



Occupation of the Coast: II

The puzzle of shrimp production on the East coast of India

INFOGRAPHIC BOOKLET



The Research Collective, of the Programme for Social Action (PSA), facilitates research around the theoretical framework and practical aspects of development, sustainable alternatives, equitable growth, natural resources, community and people's rights. Cutting across subjects of economics, law, politics, environment and social sciences, the work bases itself on people's experiences and community perspectives.

Our work aims to reflect ground realities, challenge conventional growth paradigms and generate informed discussions on social, economic, political, environmental and cultural problems.

Occupation of the Coast: II

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Cover Design, Infographics and Layout: Tasneem Khan

Published by The Research Collective - PSA

December 2020

For Private circulation only

For copies:

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Suggested contribution 50/-

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Occupation of the Coast-I was published for the World Forum of Fisher People General Assembly which was held in December 2017. The focus of this first edition was to provide an overview of the changes and challenges faced by coastal communities in general, and fishworkers specifically, with regards to the Blue Economy development framework in India. Building on our learnings from this and in order to update on specific trajectories of change this second publication focuses on intensive shrimp aquaculture on the East Coast of India. Through contributions from academics and community members from three coastal states Occupation of the Coast-II brings together insights on the micro-scales of shrimp production by encompassing labour, ecology, caste, gender, livelihoods and the economy. The core objective of each paper will be to highlight the specific relations of production, both vertically in terms of the production process and horizontally across landscapes. From these diverse points of view we hope to problematise the narrative that promises a conflict free transition to the Blue Economy in India.

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Introduction

This introduction gives an overview to the full publication including all the papers which can be accessed at updatecollective.wordpress.com

From Pink Gold to White Shrimp

The term shrimp conjures up different imaginations for different persons. For consumers in India, it signals a versatile, semi-luxurious food; it can be made into a gassi in coconut milk, barbecued on a grill, made into a biryani. For consumers in America, where a bulk of the shrimp produced in India is exported, shrimp is a cheap luxury: a commodity that is precious but affordable to be consumed in pastas, salads and cocktails. Shrimp thus is a paradox; for the importing nations it plays no nutritional security or national metabolism role. In India, on the other hand, it is not produced to meet food security needs of the country. While the reason for promoting shrimp production is often cited as a pathway to meet food and nutritional security, in reality the growth of shrimp production has primarily been for the export markets of North America, Europe and Japan. This publication is interested in understanding how this paradox of shrimp plays out in the socio-ecological realm along the East coast of India, where an overwhelming majority of the shrimp is produced.

The publication draws from the historian Yvette Florio Lane:

“The history of shrimp is more than just a story about a popular food. It is also a story about exclusion and power, about wealth and poverty, and about the change from a basically rural world to one transformed by modernization in the form of the petroleum engine and capitalism. Commercial shrimp fishing and farming have been plagued from the beginning by labour abuses, ecological destruction and racism. The story of shrimp is also one of shifting global power. As the twentieth century became the ‘American Century’ through industrial and economic might, the story of this shellfish became an increasingly American one. American inventors and innovators took control of the shrimp industry and held on to it. From shipbuilding to frozen food technology to tourism, America led the way. For some, shrimp truly were ‘pink gold’. But the tide is again shifting, and the story is now turning towards Asia, as farm-raised shrimp become a multi-billion-dollar business there.”- Shrimp, A Global History

The East coast of India contains the largest tracts of land and water that are viable and have been ear-marked for shrimp production. The thrust we see for aquaculture today follows the trajectory of demand that took a predominately capture based fishery towards culture production. This takes us back to the “Pink Gold Rush” (for shrimp) of the 1960s for wild-caught penaeid prawn, which began to decline by the 1970s. Following three decades of intensive fishing effort and policy-making, focus began to shift towards land-based production of India’s main prawn export species, the Black Tiger Prawn. Today, the spectacular numbers regarding shrimp exports tell us how successful this shift has been. Frozen shrimp exports from India account for 72% of the foreign exchange generation from the seafood basket totalling to USD 4.89 billion in 2018-19; yet shrimp production in India hovers around the 5% mark of total seafood produced in the country. Thus shrimp, which is low in quantity but giant in value, has been a driving force of India’s (sea)food export policies. This growth has come largely in the form of the Pacific White Shrimp which was approved to be grown in India in 2009 and has since replaced India’s previous export species, the Black Tiger Prawn. On account of the quantity to export value ratio, frozen shrimp is by far the most profitable sector to invest in; it is no wonder that both the new fisheries policy and the scheme¹ introduced by the Government

of India during the pandemic show intensive shrimp aquaculture as a thrust sector. The documents related to these show that India has a total potential of brackish water resources of 12.4 lakh hectares and saline/alkaline affected areas of 12 lakh hectares which are suited for the farming of shrimp. As per the government’s calculation, currently India utilises less than 7% of land area of this potential.

The Puzzle

A regional distribution of area under cultivation (AUC) along India’s coastline and the estimated production (EP) on these lands show that the states on the East coast of India dominate the production share. Of this too, there are significant differences in the species produced, the per hectare productivity, and the relations of production. Thus, national data on production and exports is unable to capture the regional diversities and the micro-scales of production.

Total area under cultivation in India (in Hectares): 152595
Total area in East Coast: 142912 (93.6%)
West Bengal- 55211
Odisha- 11486
Andhra Pradesh- 64222
Tamil Nadu and Puducherry- 11993

Total estimated production in India (in tonnes): 690001
Total production on East Coast: 578450 (84%)
West Bengal- 76534
Odisha- 42735
Andhra Pradesh- 459181
Tamil Nadu and Puducherry- 45234

¹ In 2020, India introduced the Pradhan Mantri Matsya Sampada Yojana, a new five-year funding scheme. Alongside this, a new ‘National Fisheries Policy’ is being finalised in order to streamline production across the various sectors of the country

The Global Value Chain (GVC)² of shrimp, more simply, is the set of processes that actually work to get the shrimp on to the supermarket shelves in Northern and Asian markets. It is a long and complex puzzle of actors for whom value either accretes or erodes depending on their position; neither does the value in the chain flow unidirectionally, nor does the commodity in itself. For example, the Pacific White Shrimp, the mainstay species of India's shrimp economy, starts its journey as a wild shrimp on the coast of Eastern Pacific across the borders of what is today Mexico in the north to Peru in the South. From here, it is taken to labs in Hawaii for selective breeding in order to make them pathogen free and suited for culture-based production. This broodstock is then imported into India under stringent quarantining rules from the Indian government; the importers further provide these mother shrimps to hatcheries where the shrimp reproduces. Finally, via a cascading intermediary arrangement of actors, the shrimps are transported and supplied to individual shrimp farms across the country. Through the production phase, similarly complex global value chains bring feed, inputs and expertise to help the shrimp grow from a larva to the market-demanded adult shrimp commodity. Since a majority of India's shrimp is exported, the shrimps are then harvested, processed, frozen, stored and shipped to a diversity of destinations, all

the way from America to Japan to Vietnam. At this stage, the shrimps mix with similar shrimps from across countries and are further processed into ziplocked supermarket packets and find themselves as ready-to-eat shrimp for consumers.

Along the shrimp's global journey, its value is contested, extracted, shared and squeezed between all of these actors. Unlike the shrimp trade during the liberalisation era, economic value flows are no longer simply in the North-South binary. There are American transnational corporations operating in India, domestic firms offering IPOs on the stock market, landlords cultivating shrimp on hundreds of acres of land and agri-businesses and aqua-feed actors forming alliance. India, as part of this global value chain, has largely undertaken the production of shrimp, and to an extent, the post-processing low-value generating activities; however, upgrading the value chain is now the focus of government's policies. This publication is interested in asking questions of value—what does shrimp mean to different actors in this chain— a point which is an important area of inquiry in international food systems. For farmers who produce shrimp or for those who are being targeted by various schemes of the government, depending on how well or badly they have done, shrimp can mean dollars and social mobility or gambles and losses. For firms on both sides of the

shrimp production process, shrimp means the ability to join a global value chain, and place oneself at particular nodes and generate incomes. For policy-makers, shrimp provides foreign exchange. For fishers, shrimp means pollution and infringement. Thus, for different actors, shrimp means different things and this implies that shrimp production is far from a cooperated, benign process of production.

