

Negombo Lagoon Fisheries

A Case Study in Common Resource Management

Rei Anno, Erina Iwami, Riad Houry and Valerie Tan



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Executive Summary

Over 25,000 Sri Lankans depend on coastal fishing as their main source of income. Many of these households have been fishing for multiple generations given Sri Lanka's abundant coastline and 28 lagoons. Ecological damage to Sri Lanka's lagoons in recent decades – the result of urbanization, overfishing, pollution, land reclamation and other factors – has led to a deterioration of the lagoons' resources and the livelihoods of fishermen. These developments have disproportionately affected traditional fishermen, and threatened the sustainability of lagoon ecosystems throughout the country.

With this in mind, the International Union for the Conservation of Nature (IUCN) and the International Water Management Institute (IWMI) partnered with a group of four International Development students from Johns Hopkins School of Advanced International Studies (SAIS) to develop a case study of Negombo Lagoon, one of the most resource-rich yet rapidly deteriorating ecosystems in Sri Lanka, as a guideline towards better resource and governance management of lagoon ecosystems in the country.

The students found that weak governance of the activity around Negombo lagoon is one of the root causes of deteriorating livelihoods for traditional fishermen. Through seventeen focus group discussions and key informant interviews, the research team found that coordination among the large number of local and state government agencies involved in the management of the lagoon is inadequate, with no agency willing to take ownership of the problems faced by the lagoon. Regulations are inconsistently enforced with limited monitoring of illegal fishing activity. While civil society groups are sophisticated and able to provide crucial support at the local level, they tend to join forces across organizations only in the presence of clear and urgent threats to the entire community.

Based on observations in the field and a review of the literature on common resource management principles, the team proposed the following recommendations to the local authorities: (1) clarify mandates of existing government agencies involved in lagoon management, making it easier for fishing communities and NGOs to hold them accountable; (2) establish a task force with adequate resources to monitor lagoon activity and enforce penalties for violators; (3) integrate civil society and church representatives into the Lagoon Management Authority to take on the role of mediator, oversight body and forum for government officials and fishermen. The team has found the third recommendation to be one of the most crucial, as civil society organizations operating around Negombo – including the Church, an important presence in the life of fishermen – are uniquely positioned to make the Lagoon Management Authority more credible and accountable.

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Negombo Lagoon: An Overview

Negombo is a shallow coastal lagoon situated in the western part of Sri Lanka, just outside the nation's capital. The lagoon with an area of 3,164 hectares is an estuary connected with the sea by a single narrow opening and with freshwater from the Attanagalu Oya drainage basin, allowing constant exchange of fresh and seawater. Its rich hydrological regime serves as a nutrient source and nursery for a variety of fishery organisms including shrimps, making Negombo one of the most productive estuaries in the country. The total economic value of three most productive estuaries in the country accounts for more than two billion rupees.

Negombo is home to a population of 142,136 people and the majority of local households engage in fishing activities as their primary source of income. Local populations especially fishing communities, are predominantly composed of Roman Catholics. Roman Catholic churches play a vital role in social cohesion and welfare, particularly in the field of education and financial services, and priests are well-respected figures in local communities. Although the average income level in the Negombo community is relatively low, community members contribute a substantial amount of income to churches.

Fishery Types

Negombo first developed its traditional type of fishery dating back in the eighteenth century. The traditional method called Kattudel places a net using nine stakes fixed in the ground of the lagoon ("Kattudel Padus") to catch shrimps dwelling in the lagoon. The Kattudel communities have formed three Kattudel groups to manage fishing rights and rules in the lagoon. Each group takes turns to fish in the lagoon every three days to avoid any conflicts over jurisdictions and unfair distribution among fishermen. Kattudel fisher operates during low tide and at night between 7pm and 4am. Kattudel Padus are vested upon existing members and any new member is strictly prohibited according to their rule. The right is inherited from a father to a son and Kattudel fishermen are required to be a fisher by profession. Kattudel fishers hold two types of meetings (annual general meeting and regular meeting) in the Catholic church of their parishes. An annual general meeting is an occasion in which Kattudel groups allocate Padu



Photo 1: A Kattudel Meeting for a padu

use rights to each group through a lottery system. Moreover, participants including all Kattudel fishermen, priests and government officials discuss various topics such as issues and conflicts among fishers. A regular meeting is organized within each Kattudel group or society. Fishermen usually decide which member gets which padu.

