

Blue Revolution to Blue (in) Justice?

*A small-scale fisher Story from Prathikola Lanka, Lake Kolleru,
Andhra Pradesh, India*

By

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According to the UN's Food and Agriculture Organization (FAO), aquaculture is the fastest-growing food production industry in the world. India ranks second globally in aquaculture fish production, contributing more than 8 percent of the world's farm-raised fish. Evidence shows India has achieved this due to the allocation of massive subsidies as part of the Blue Revolution to boost the economy by increasing the production of marine products.

We ask what happened to Blue Revolution. But who benefits from it? And what costs? And why are we now advocating for Blue Justice? To answer these questions, we try to unpack and cut the clutter by presenting real-life stories and their livelihood strategies from Lake Kolleru.

Blue Revolution and Blue (in) Justice of Kolleru Lake livelihoods:

The Blue Revolution became a double-edged sword for people living on the Kolleru Lake. The rapid development of aqua and prawn culture in Andhra Pradesh since the 1980s led the State to earn the title of India's top seafood exporter. Local (elite) communities overwhelmingly supported and invested in aquaculture's expansion and boom, but the poor fishers and other landless now lament the loss of the lake as a source of food and drinking water and the dramatic decline in the local fish catch and the nonarrival of the migratory birds resulting the ecological imbalance of the Lake and economic livelihoods.

Aquaculture was introduced in this village during the 1980s. Over the years, prawn culture was promoted, which changed the dynamics of small-scale fishers and their lives, as well as Kolleru's ecological systems.

Media reports documented how Aquaculture turned Kolleru Lake, known for Its biodiversity, into fishponds. Until the 1980s, Kolleru Lake was a sprawling, shallow body of water. At its deepest during the monsoon, the water only reached 10 feet, yet the lake covered 904 sq. km.

Local farmers from the bed and belt villages of Kolleru would sow Paddy (rice) plantations in the summer and the monsoon season (April to July) and then harvest the

rice later in the year when the lake's boundaries had receded. However, since the 1980s, as the local carp and shrimp industry promoted and expanded, hundreds of fishponds were built farther into the lake to harvest them, and the water was severely degraded. As a result, today, many farmers cultivating paddy have given up farming, and migratory flamingos, along with many other bird species, are beginning to disappear due to lake pollution and other threats.

Monika Mondal wrote for the Science section of the Wire: *After 30 years of land use change in Kolleru, the region is marked with houses, shops, roads, and human-made ponds. On any given day, fish farmers tend to their stocks – tossing feed into the water, extending nets, and otherwise contributing to a growing aquaculture industry centered on carp and shrimp. As this industry has expanded, it has fundamentally reshaped the region's topography. Once limited to the shoreline and shallows, these fishponds are now being built farther and farther into the lake. As a result, scientists say, the water has been severely degraded. Not only that, but what remains for most of the year cannot rightly be called a lake.*



MONIKA MONDAL

Farmers examine their catch from a human-made fish pond. On Kolleru Lake, ponds such as this were once limited to the shoreline and shallows. Photo: Monika Mondal/Undark

Fishing Livelihoods are at Stake:

Prathikolla Lanka is home to various communities, including the Vaddera and Mangali (barber) communities and other Scheduled Castes (SC). Members of these communities contribute significantly to the village's social and economic life, with many involved in fishing and labor-related activities. Their skills and traditions play an essential role in the local economy, particularly in the fishing sector, where they engage in fishing and related labor. This diverse community adds to the cultural richness of Prathikolla Lanka, fostering a sense of unity and cooperation among its inhabitants.

The Vaddera community in Eluru District is a Scheduled Caste (SC) group known for its manual labor skills in construction, agriculture, and fishing. It has rich cultural traditions but faces challenges like social stigma, economic hardship, and limited educational opportunities. The lives of these small-scale fishers in the Vaddera community depend on many factors. Men and women work together in traditional and modern aspects of the fishing industry, contributing significantly to the local economy and culture. The primary livelihood revolves around fishing, a vital source of income for both men and women.