A starting point for this publication is to deconstruct this puzzle, to unpack these diverging values, and the power relations in society which are invariably at the centre of value-making. However, the publication does not take a neutral view as a mere observer to the process; published by an organisation that has been entwined with the fishworkers' movement in India for a few decades, the publication attempts to view the process of shrimp production from the lens of the fishing communities along the East coast of India. Therefore, through the contributions made by authors, this publication asks some questions to the narratives around shrimp; these are related to both, the growth of shrimp and its success at the national level. Borrowing from critical agrarian studies, it starts by asking, 'Growth for whom?' and 'Growth where?' In relation to the first question, the publication is interested to see who participates, and who cannot or is denied, in the value chain of shrimp. It is also interested to see who is

able to gain from this growth on account of their participation. Thirdly, it is interested to explore the regional dynamics of shrimp production within the borders of the nation-state. Why is it that, while Andhra Pradesh has an almost comparable area of land under shrimp cultivation to West Bengal, its total output is a whopping 3 lakh tons more than that of West Bengal. Or while Andhra Pradesh produces about 80% of India's Pacific White Shrimp, West Bengal produces about 85% of the Black Tiger Prawn. This regional difference then pries open the door for the investigation of local socio-ecologies within which shrimp production is undertaken; the attempt to localise and study the local dynamics of shrimp production is the common theme that ties the publication together.

Pieces of the Puzzle

The papers in this publication are based in different sites in the East coast coastal states³ and centre on a range of ecologies and actors in the shrimp production process. The order in which they are laid out in the publication come from the understanding that shrimp production is a complex process where power, social relations, ecologies, government policies and other non-state actors act in concert to shape and give direction to the shrimp's developmental journey.

The first paper in the publication looks at

2 GVC refers to 'the full range of activities that are required to bring a product from its conception, through its design, its sourced raw materials and intermediate inputs, its marketing, its distribution and its support to the final consumer' (Global Value Chains Initiative 2017).

3 The publication is missing the coastal state of Andhra Pradesh which produces 80% of India's shrimp. While research was conducted in the region, due to the unseasonal floods which hit the state in October, the data was lost due to damage to the author's laptop. The publication shall be updated once this paper is made available.

shrimp production in Lake Chilika, Odisha, by examining the local dynamics of the traders in a town called Balugaon. Here, the author examines a five-decade long journey of shrimp in the lake by looking at the relational interplay between different actors and highlights how a waxing and waning process of shrimp production has been a constant of this ecology. Here, shrimp booms, busts, regulation, privatisation and conservation take specific forms at specific times showing how shrimp production is an outcome of various non-market forces. By examining the caste dynamics of the traders, and their resulting social mobility over the years, the paper makes an important intervention that dents the growth narrative. The fishing groups on the lake, the original settlers and users of the lake's resources, have been systematically invisibilised through the shrimp production process.

The second paper brings a political economy lens to understand the shrimp production process in Baguran Jalpai in West Bengal. By tracing the process of how nature is commodified, and labour is cheapened through the shrimp production stage, the paper looks at how relative surplus value is created for various actors on both sides of the farmgate, thus leaving the farmer with shorter end of the stick. On the input side, the farmer is caught in a situation where value is squeezed away from them before production even begins through informal credit mechanisms. Consequently, at the end

of the production cycle (at the point of sale) value is captured by actors who exercise a monopsony. Therefore, it is an effort to locate the problematics of shrimp 'sunshine sector' of the Blue Economy discourse in India by asking critical questions, starting with the title "Who wins when shrimp booms?"

The third paper provides us historical context for the emergence of culture-based shrimp production in India through a case study in Lake Pulicat in Tamil Nadu. It looks at policy and financial developments behind the scenes, by uncovering the role of powerful actors like that of the state, multilateral institutions and the research institutes. In doing so, it traces the key actors, who were and continue to nurture the business ecosystem that allows for the unsustainable intensification by the farmers at the local level in the so called 'free market'. This top-down view helps lend context to all the other papers in the publication by providing the policies, events, trade agreements and financial instruments that came together through the post-independence decades to create the scenarios unravelling in India today. By looking at historical role of research institutions, state agencies and multi-lateral agencies, it illuminates the forces that influence the uptake of aquaculture, and takes away the focus from individual farmers when examining the socio-ecological impacts of intensive shrimp production. In doing so, it calls for deeper investigations into the local dynamics of production, urges

for the alliances of people's movements and envisions a transfer of agency from the big actors to the people.

The fourth paper takes up the question of the man-nature relationship through a case study and analysis of semi-intensive aquaculture uptake in the fluid ecologies of the Sundarbans in West Bengal. The precarity of the lives and livelihoods of communities in islands of Basanti and Gosaba are unravelled by tearing apart the factors that create various socio-economic vulnerabilities. We look at how extreme climate-change impacts, immediate existential threat posed by the tiger conservation project, and the disciplining and punishment culture of the Forest Department engaged in the management of the project, directly affect the socio-ecology. The semi-intensive culture production of shrimp against this background is examined with the attempts to pose questions that provide us with answers about what the real prospects and/or traps of a future with aquaculture within this precarious region. In doing so, it speaks to the other papers, by connecting the dots in what the future trajectory of shrimp production in the mangrove ecology might look like.

The final chapter in the publication revolves around the environmental degradation of coastal Odisha under the onslaught of decades of intensive shrimp production and examines how the State and the

environmental elite's response to the degradation has been to selectively produce a vilifying discourse around the figure of the 'Bangladeshi infiltrator' (anuprabeskari) under the rubric of conservation. By tracing the trajectory of ecological deterioration of the two aquaculture zones in question: Bhitarkanika National Park in the district of Kendrapara and Chilika Lake, due to intensive shrimp farming and its impact on the local fishing communities, the paper shows how powerful actors have forged alliances that first led to the proliferation of shrimp aquaculture, and then to the destruction of the industry. More importantly, the paper highlights how conservation creates discourses that deflect attention from effectively identifying true causes that have led to this grave ecological ruin.

The publication also includes two boxed sections that provide a general background to situate the scenarios presented in the papers from different states. The first is a literature review of shrimp production, drawing together different schools of academic inquiry into shrimp production globally. The second places the intensive production of shrimp under the global Blue Economy development framework in an attempt to connect micro sites of production with macro platforms of policy-making. Finally, the publication ends with a photo story that draws together a bird's eye view of a coastal village in West Bengal and locates the different social actors alongside their livelihood spaces, spaces that

are increasingly being taken over by intensive shrimp production ponds. Together, these five papers, two boxed sections and photo story bring together not only stories from diverse states on the East coast of India, but also unpack the problematics of capitalist development and the ensuing transformations in the nature of relations, value, dominance and subordinations along the value chain and socio-economic landscape.

What Does the Puzzle Reveal?

On some level, when one looks at this little crustacean, its size and anatomy, it's hard to imagine how it has impacted the lives, livelihoods and landscapes in so many places across the globe. A senior fisheries bureaucrat had once remarked that perhaps for this reason, shrimp should be nicknamed 'Helen' after the Helen of Troy, for she was known as the "face that launched a thousand ships". Looking at the statistics of the increase in mechanised crafts, first for the direct fishing of prawn and then for the fish that act as feed for farmed shrimp, in India over the last seven decades, shrimp has definitely launched many thousands of ships. However, this publication focuses not on fishing fleets, but the farms that have now come to replace them. It is within the examination of the local dynamics of production and the crustacean's global footprint, that it tells us what and who is at stake when this bounty of the sea is cultivated on land.