The study focuses on three other fishery types: trammel net, fiberglass outboard motors, and multi-day boats. Although the outboard and multi-day boats are not particularly lagoon fishing, both cannot be excluded when discussing about the Negombo lagoon. All three types are relatively new compared to the Kattudel. Trammel net is a type of fishing using a large complex gill net, which can be as large as a few meters to two kilometers. After the legalization of other fishing activities in the lagoon in 1985, trammel net fishermen most of whom escaped from conflict-affected areas started fishing in Negombo. Trammel net fishery is less disciplined and structured in terms of rules and regulations, unlike Kattudel. Fishermen cast their nets in the morning in the lagoon and collect them in the evening. Trammel net fishing is considered more efficient, and in fact, fishermen we have interviewed said their income increased significantly that they now live in a concrete house, instead of a hut. Since the enactment of the Fishery Management Act in 1996, the government put in place a few rules such as licensing trammel net fishery and limiting the length of a net to 600 meters. However, the enforcement of such rule is poorly conducted, and thus caused various issues and conflict, which will be explored in later sections.

Outboard Motor Boat fishing is another type of fishery practiced in Negombo. Fishermen of this particular type of fishery use fiberglass reinforced plastic (FRP) boats with outboard engines, and fish in the near-shore coastal sea, mostly catching small pelagic fish such as sardines and herrings. They make a significant contribution to local communities by supplying low-priced protein. Fishermen are usually the owners of boats, and thus are responsible for constant repairing of engines and boats. Compared to lagoon fishery, outboard motors generally have more lucrative businesses. Nevertheless, some fishermen during an interview mentioned that their annual debt level could rise to 200,000 rupees. On top of such fixed costs, fishermen bear a large portion of variable costs including kerosene. In 2010, the price of kerosene increased by 50 percent overnight. This led to riots and clashes between fishing communities and police, with two people killed during the incident. As a result, the government introduced a fuel subsidy for fishery communities in the lagoon.

Multi-day boat fishing (MDB) is another type of fishing with which fishermen travel for an extended period of time for offshore fishing. MDB fishermen typically make twelve trips annually. Each trip ranges from 15 to 45 days with a week in-between. Because a fishing trip may last for more than a month, a boat is big enough to accommodate more than six people with enough stocks and catch storage.

Both FRP and MDB boats are usually parked at the mouth of the lagoon for convenience. However, parking of the boats in the lagoon has increasingly been an issue in Negombo causing grave damages to the hydrological regime. Overcrowding has been disrupting the flow and exchange of freshwater and seawater. Parked boats dump old fuels and refuel when coming

back from a trip. Moreover, many fishermen dump old fuel and refuel at their parking spots, which has been one of the biggest causes of water pollution. Many community members, especially traditional fishermen and NGOs have voiced health issues arising from water pollution in the area.

In addition to the four fishing types, the lagoon is home to some other fishing activities such as gill net, caging and brush pile methods. Although these types of fishing were not in the scope of this study, this illustrates that the lagoon is and has been operating in a complex harmony among a number of fishermen that rely on the lagoon as their primary source of income.

Governance

With the nature of complexity of the lagoon, governance has been a critical issue in Negombo. Kattudel has established its own institution with which it regulates property rights and fair distribution of wealth derived from common resources. Apart from a self-organized management scheme such as that of Kattudel, various government organizations are involved in regulating the lagoon resources and environment.

