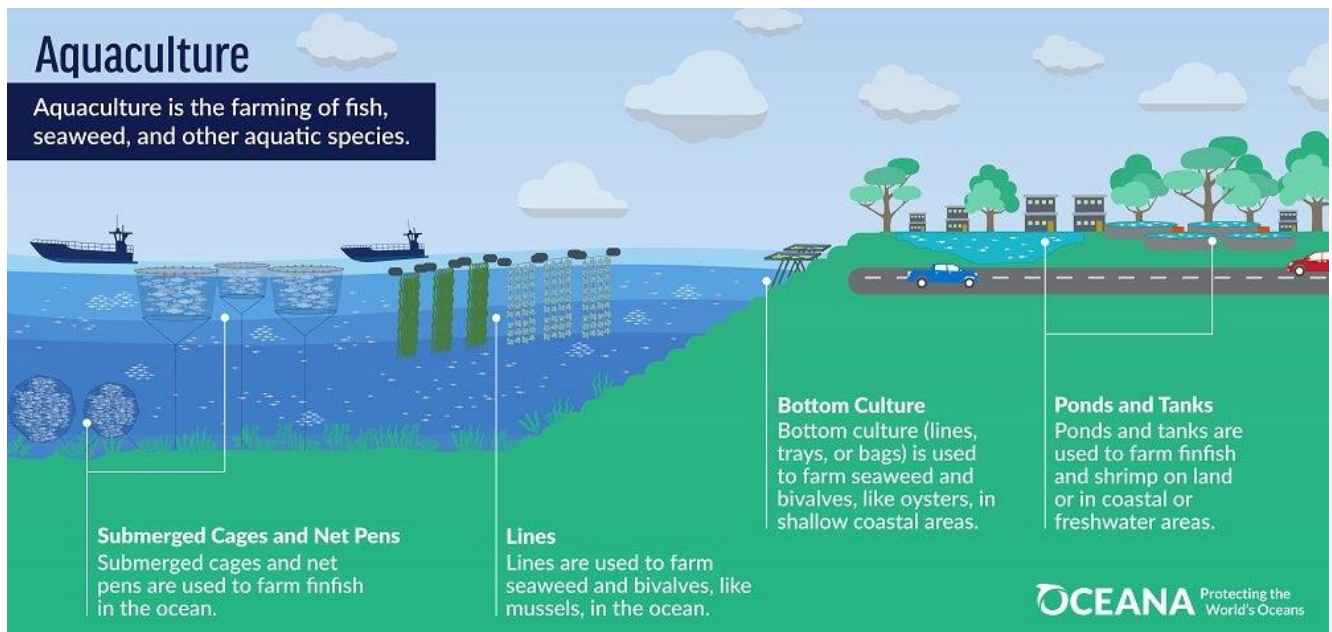
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*We celebrated my mother’s birthday at a luxurious restaurant. Amid the laughter and shared stories, my cousin, who had been on a diet, found herself in a playful argument with my aunt over a plate of prawns. “Since you’re on a diet, you won’t have these prawns, right? So much cholesterol! I’ll take these away and finish them,” my aunt teased. My cousin, with a determined look, quickly snatched the plate back, declaring, “I can leave you all but not these delicious prawns!”*

*This light-hearted banter sparked a deeper reflection within me about the unseen lives of these prawns and many other creatures in seafood farms. It led me to think about the broader implications of seafood safety and the importance of animal welfare in fish farming practices, i.e., aquaculture.*

## What is aquaculture?

Imagine visiting a bustling coastal village where the air is filled with the scent of the sea and



the sounds of fishermen preparing their nets. In one corner, you see a large pond where clusters of fish are swimming. This is a glimpse into the world of aquaculture, which is the practice of farming aquatic organisms like fish, shrimp, prawns, and oysters. As the global demand for seafood continues to rise, aquaculture has become a vital industry, nearly 50% of the world's seafood supply (Nutrition 2024).

While farmed seafood is often seen as a better choice than wild-caught, the welfare of these animals is frequently overlooked in the race for mass production.

### Why Should We Care About Fish Welfare?



Figure 2: Animal welfare and people (Source: (Animal Welfare in Aquaculture - B2E - Blue BioEconomy CoLab n.d.))

### Healthier Fish, Happier Farms

Research shows that providing oxygen pumps in fish ponds can increase survival rates up to 92% (Qayyum, Ayub, and Tabinda 2005). Imagine a world where fish in farms are stress-free and healthier. This means fewer deaths, lower costs for medicines, and ultimately, more profitable farms. Happy, healthy fish not only live longer but also ensure that farmers can sustain their livelihoods and improve their families' quality of life.

Around 820 million people worldwide work in fisheries and aquaculture (n.d.). When fish are healthy, these workers can maintain high-quality standards, leading to increased profits and eligibility for international certifications that consumers trust.