Shrimp continues to be the 'Helen' of India's

fisheries future. Amidst the pandemic in 2020, when the lockdown impacted production chains entirely and caused global markets to come to a grinding halt, the Indian state introduced a new funding scheme called the Pradhan Mantri Matsya Sampada Yojana (PMMSY). While the focus of the scheme is on the entire fisheries sector, shrimp continues to focus as an attractive investment sector given its potential to earn foreign exchange. And perhaps, this time around, the ships that will be launched will not be the fishing fleets, but the cargo ships that will carry this commodity from the shores of India into the global market. This is the irony of shrimp. In the era of the Blue Economy development framework, where the triple wins of society, economy and environment are touted as being foremost, this intensively farmed crustacean continues to hog the limelight, in spite of all the devastation it has left in its wake over the decades.

The chapters in this publication reveal that shrimp is, in fact, not the Helen of Troy, but a Trojan Horse. Like in the Greek mythology, the horse is the metaphor for the idea that is sold to farmers through attractive schemes with promises of high returns in a short amount of time. But hidden under the glossy pamphlets, the promotional speeches and the promises of triple wins lies a trap. What is perhaps hardest to resist about shrimp production is that it is not a trap for everyone involved in the process all the time. As the boom and bust cycle of shrimp production shows, there

is money to be made, and yet, invariably on the other side of this profit is a story of loss, of dispossession, of hunger, of violence and of marginalisation. And so, it is important to draw the readers' attention to the community of people who have borne these impacts the hardest and yet, continue to resist intensive shrimp production: the fishing communities of India. In all of the chapters in the publication, it is clear that the fishing communities are nowhere in the value-adding GVC of shrimp; rather their coastal socio-ecologies have become sites for absorbing the externalities and the waste from intensive shrimp production. While this publication, and the timeline within which it was put together, does not allow for the examination of impacts, resistance and visions of alternative futures from the fishing communities, we urge all the readers to pay attention to India's glorious history of the fishworkers' movements and direct them to engage, support and amplify the voices of fishing communities.

Savita Vijayakumar and Siddharth Chakraverty

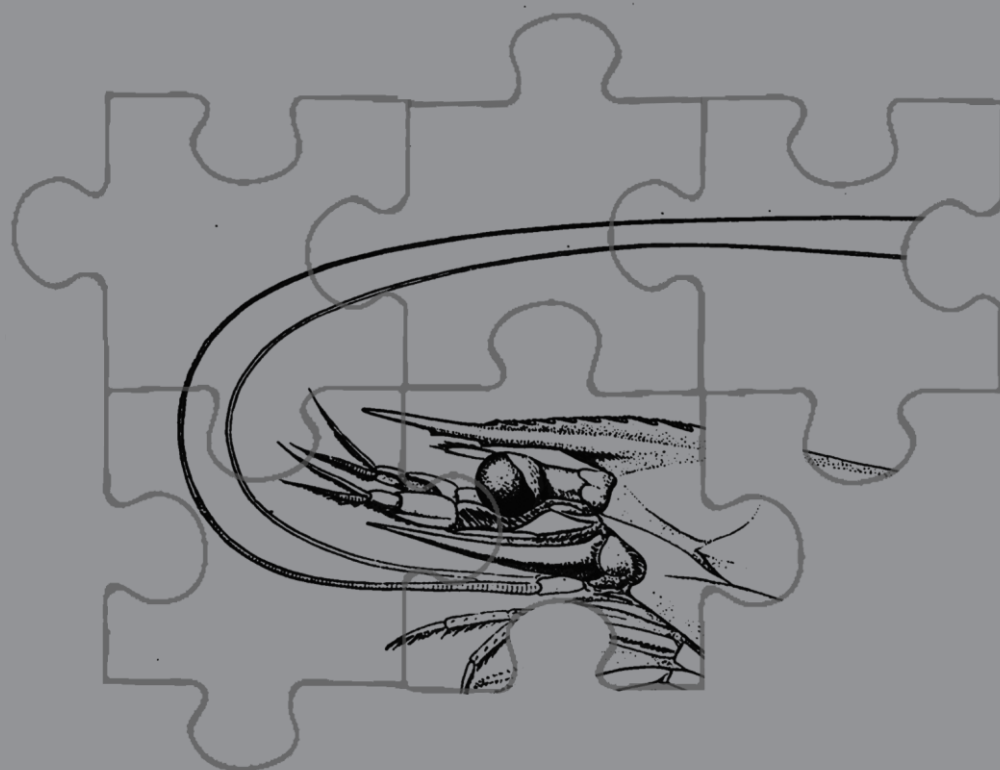
Editors - Occupation of the Coast II

Locating the caste economy of Chilika shrimp

A study of Balugaon traders

India is a caste economy which means that caste regulates access to and mobility from participating in the economy. This paper shows how dominant caste traders have, over a period of five decades, used their caste networks, as well as their nexus with the state, to structure Lake Chilika's shrimp economy in their favour. However, this might be now changing post 2016, highlighting the shifting nature of caste in India.