Municipal Council

The Negombo Municipal Council is a government organization. Its budget consists of taxes paid by municipality as well as some federal government funding. The objective of the Municipal Council is to provide a good living standard for residents in Negombo, and thus, engages in various areas such as public health, education, waste management, infrastructure development and maintenance, and public order. The Municipal Council also monitors and removes any illegal settlements, particularly those claiming on mangroves. One of the most important services that the Municipal Council offers to its people is waste management. However, it is virtually limited to managing only land waste, and an issue considering wastes dumped in the lagoon is not within its jurisdictions. Municipal Council opens its line of communication to citizens through a hotline or an office visit, and garbage collection and waste management is the biggest complaint that the office receives.

Divisional Secretariat

The Divisional Secretariat is a district government that handles administrative duties. It reports directly to the central government. In Negombo, the Divisional secretariat has a primary ownership of the lagoon as a state agency, and focuses on environment conservation of the lagoon, including mangroves. Services provided by the Divisional Secretariat include: civil registrations (birth/marriage/death certificates); issuance of permits and licenses (tree cutting, timber transport, liquor, and others); land administration; social welfare and benefits; and, development programs.

Grama Niladhari

Grama Niladhari is a public official appointed by the central government. The primary objective is to handle any administrative duties in his or her designated district. Grama Niladhari reports to the Divisional Secretariat about situations in the designated areas. He/she also interacts with local people and listens to their complaints. One of the problems that people are increasingly voicing is domestic violence. Grama Niladhari acts as a mediator in such cases, especially when women are not willing to go to court to settle disputes. Grama Niladhari is also responsible to keep track of any criminal activities in his/her district.

Department of Fisheries and Aquatic Resources

The main mandates of the Department of Fisheries and Aquatic Resources (the Department) are management, development and conservation of fisheries and aquatic resources. Particularly in the context of Negombo, the Fisheries Department is a primary provider of fishing and boat licenses without which fishermen cannot operate in the lagoon. Each fisherman holds a license card authorized by the Department. Moreover, the Department undertakes the role of lagoon management under which it provides technical and regulatory assistance. Additionally, whether in the sea or in the lagoon, any issues concerning fishing is handled by the Department.

Coastal Conservation Department

Coastal Conservation Department (CCD) is a government agency established in 1984 as a result of the country's increasing concern about coastal erosion, and is currently the only agency responsible for management of coastal zones in Sri Lanka. Its physical jurisdiction is 300 meters from the coast to land, one kilometer from the coast to the sea, and two kilometers from the mouth of a lagoon to the sea. Its major responsibilities include managing resources of the coastal zone, preserving ecosystems, controlling coastal erosion, and protecting fishing harvests. With regards to the specific issues in Negombo, the CCD works on wastewater and garbage disposal together with other government agencies, the Central Environment Authority and the Marine Environment Protection Authority. These three offices collaborate in wildlife management of the area.

A number of government agencies are present in Negombo to better people's lives and preserve environment and its rich natural endowments. However, many agencies find it difficult to draw a clear line on each organization's jurisdiction. As a result, some serious issues such as pollution in the lagoon have been neglected, or at least not properly regulated. More in-depth case studies and analysis will be addressed in later sections.

Methodology

The study had two main objectives: the first was to determine what factors are threatening livelihood sustainability for small-scale fishermen in the Negombo area, and the second was to identify the root cause of these threats and how to address them for the future. The clients, IWMI and IUCN specifically had the team focus on three types of fishers: the traditional Kattudel or stake-net fishers, the outboard motor boat fishers and the multi-day boat fishers. Almost immediately upon arrival in the field, the team found it necessary to include trammel net fishers in their observations due to their close competition and direct impacts on the Kattudel fishers.