During the fishing session from June to March, men and women work in Prathikolla Lanka, home to numerous fishponds. However, the exact number can fluctuate over time due to the excavation of new ponds and the neglect of older ones. Several factors contribute to the abundance of these fishponds in the area. The proximity to Kolleru Lake makes the region ideal for fish farming. Additionally, fish cultivation is promoted as a crucial source of livelihood for the local community, providing essential economic support. The favorable geographical conditions, including rich soil and ample water supply, further enhance its suitability for aquaculture, making it a vital part of the local economy and culture. The daily wages for men to work in a fishpond or agriculture-based typically amount to ₹600, while women earn around ₹500. This manual labor based on cash payments is critical in sustaining the local

economy and supporting their families.



Map: Location of Prathikolla Lanka

Beyond fishing, the community members also engage in other livelihood activities, such as animal

husbandry and prawn cultivation. This additional labor work provides the families some economic cushion during the off-season and supplements their income when the fishing season is over.

Here is the story of a small-scale fisher, Narasamma, from Prathikola Lanka village, who survived these vagaries of blue revolution. This village, situated in the Eluru district near Kolleru Lake, is home to a fishing community primarily belonging to the Vaddera caste. In this quiet village of Prathikola Lanka, nestled in the Kolleru Lake, lives a family whose story of survival and resilience is a testament to the strength of the human spirit.

Story of Saidu Venkateswaramma:

Venkateswaramma, aged 56, is the wife of Saidu Ramarao and resides in a modest home with three daughters and one son. Life has not been easy for this family, but they have faced every challenge with courage and determination to secure their livelihoods threatened by Kolleru Lake pollution and encroachments.

Venkateswaramma 's eldest daughter, Kumari, has faced her share of hardships. Married young, she was deserted by her husband and now resides with her mother. Kumari's education ended at the 7th standard, limiting her opportunities, but her strength is undeniable. Despite her struggles, she remains resilient and helps her mother with the daily household tasks. Kumari represents the silent struggles of many women in rural Andhra Pradesh, especially those who find themselves without the support of their spouses. Living with her maternal family, Kumari and her labor contribution are now integral to their family's survival.

The second daughter, though more fortunate in terms of her marriage and facing challenges, recalls Venkateswaramma. Her second daughter studied up to graduation and is now living with her husband. Her education provided her with better opportunities to support her family. Her story reflects the contrast between sisters who have lived vastly different lives but remain bonded by shared experiences.

Like her second sister, the third daughter completed her graduation, studying at St. Theresa College for Women in Eluru. She is seen as a beacon of hope in the family, representing the possibility of breaking the cycle of poverty and struggle.



In the past, Venkateswaramma and her family worked in Nellore (a distant district about 400 away from the village), a town known for its fish farming. Life in Nellore was tough, especially during times of drought. To survive, the family worked as guards at fishponds, earning a meager salary of ₹10,000 per month. Venkateswaramma and her husband, Rama Rao, lived in a small hut near the pond,

cooking for their twin children, who attended the local Anganwadi school then. It was a life of hard labor, but it provided the family with sustenance.

Unfortunately, due to her husband's deteriorating health, they could no longer work at the fishponds in Nellore, another coastal district of Andhra Pradesh. Ramarao, once a fisherman, was forced to stop going to sea because of his health issues. However, he still visits the riverbank to catch small fish, bringing home about 2 kilograms, which they sell to local buyers. This small income, combined with Venkateswaramma's efforts in catching and selling fish locally, brings in about ₹100 to 200 a day.

Despite these challenges, Venkateswaramma is resourceful. In addition to fishing, she worked as a tutor, earning ₹200 per day. She teaches at a local school, making ₹3,000 a month. Though the income is modest, it helps sustain the family. The couple also relies heavily on government rations (PDS) and the old-age pension of ₹4,000 that Ramarao receives.

Venkateswaramma and her husband's health are a constant concern. Both have diabetes and high blood pressure, spending a significant portion of their income on medicines. Access to healthcare is limited, and when they need to visit a hospital, they must travel to a private or government facility, which isn't always affordable. During floods, survival becomes even more difficult, as already limited resources become scarce, and they cannot borrow money from anyone.