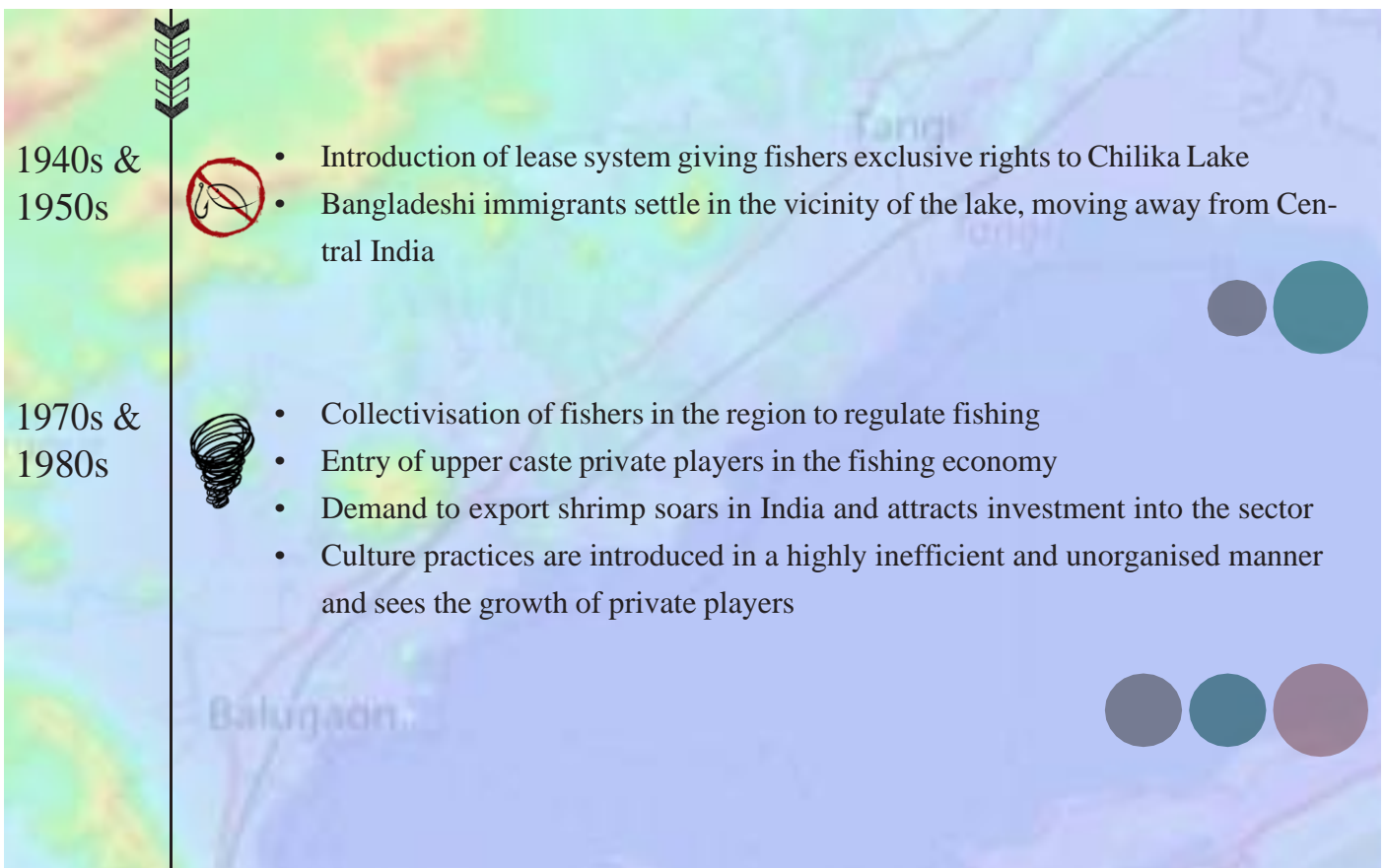
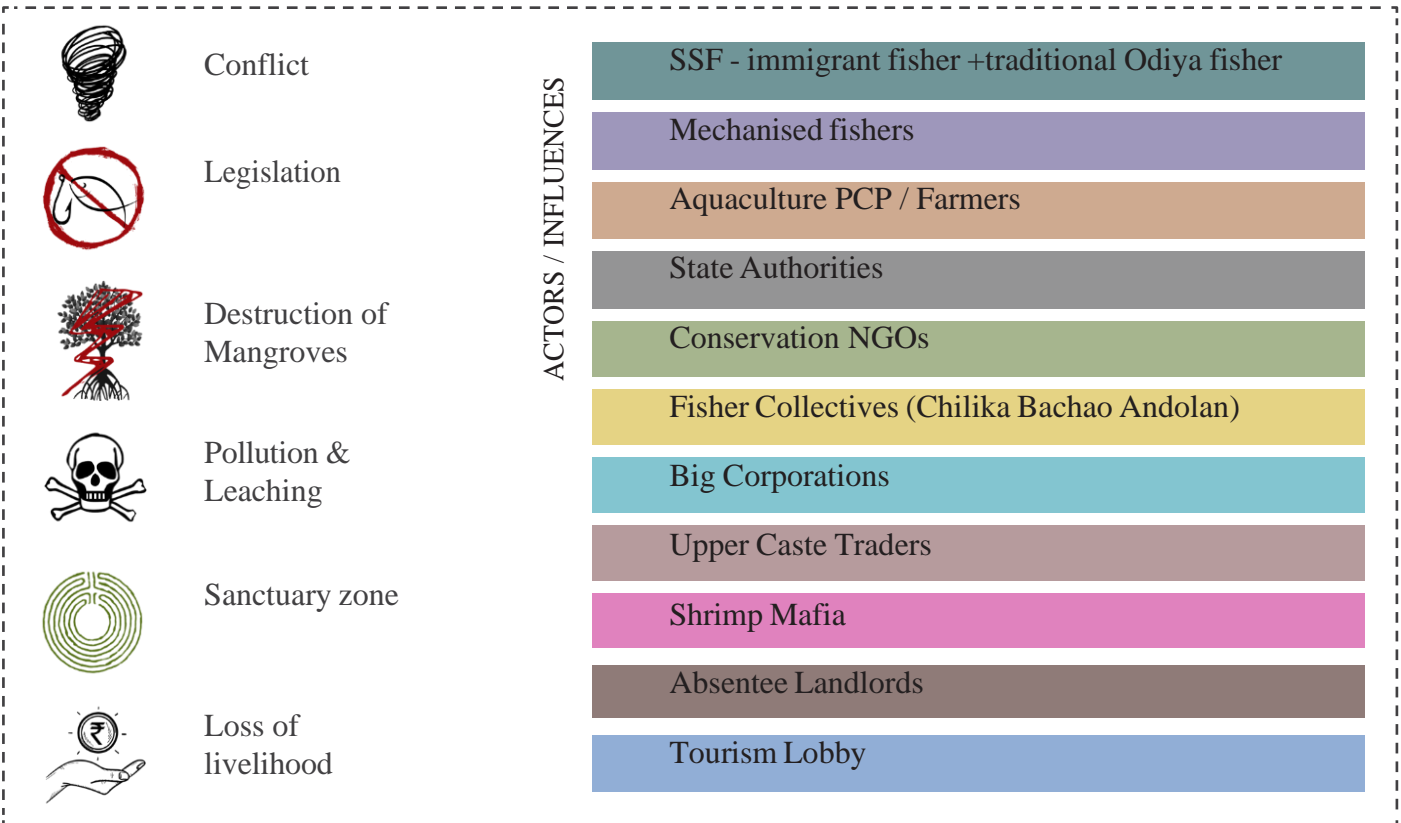
Varsha Priyadarshini



Locating the Caste Economy of Chilika Shrimp: A Study of Balugaon Traders



KEY



1990 to 1995



- Indian economy is liberalised
- Lease Policy is introduced to permit culture production and allows for non-fishers to operate on the lake. This gives rise to ‘absentee landlords’ operating
- TATA group signs a deal with the state to invest in culture fisheries



1995 to 1999



- The Supreme Court bans culture shrimp gherris in the lake. The ban is never implemented and shrimp production from culture sources increases
- The decade ends with the death of 4 fishers while protesting for the implementation of the court orders and the rise of local “Shrimp Mafia”



2000s



- The Chilika Regulation Bill is tabled to reserve only 30% of fishing area for fishers and lease the rest out to non-fishing groups
- The bill is never passed and this gives rise to a second round of privatisation and the proliferation of illegal shrimp aquaculture
- Notices of ‘illegal immigrant’ given to 1551 Bangladeshi families in coastal villages
- This decade sees a boom in shrimp production



2010 onwards



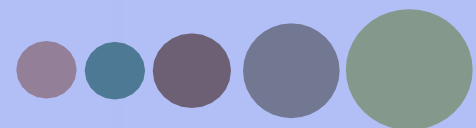
- Shrimp production from culture sources begins to decline. The ecology of the lake is severely affected



- The Chilika Development Authority (CDA) demolishes illegal shrimp gherris
- The demolition and conservation drive see a downturn in the market. There is a decline in employment, and in catch and related work in the post harvest sector



- A reorganisation of the value chain begins with dominant actors in the region losing their control over the sector