Below is a list of main research questions the team formulated for the various stakeholder interviews in the field:

1. What is the value generated by each type of fishing activity
 - a. Is the revenue from these activities sufficient for fishermen to sustain themselves? If not, how are they or their family members supplementing household income?
 - b. How does one fishing group fishing activities impact the activities of other types of fishermen?
 - i. Are there intra-fishermen conflicts as well as inter-fishermen conflicts?
 - ii. What are the conflict resolution mechanisms
 - c. How has revenue evolved over the past 20 years? Have harvests been the same?
 - i. Change in current and past fish catches
 - ii. Change in number of fishermen per type of fishing
2. What is the impact of urbanization on the ecological integrity and sustainability of the lagoon?
 - a. How does this affect the livelihood of fishermen?
 - b. Effects on the broader fishing-related industry
 - i. Boat repair servicemen, fuel supply, ice supply, net and stake materials
 - ii. Fish wholesalers
 - iii. Fish drying industry
3. Unintended consequences
 - a. Of government interventions; i.e. subsidies
 - b. Cash or other welfare improvement programs by the NGO or private sector
 - c. Tourism development
 - d. Commercial or alternate fishing industry development
4. The definition of well-being, how have lagoon developments affected the standard of living of fishing households
 - a. In terms of health, education, food security, gender empowerment, poverty reduction
5. The role of women in Negombo's small-scale fishing community
 - a. How many are involved in the fishing industry

- b. Are they considered equal or supplemental or main bread winners
 - c. What is their social clout in influencing the community and/or government policies
 - d. Are they in charge of finances for their households
6. Sustainability and Recommendations from within the community
- a. Do fishermen themselves think the business is sustainable; do they want their children to continue with fishing, specifically for kattudel
 - b. What do the stakeholders see as the main problem, and what is their proposed solution

With the above questions as guidelines in the team’s data collection, qualitative and open surveys were conducted, resulting in 17 meetings in 9 days. Below is a table of the individuals and groups interviewed by the SAIS team during their stay in the field.

Table 1: List of Interviews

Category	Body
Government Agencies	Department of Fisheries
	Coastal Conservation Department
	Divisional Secretariat
	Municipal Commission
	Grama Niladhari
	National Aquatic Resources Research and Development Agency
Fishing Community	Kattudel
	Trammel Net fishers
	Outboard Motor (OFRP) Boat Operators
	Multi-day Boat Operators
Civil Society Organizations	National Fisheries Solidarity Organization (NAFSO)
	Women’s Organizations
	Catholic Priest/Church representative

Findings

The fishing communities the team observed face a myriad of challenges to their livelihoods. The decline of their ecosystem and the associated shrinking catch have affected not just the ecological make up of the lagoon, but also the income volatility and consumption patterns of small-scale fishing communities. The team found however, that some challenges were more community specific – in one interview, a trammel net fisherman denied conflicts with other fishing groups and noted that the problems were all different and that “one many is hungry, while another is thirsty.”

Declining ecological environment

a. Overfishing

Overfishing and illegal fishing methods are practiced widely, leading to depleting stock of fish in the lagoon. For example, trammel nets are supposed to be no longer than 600 meters, but some use nets as long as 2000 meters. A large number of small-scale shrimp farmers, many of whom remain largely unregistered (illegal), has resulted in depletion of natural fish resources, reduction in nursery and feeding grounds, and obstruction of water flow. This has caused a vicious cycle where depleting fish compels fishers to overharvest to compensate for the lower catch and smaller sized fish.

b. Urbanization and industrialization

Negombo lagoon is located approximately 35 kilometers north of Colombo. The proximity to the country's capital makes the lagoon one of the most highly urbanized lagoon areas in the country. It is located near a wide range of activities including industrial zones, hospitals, and government housing projects. The main international airport that serves Sri Lanka is located in Negombo, making it an important tourist hub. Tourist development has led to construction of resorts along the coast and usage of public beaches as a “private” one, crowding out traditional lagoon access and landing sites. Activities associated with urbanization and industrialization, such as road building, land filling, and construction of houses have put considerable pressure on the local ecosystem and change in hydrology.

c. Pollution

Pollution is a leading cause of deteriorating ecosystem health in Negombo. We have identified four main sources: i) human waste due to lack of proper sanitation system and waste management system ii) industrial and urban waste iii) oil discharged from fishing boats iv) waste dumping by local residents, fishers, and dry fish producers.