After spending several years in Nellore, the family returned to their native village following the COVID-19 pandemic. The struggle to provide for their daughters and manage medical and health expenses has been an ongoing challenge. Despite his aging, Ramarao still works hard. He cleans toilets and cooks for the children in the local school, earning ₹6,000 per month. Even though he is five years older than his wife, his dedication to his family remains unwavering.

The family no longer owns fishponds, which were once a source of livelihood. Venkateswaramma and her family survived despite their hardships through sheer determination and resourcefulness.

Changed Occupations:



Visual: a fisherman works as a daily wage laborer



Figure: Palm boats continue to hold a unique place in fishing cultures

Prathikola Lanka, we see the use of traditional boats during cultural events, even though modern boats have largely taken over. The fact that 36 palm boats are still available in this village suggests they may still be used for fishing or traditional activities, which can be essential for preserving cultural heritage.

Disaster Preparedness:

The recent 2024 and 2000 floods in Andhra Pradesh severely impacted Prathikola Lanka and nearby villages, commonly known as "Lanka" villages in the delta region. Surrounded by rivers and prone to flooding, these areas experienced extensive damage due to heavy rainfall and overflowing water bodies. The affected villages were Pedapudi Lanka, Chinapulli Lanka, Tamarapalli Lanka, Gogannamattam Lanka, and Gudapalli Lanka.

Local media reports highlighted the challenges faced by these villages, such as floodwaters inundating homes, roads, and agricultural fields. Many fish ponds, a significant source of livelihood in these areas, were flooded, resulting in the erosion of embankments and the loss of fish stocks. The damage to aquaculture and agriculture caused severe economic hardships for the residents.

Government relief efforts focused on providing immediate aid to the affected communities, including essential supplies and temporary shelters. Additionally, recovery initiatives included rebuilding infrastructure, restocking fish ponds, and reinforcing flood defenses to protect these vulnerable Lankan villages from future flooding.



Visual: Disaster Protection Shelter building (is in itself a disaster due to no maintenance)

The cyclone shelter at Prathikola Lanka, established by the Government of Andhra Pradesh's Revenue Department, is supposed to protect the local community during disasters.

This shelter was inaugurated on July 3, 1985, by Sri Shraavan Kumar, I.A.S., then the Second Secretary to the Government of Andhra Pradesh in the Revenue Department. The project was made possible through the sponsorship of the European Economic Community in collaboration with the Government of Andhra Pradesh. The Roads and Buildings Department (R & B) managed the construction, with Sri Kanturu Subba Raju as the overseeing contractor. This shelter reflects a significant effort to enhance disaster resilience through international support and local government initiatives.

Kolleru Bird Sanctuary:

The declaration of bird sanctuaries near Prathikola Lanka in 1999 was a significant step towards Lake conservation. This region, part of AP's deltaic and coastal ecosystem, is a natural habitat for diverse local and migratory bird species. Establishing these sanctuaries aimed to protect these natural habitats from threats like habitat destruction and pollution.

These sanctuaries are supposed to serve as safe nesting and roosting habitats for both resident and migratory birds, providing them with nesting, breeding, and feeding grounds. They also contribute to eco-tourism and bird-watching activities, fostering environmental awareness and community engagement. This initiative highlights the State's plan for ecological protection and preserving crucial ecosystems. However, we found no evidence or stories of people's involvement in declaring these sanctuaries. Initially, communities saw the government's initiative against their livelihoods.

Declaration as a Ramsar Site:

After declaring and marking the boundaries of Kolleru Bird Sanctuary in 1999, the Lake was designated a Ramsar site in 2002. The Wildlife Bird Sanctuary covers an area of 308 square kilometers.

The Lake is a recognized wetland of international importance, underscoring its critical role in supporting biodiversity and ecological health. Located between the Godavari and Krishna River deltas in Andhra Pradesh, Kolleru Lake is one of India's largest freshwater lakes, covering up to 900 square kilometers during peak monsoon. The Lake is a unique and diverse ecosystem that provides a habitat for various wildlife, including fish, amphibians, reptiles, and migratory birds (<https://rsis.ramsar.org/rsis/1209>).