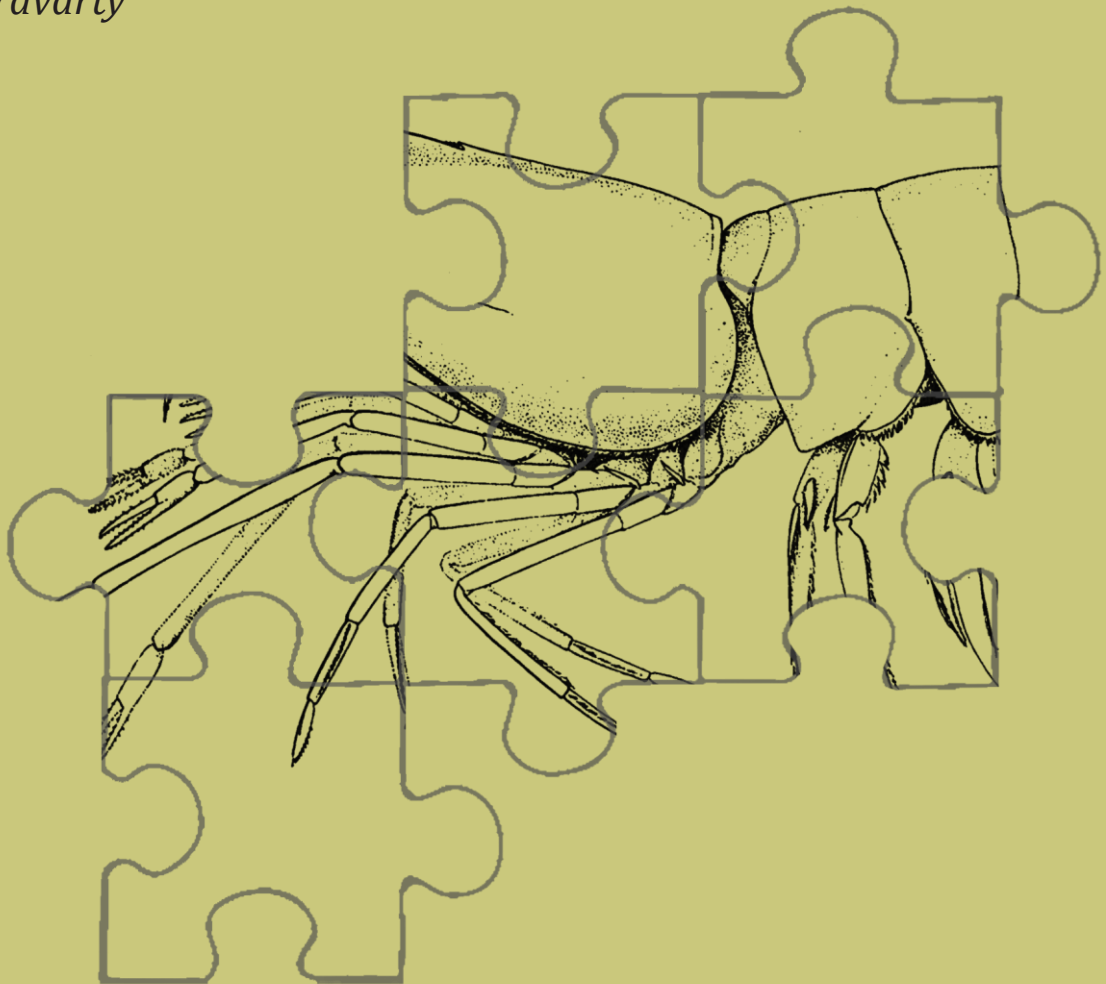


Who wins when shrimp booms?

Examining the transition to the Blue Economy in India.

In 2019, India became one of the world's highest producers of Pacific White Shrimp. This was achieved within a decade of the species being introduced in the country. This paper examines the shrimp boom under the 'Blue Economy' development framework which has been embraced enthusiastically by the Indian state. The article unpacks the exploitative shrimp production model and problematises the seemingly conflict-free transition to sustainability as portrayed by the Blue Economy.

Siddharth Chakravarty



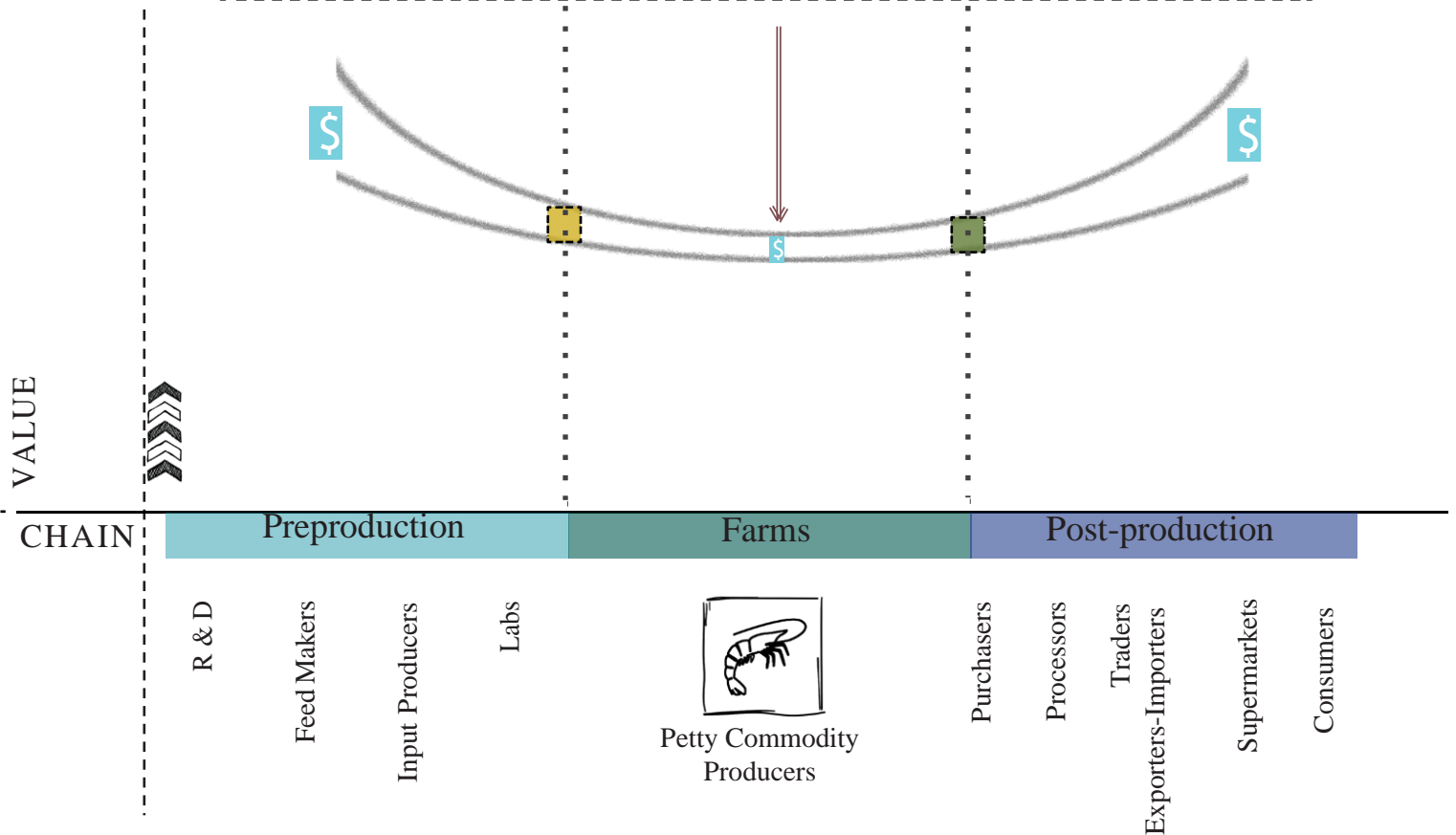
Who Wins When Shrimp Booms?

Examining the transition to the Blue Economy in India



PRODUCTION PROCESS

The production process of shrimp is arranged in a manner that allows for risk-aversion so that returns to the investments are guaranteed. Since the act of growing shrimp is essentially one of converting nature into a commodity, investments have to contend with the ecological indeterminacy of nature. This is achieved by arranging the capital-labour relationship in two ways. One, the production is arranged via Petty Commodity Production, such that shrimp farmers act as labour when profits are made, and act as capital when losses are to be absorbed. And two, by mobilising power relations, value extraction happens at each side of the production process, that is an Input Squeeze and an Output Pinch is exercised.



INPUT SQUEEZE

Almost all farmers operate their farms on the basis of informal credit borrowing. The credit borrowing can happen either through informal money-lenders or through a retailer who advances inputs and material to the farmer before and through the start of the shrimp cycle. Interest rates are very high (36-48% per annum) and the credit is often paid back by offering the retailer the first offer on the produced shrimp. On account of the low success rate of producing shrimp in every cycle, as well as the high credit rates, most farmers self-exploit themselves and household labour in order to produce the shrimp.