We observed that all stakeholders of the lagoon system were taking part in waste disposal around the lagoon. Household trash were settling on the lagoon floor and unused fishing boats were left abandoned, leading to increased sedimentation and change in water flow of the lagoon. Fuel discharge from outboard motor boats and large amount of salt disposed by dry fish producers lead to change in pH and salinity level of the water. In a focus group discussion with women, we were told that high level of mercury was found in hairs of local women, suggesting industrial waste disposal into the water which also feeds into fish. During one of the focus

groups, we were told that everyone disposes trash into the lagoon because there is not an effective waste management system in the area. The central issue seems to be the lack of central authoritative figure responsible for waste management and monitoring of descriptive activities around the lagoon.

d. Land reclamation

Land scarcity is a prominent issue in the Negombo area, and many fishermen and other local residents encroach the lagoon area for residences and other purposes. Land reclamation modifies sedimentation rate and depth of the lagoon, interfering with the water flow. Water stagnation interferes with the life cycle of shrimp inside the lagoon, leading to decreasing catch of the traditional fishermen. We learned that some settlers use mangroves as a fence around their settlement, as mangroves are not allowed to be felled and it effectively protects them from being removed.

Poor governance

Most fishermen faulted poor governance of the lagoon area and inadequate monitoring of fishery activities by the authorities for the decline of their ecosystem. Despite acknowledging the deteriorating conditions around the lagoon, several government agencies seemed either indifferent or powerless in the face of the challenges faced by the ecosystem at large and by traditional fishermen in particular. There is poor coordination among the large number of local and state government agencies involved in the management of the lagoon and no agency is willing to take ownership of the problems faced by the lagoon.

Existing rules and norms governing activity around the lagoon were rarely faulted for the mismanagement. Rather, fishermen singled out selective and inconsistent enforcement of the rules as a source of governance failure. This was the case for violations ranging from households around the lagoon dumping waste to fishermen using nets that were not in line with regulations.

The Lagoon Management Authority, a hybrid co-management structure intended to bring together fishermen and government officials, is perceived as being ineffective. Formed in 2002 with the Fisheries Act Committee, its members are volunteers and not salaried. Elections are scheduled to take place every two years, yet the president has not changed in 10 years. The management is often criticized by the fishermen in interviews as being moribund.

One solution put forward by the fishermen was to form a taskforce of 5-10 government employees that would be empowered with the authority and resources to enforce regulations and take responsibility for the protection of the lagoon.

Socio-economic consequences of Lagoon Mismanagement

Apart from the clear threat of lagoon mismanagement to the livelihoods of the small-scale fishing community, many harmful consequences to the community's health, family dynamics and way of life have also arisen.

Health Concerns

As previously noted, small-scale fishing communities are generally characterized as being poorer and less educated than the rest of society in Negombo. Their tight-knit nature further means that they live close to each other, and to save money, many of them share walls as boundaries for their houses. This close proximity of the households partnered with weak waste management and sanitation conditions has created a breeding ground for disease that has struck only the fishing communities in Negombo.

An interview with the Public Health official in Negombo revealed that fishermen are particularly more prone to Dengue, Alcoholism and Skin diseases because of the nature of their job, and the environment they are exposed to in their homes. In 2014, Leprosy spread among fishing communities. To the government's credit, they were able to contain the disease within six months. However, the fact that Leprosy even became widespread enough and only spread within fishing communities is an indication of the standard of sanitation fishing communities are accustomed to.

Affording healthcare is another issue fishing communities struggle with, and is an important factor to consider given the volatile income associated with small-scale fishing. Technically, health services are offered free of charge in Sri Lanka, the reality is different. Patients are required to pay for blood tests, their own syringes and other exams. Women in particular have complained about the deplorable health services, claiming that the "hospitals only provide you with a bed and that's it."