Environmental advocates thought this Ramsar Site designation protects Kolleru Lake under the Ramsar Convention, an international treaty to conserve and sustainably

manage wetlands. By being part of this convention, Kolleru should have been safeguarded against practices that may harm its ecological balance, such as overfishing, pollution, and encroachment. Currently, the reality on the ground is different.

The Lake is especially significant for its bird population, supporting numerous migratory species like the grey pelican, painted stork, and Asian openbill, which come to breed and feed in the area. The lake also serves as a crucial source of livelihood for local fisher communities who depend on fishing and agriculture around its banks.

The Ramsar designation mandates sustainable management practices to ensure that Kolleru Lake continues to provide essential ecosystem services, including water purification, groundwater recharge, and flood control. Efforts to maintain the lake's health also contribute to preserving its biodiversity and sustaining the livelihoods of the communities dependent on it. The Ramsar recognition brings national and international attention to Kolleru Lake, helping secure resources and commitment for its long-term conservation and wise use.

Operation Kolleru

Operation Kolleru, launched in 2006, was a significant initiative to revive the health of Kolleru Lake in Andhra Pradesh. Once a thriving ecosystem, the lake faced severe degradation due to encroachment, pollution, and overexploitation of resources.

A key aspect of Operation Kolleru involved the demolition of numerous illegal fishponds that had encroached upon the lake's natural habitat. Additionally, encroachers were evicted to protect the lake's ecological integrity. Efforts were made to restore the natural flow of water into and out of the lake, which is crucial for its health and the survival of its diverse flora and fauna. Furthermore, the initiative included ecological restoration measures like planting trees and restoring native vegetation to stabilize the environment and enhance biodiversity.

Despite significant progress, challenges persist. Continued encroachment and pollution from surrounding urban and agricultural areas threaten the lake's health. Climate change-induced alterations in weather patterns can further impact the lake's water levels and biodiversity. Invasive species also threaten the delicate ecosystem. To ensure the long-term sustainability of Kolleru Lake, it is imperative to involve local communities in conservation efforts, strengthen monitoring and enforcement mechanisms, and implement effective management strategies.

Ray of Hope:

Against the backdrop of floods, droughts, and health crises, Venkateswaramma's story represents the struggles of many rural families in India. Their resilience reminds us of the strength of community and family bonds. They find ways to make ends meet

through fishing, teaching, or even cleaning schools. For Venkateswaramma and her family, survival is a daily challenge, but they face it head-on, supporting one another with unwavering love and determination.

As we unfold Venkateswaramma's story, it becomes clear that her family has a deep emotional connection with fishing. Images of their fishing as a way of life adorn the walls of their home, showcasing their love and attachment to the occupation.

Venkateswaramma recounts her life journey with fishing—a tradition now overshadowed by modern fishpond methods, making survival difficult for families like hers. Competition with local vendors has become fierce as larger fishing enterprises dominate the market.

Venkateswaramma continues to compete with local market vendors by selling freshly caught fish directly from the river to her regular buyers. She often takes her catch from house to house, selling it directly to customers. This door-to-door method reflects the evolving nature of traditional fishing in modern times, where survival demands adaptation.

References and Resources:

Blue Justice is a global initiative for practitioners addressing transnational organized crime in fisheries. Transnational organized crime in the international fishing industry undermines the SDGs. Blue Justice aims to strengthen the government agencies needed to address this problem. <https://bluejustice.org/>

When and why was the Copenhagen Declaration adopted?

The International Declaration on Transnational Organized Crime in the Global Fishing Industry was adopted on 15 October 2018 during the Large Ocean Nations Forum on Transnational Organized Fisheries Crime and the 4th International FishCrime Symposium convened at UN City in Copenhagen, Denmark. Ministers representing the governments of the Faroe Islands, Ghana, Indonesia, Kiribati, Namibia, Norway, Palau, Solomon Islands, and Sri Lanka adopted it. During that meeting, it was also agreed that Norway would be the custodian and host the declaration's Secretariat.

The Copenhagen Declaration resulted from annual conferences, the International FishCrime Symposia, held from 2015 until 2018. At these symposia, experts, practitioners, researchers, and members of civil society organizations shared their experiences and knowledge about cooperative efforts to address transnational organized fisheries crime.