OUTPUT PINCH

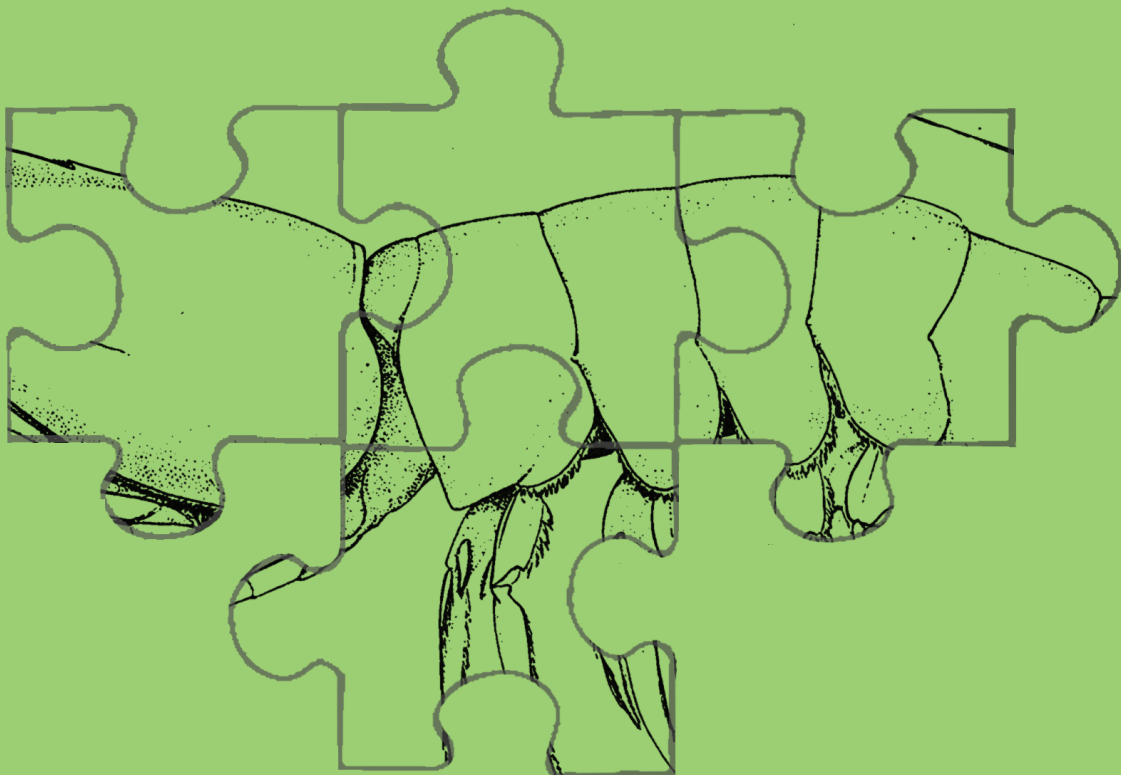
Once the farmer produces the shrimp, he offers the retailer he has taken an advance from the first offer of purchase. If this transaction goes through, the farmer will have paid back his loan, and can either invest in the next cycle; if he has been unsuccessful, the retailer will forward another round of credit, with higher interest rates. Similarly, farmers also call shrimp purchasers in the area to get the highest rate. However, the purchasers exercise a price control since they are able to provide the harvesting gangs, ice and transport, without which the farmer will be unable to harvest his produce. By controlling the price control here, a pinch is exercised on the farmers that curtails their margin of earnings.

Coastal Shrimp Aquaculture in India: Should the Farmers be Blamed?

The lineage of state interventions in shrimp aquaculture

The liberalisation turn of the Indian economy is often signalled as the point at which export-oriented shrimp production through aquaculture became a necessity. However, examination of India's fisheries policies since independence reveals the nuts and bolts that were set up decades before liberalisation. This paper aims to bring to centre the role of powerful actors like that of the state, multilateral institutions and the research institutes that were and continue to be, the key actors in nurturing a suitable environment through a case study of Lake Pulicat, Tamil Nadu.

Jeffrey Immanuel



Coastal Shrimp Aquaculture in India: Should the farmers be blamed?



ABBREVIATIONS

- Bay of Bengal Programme (BOB)
- Central Inland Fishing Research Institute (CIFRI)
- Central Marine Fishing Research Institute (CMFRI)
- Indian Institute of Management Ahmedabad (IIM-A)
- Marine Products Export Development Authority (MPEDA)
- National Aquaculture Development Plans (NADP)
- Pradhan Mantri Matsya Sampad Yojana (PMMSY)