Intergenerational Sustainability and Livelihoods

The team's interviews with both fishermen and women's groups revealed how fishery as a livelihood used to be a status symbol that reflected a good source of income, and relatively respected position in society. In fact, one of our key informants, Mr. Sebastian Fernando, left a job in the government to claim his hereditary right to become a Kattudel fisherman. At the time he transitioned, being a fisherman was more lucrative than working for the government. One woman noted how "in the past, fishermen could support families with 6 to 7 children just on fishing alone. Nowadays, raising 1 to 2 children is difficult."

With the rapid urbanization and development of the area, fishing as a livelihood has become inferior to more stable incomes in the garment, factory or tourism industry. As a result, all of

those we interviewed stated that they would not like their children to continue with fishing as a livelihood, and prefer to encourage them to get an education so they can work in the commercial sector or with the government. The parents further emphasized that stability and security for the future is the most important thing they want their children to have, and fishing no longer offers this.

Unintended consequences of infrastructure development

Sri Lanka's main international airport, Bandanaraike International, is located in Negombo lagoon, causing the area to undergo rapid infrastructure development to cater to the booming tourism industry. Notably, in 2013, the government completed the construction of the Colombo-Katunayake Expressway, which is a large highway connecting the airport directly to downtown Colombo. The expressway cuts through a certain bank of the lagoon, and despite many objections to its construction, the government officials favored the revenue of the toll roads and benefits to the tourists over the local community. Fishermen invited government officials to discuss their concerns over the construction of the expressway, as the construction would specifically destroy the breeding grounds of small shrimp.

Misguided welfare and human development projects

Even well intentioned NGOs and welfare improvement projects have had some unintended negative consequences to the lagoon ecosystem and even the relationship between fishing communities. For example, several conservation NGOs started projects to replant mangroves around the lagoon to rehabilitate the vegetation and improve the aesthetic of the surrounding areas. However, this was misguided and was undertaken without consulting agencies like the National Aquatic Resource Research Agency (NARA) or the Coast Conservation Department (CCD). As a result, the mangroves were planted in locations that disrupted the natural flow of water, and harmed the breeding grounds of small shrimp and fish.

Role of Civil Society Organizations

During the field visit, the team noted with interest the strong influence of civil society organizations and the Church in their conversations with the fishing communities. In particular, women's groups have significant convening power in the community. These women's groups were usually categorized by their husband's fishing type, but not all of them were necessarily involved in the fishing industry as well. Most work in the garment district, and only some are involved in secondary fishing activities such as dried fish selling.

Literature reviews and research conducted before the team's arrival on the field already pointed to the fishing community's strong relations with the Catholic Church – in fact, Negombo is known as “Little Rome” for the sheer number of Churches present per square foot and the fact that over two-thirds of the population is Catholic, despite Sri Lanka's predominant Buddhist faith. A focus group discussion with Trammel net fishermen showed just how strong the relationship is between fishermen and the Church. “The Church has been with us from the beginning” one fisherman noted, “and we will be with them until the end.” This sense of trust and partnership is crucial to understanding the dynamics of socio-economic relations in Negombo lagoon, and provides insights on how this relationship can be leveraged into formulating a better management mechanism for the lagoon.

The team conducted an interview with the priest of the Divine Mercy Church, where he spoke of their efforts to engage high-level government officials to pay attention to the interests of their clergy. He had just returned from a two-day conference in which the Cardinal of the diocese invited the director of the proposed Port City to meet fishermen in Negombo. Aside from this political clout, the Church is also a conflict mediator within the fishing communities, and is a source of loans for the communities, particularly when it comes to medical bills.