## **The Ripple Effect on Human Health**

Just like us, fish can get sick. Poor farming practices like inadequate feeding, rough handling, and cramped living conditions can lead to disease outbreaks. To combat this, farmers often rely on drugs and antibiotics in aquaculture. However, this not only drives up costs but also poses a risk to human health through the transfer of pathogens and antimicrobial resistance (AMR) (Antimicrobial resistance n.d.).

A study revealed after sampling several hundred aquaculture farms in India that 40% of these farms used antibiotics as a preventive measure (Study finds hazardous levels of insecticides, antibiotics in fish, shrimp farming in 10 states 2021). This means that when people eat farmed shrimp, there's a risk of picking up harmful bacteria or even contributing to antibiotic resistance. Worryingly, these resistant bacteria can stick around in humans even after the shrimp have been processed and cooked. However, if the animal has an active immune system maintained by safe practices, the infection will be fought off naturally. Healthier farming practices mean fewer antibiotics in aquaculture, leading to safer seafood for us and preventing potential health issues. This ensures that the fish we consume are safe and nutritious.

## **Protecting our ecosystems**

High-density fish farming, small cages, and excessive use of chemicals can lead to significant environmental problems. Fish often escape from farms, interbreeding with wild populations and spreading diseases. Toxic waste from farms can pollute waterways, reducing oxygen levels and harming aquatic life.

Take, for example, Kolleru Lake in Andhra Pradesh, India.

Once a pristine ecosystem, it became heavily polluted due to aquaculture activities. Excessive nutrient loads have caused eutrophication in some parts of the Kolleru Lake. In general, pesticides were present at all the locations of Kolleru Lake.

By promoting better welfare practices, we can create environmental sustainability. Healthier farmed fish can reduce the need to capture wild species, leading to cleaner waterways and a balanced ecosystem.

How? Within the same state, a shrimp farm adopted better management practices such as regular health check-ups, strict monitoring of water quality, and eliminating chemical use. The result? A 30% increase in shrimp survival and a significant boost in profits (N R et al. 2009). This success story demonstrates that investing in animal welfare not only benefits the animals but also leads to more prosperous and sustainable farming.



Call to Action...

As consumers, we have the power to drive change. By choosing seafood from farms that prioritize animal welfare, we can support sustainable practices that benefit the environment, improve human health, and ensure the well-being of countless aquatic creatures. Let's advocate for better regulations and support initiatives that promote humane and eco-friendly aquaculture practices. Together, we can make a difference. Healthier fish mean healthier people and a healthier planet.

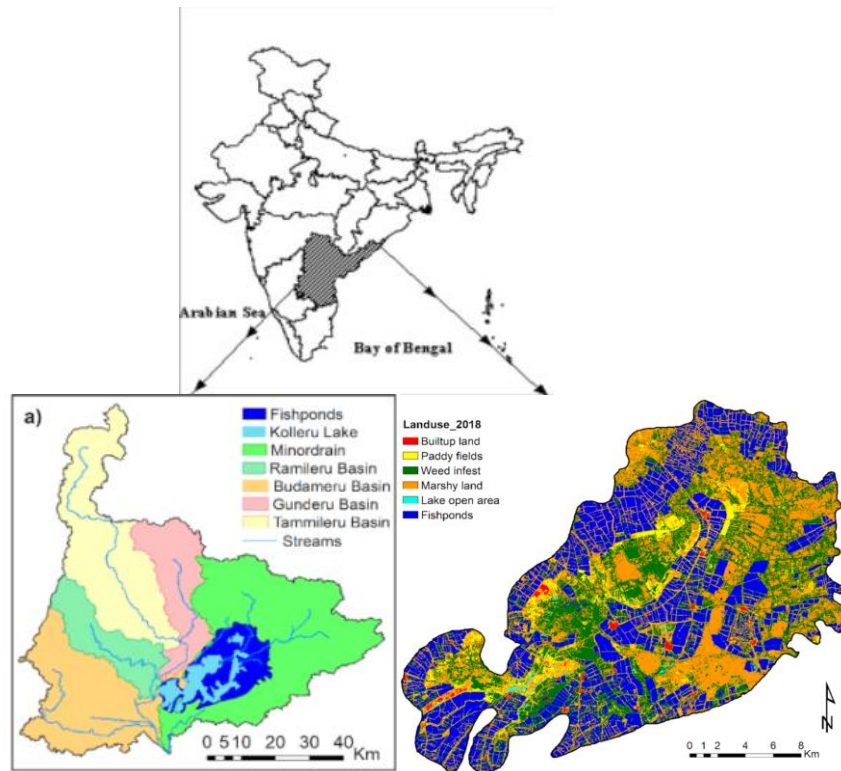


Figure 3 : Maps showing location of Kolleru lake in India and land being used for different purposes in Kolleru lake wetland in Andhra Pradesh in 2018 (Source: (Kolli et al. 2020))

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