KEY

Wild-caught (capture) Shrimp

Culture Shrimp

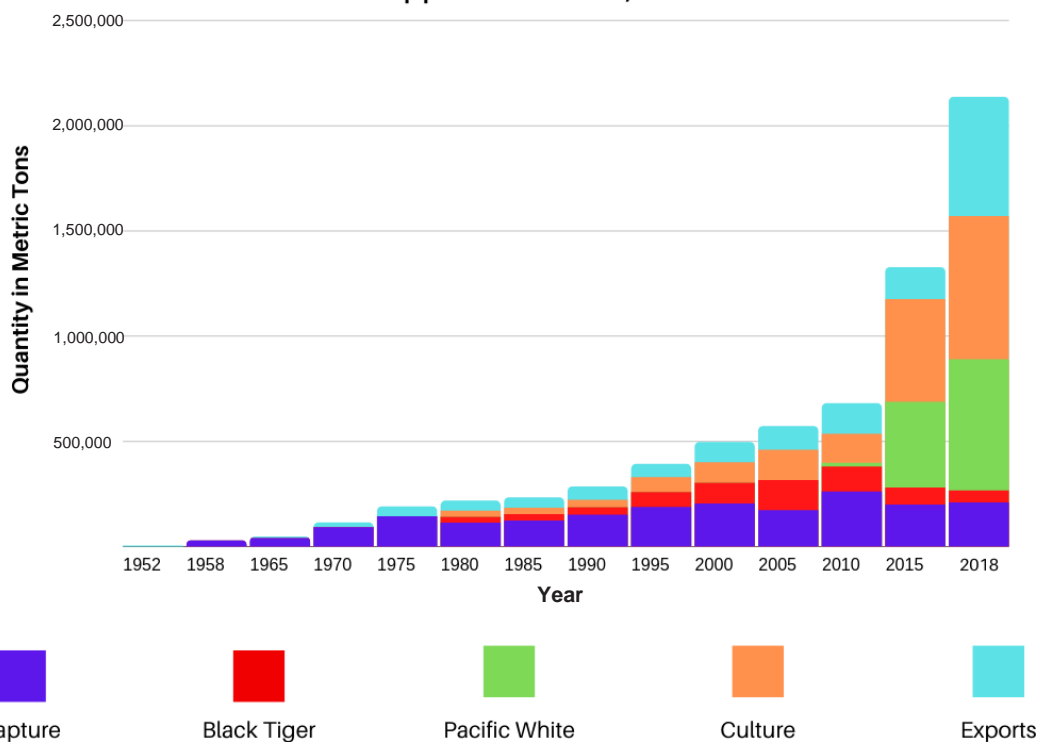
Influences

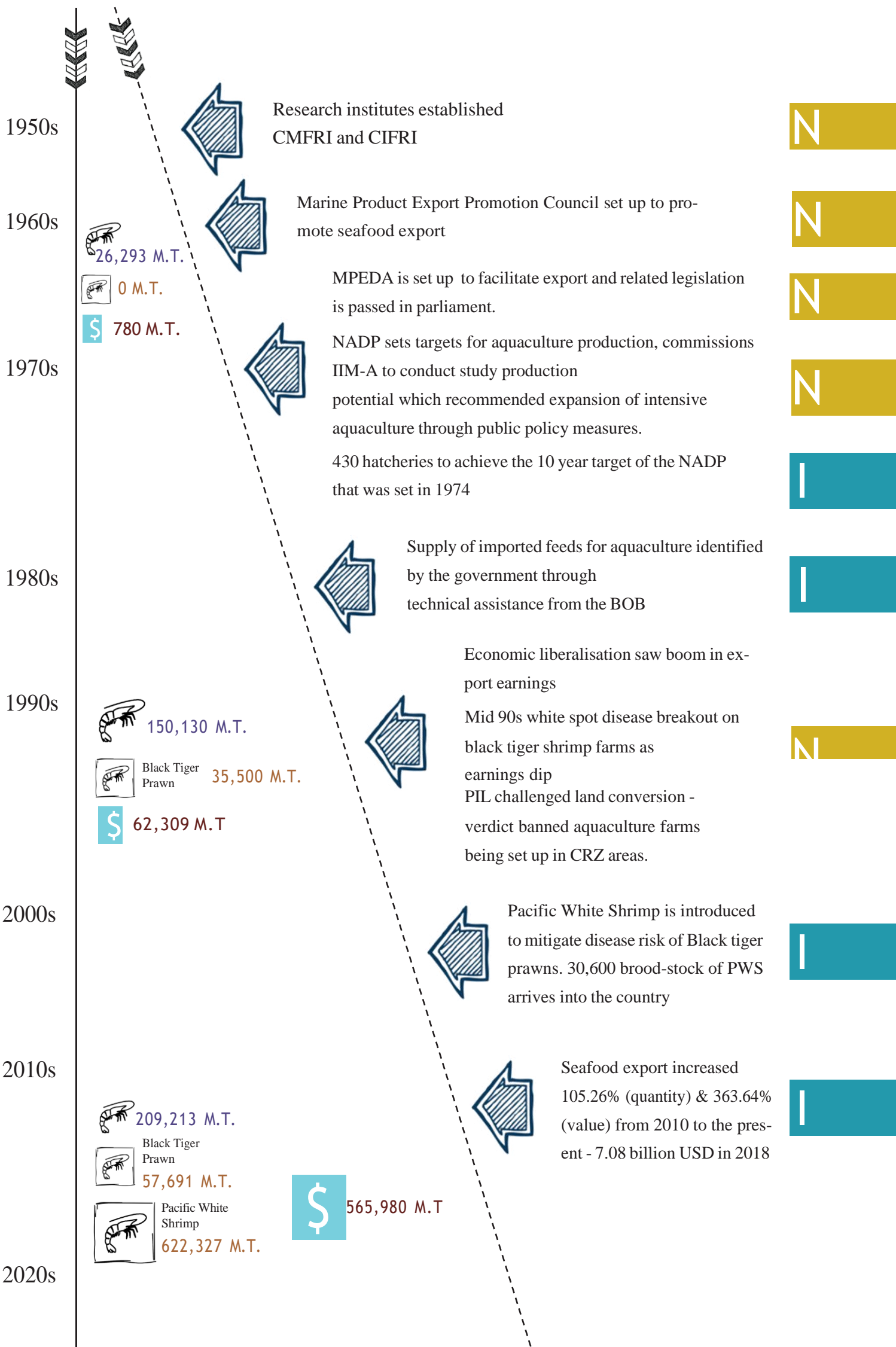
Export

ACTORS

- I International
- N National
- S State
- L Local

Production and export quantities across capture and culture shrimp production in India, 1953-2018

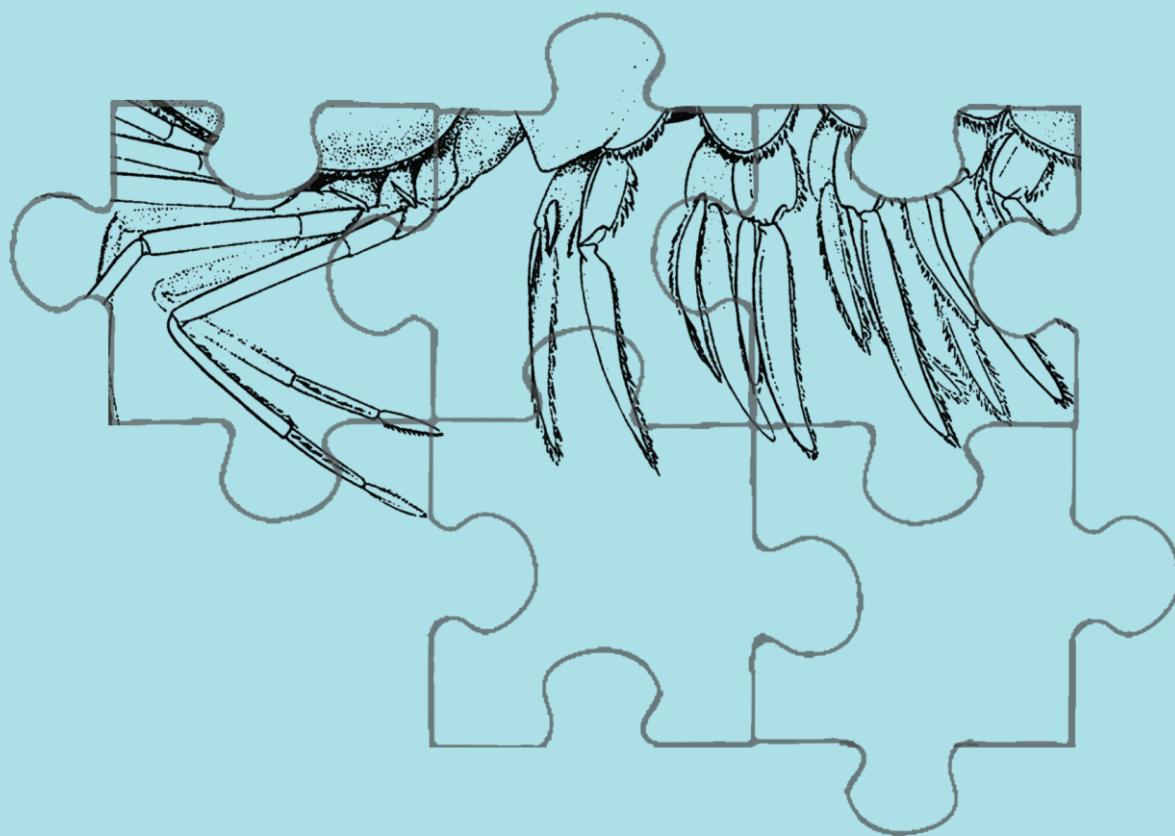




Vulnerabilities of livelihoods in the Sundarbans; is shrimp production a viable option?

The Sunderbans is simultaneously a tiger conservation area, a World Heritage site, a complex solid-fluid landscape and a human settled region. In a place such as this, the vulnerabilities of the people are on account of both human and non-human causes and there are no easy alternatives to livelihood choices. This piece juxtaposes shrimp production and the socio-ecology of the region to explore areas of research and long-term policy-making.

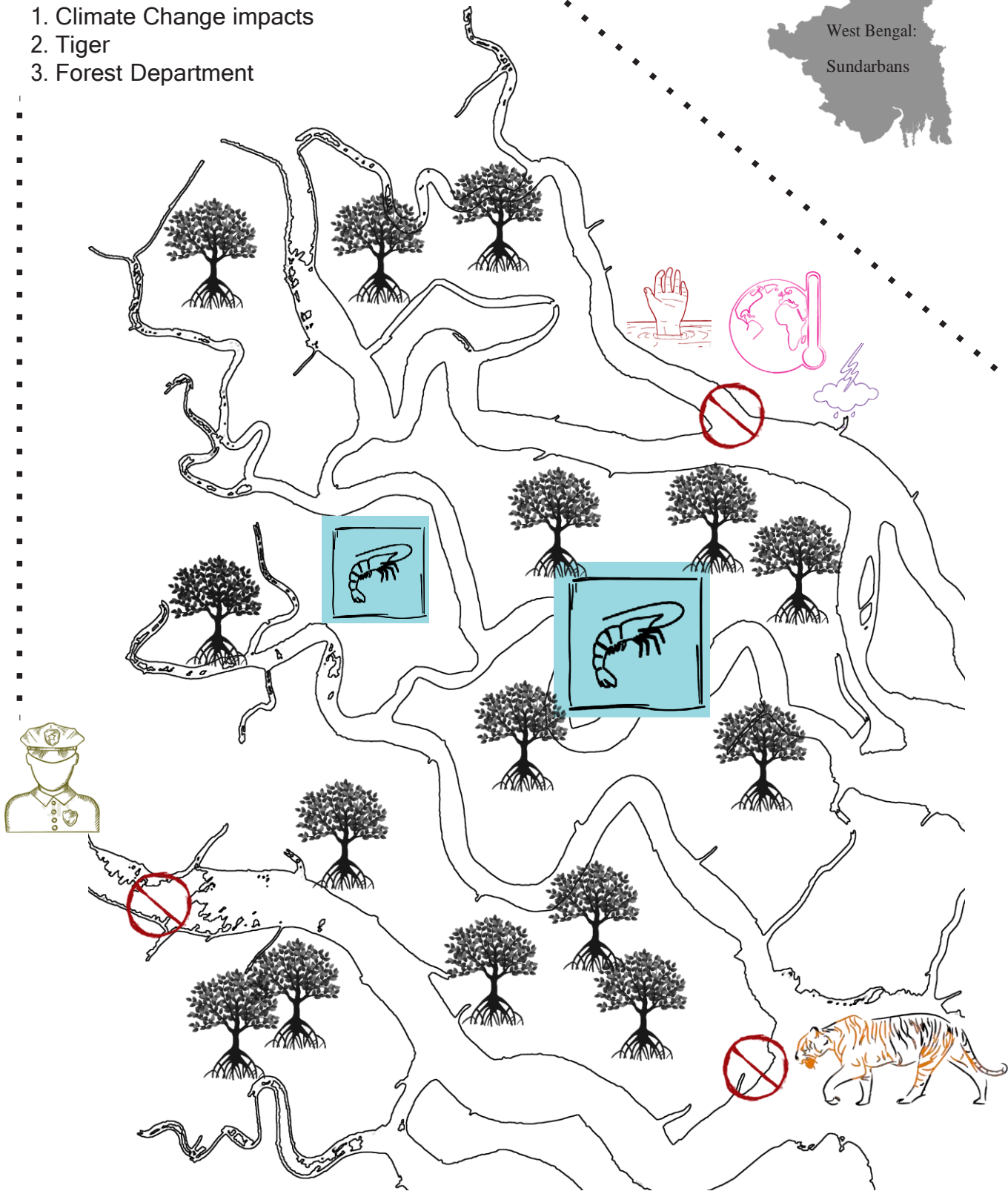
Sreeja Dutta



Vulnerabilities of Livelihoods in the Sundarbans: Is Shrimp Production a Viable Option?

For the people of the Sundarbans, livelihood options encounter 3 dead ends.

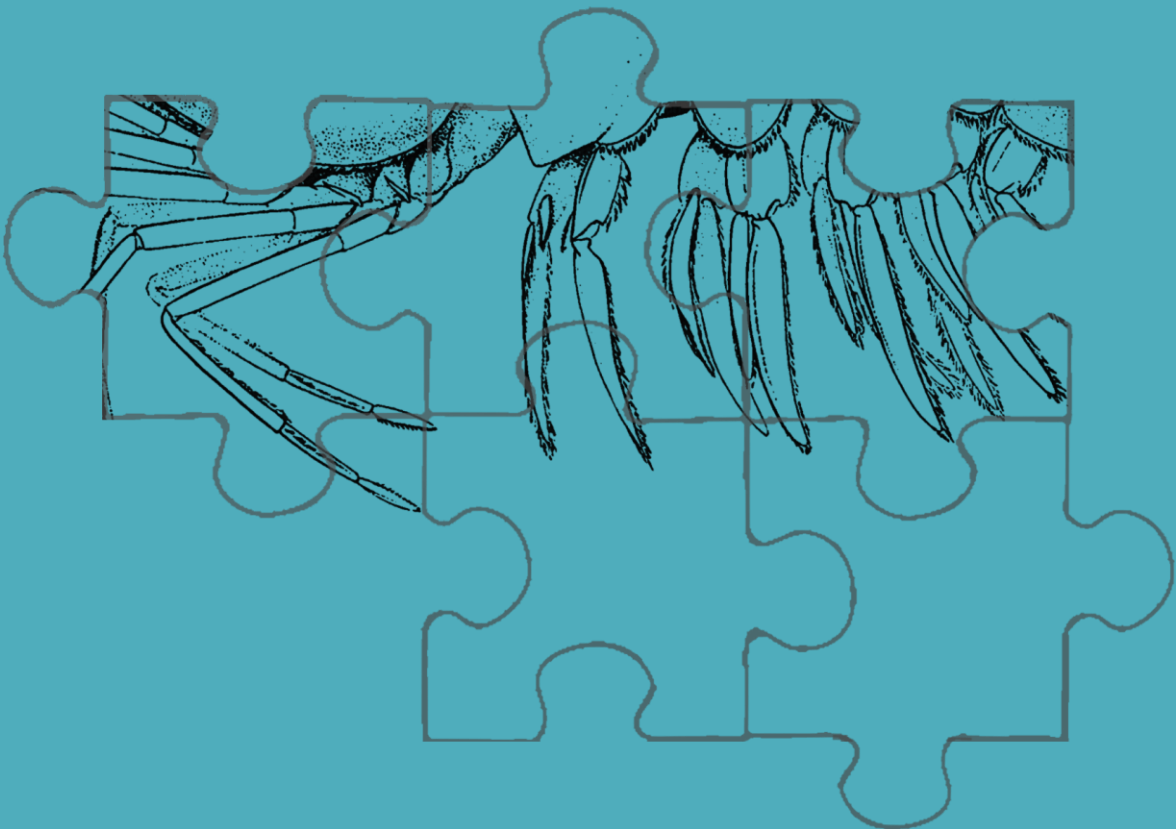
1. Climate Change impacts
2. Tiger
3. Forest Department



Shrimp Aquaculture, Ecological Decline and the Spectre of NRC

Mainstream biodiversity conservation is often focused on matters of social complexities that interact with the environment. An examination of the National Register of Citizens (NRC) exercise in coastal Odisha shows how states, dominant actors and private companies use the othering of vulnerable communities to justify reforms that hold up dominant social structures.

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Shrimp Aquaculture, Ecological Decline and the Spectre of NRC in Coastal Odisha.



KEY

	Conflict	SSF - immigrant fisher +traditional Odiya fisher
	Legislation	Mechanised fishers
	Destruction of Mangroves	Aquaculture PCP / Farmers
	Pollution & Leaching	State Authorities
	Sanctuary zone	Conservation NGOs
	Loss of livelihood	Fisher Collectives (Chilika Bachao Andolan)
		Big Corporations
		Upper Caste Traders
		Shrimp Mafia
		Absentee Landlords
		Tourism Lobby

1940s & 1950s

- Introduction of lease system giving fishers exclusive rights to Chilika Lake
- Bangladeshi immigrants settle in the vicinity of the lake, moving away from Central India

1970s & 1980s

- Demand to export shrimp soars in India and attracts investment into the sector
- Culture practices are introduced in a highly inefficient and unorganised manner and sees the growth of private players

1990 to 1995

- Indian economy is liberalised
- Lease Policy is introduced to permit culture production and allows for non-fishers to operate on the lake. This gives rise to 'absentee landlords' operating
- TATA group signs a deal with the state to invest in culture fisheries

1995 to 1999

- The Supreme Court bans culture shrimp gherris in the lake. The ban is never implemented and shrimp production from culture sources increases
- The decade ends with the death of 4 fishers while protesting for the implementation of the court orders and the rise of local "Shrimp Mafia"

2000s

- The Chilika Regulation Bill is tabled to reserve only 30% of fishing area for fishers and lease the rest out to non-fishing groups
- The bill is never passed and this gives rise to a second round of privatisation and the proliferation of illegal shrimp aquaculture
- This decade sees a boom in shrimp production

2010 onwards

- Shrimp production from culture sources begins to decline. The ecology of the lake is severely affected
- The Chilika Development Authority (CDA) demolishes illegal shrimp gherris
- The conservation lobby vilifies Bangladeshi immigrants framing them as a 'ecological and national security threat'
- State and national authorities begin preparing to conduct a NRC exercise to evict Bangladeshi settlers