Ostrom's Design Principles

Our previous findings ultimately highlighted the ineffectiveness of resource management. Such governance failure is threatening the ecosystems of the lagoon, hence the sustainability of those people who depend on the lagoon as their primary income source. The case in Negombo partially illustrates what is generally called as the “Tragedy of Commons”, an economic theory first publicly introduced by Garret Hardin in 1968. A situation where all individuals act upon their self-interests and extract common resources ultimately results in the complete depletion of resources. The rate of resource depletion accelerates due to the lack of individual ownership, incentives to act on collective interests, and ineffective restriction. Without any institutions, resource extraction exceeds the natural harvest rate and ultimately depleting the maximum stock level of any resources, whether they are renewable or non-renewable. Hardin argued that in order to avoid such tragedies, the only possible interventions are the establishment of private property rights and regulations by the centralized government.

Elinor Ostrom, a Nobel Prize winning economist, took a different approach to address the Tragedy of Commons. Ostrom strongly believed in the power of local communities and resource users to organize and collectively solve problems of institutional supply, commitment, and monitoring. Based on this belief, she authored a book *Governing the Commons* where she introduced the ideas of sustainable management of commons by self-organizing resource users, rather than privatization and external regulations. Ostrom concluded that sustainable commons management requires principles and the eight principles are:

1. Clearly-defined boundaries;
2. Congruence between resource environment and governance structure;
3. Collective-choice arrangements;
4. Effective monitoring;
5. Graduated sanctions;
6. Conflict resolution mechanisms;
7. Self-determination of the community recognized by high-level authorities; and,
8. Enforcement of rules through multiple layers of nested enterprises.

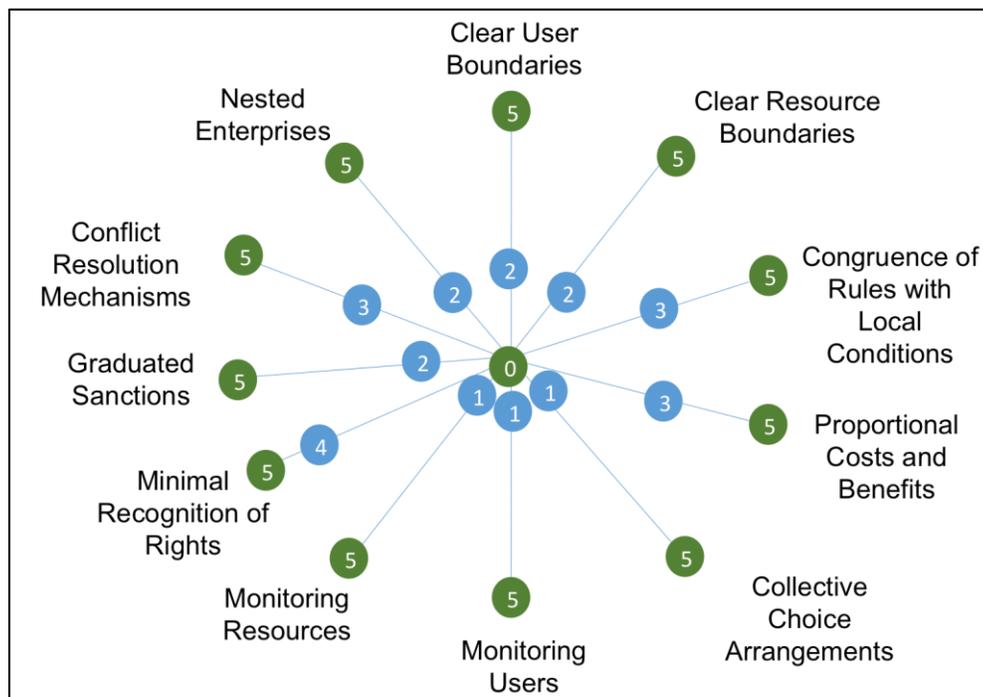
Ostrom's eight principles have been applied in various countries' contexts to dissect governance structure and commons-pool resource management.

Cox, Arnold and Villamayor-Tomas analyzed more than 90 studies on the Ostrom's design principles and developed the Ostrom's principles further into eleven principles.

The eleven principles are:

1. User boundaries
2. Resource boundaries
3. Congruence with Local Condition
4. Appropriation and Provision
5. Collective-Choice Arrangements
6. Monitoring Users
7. Monitoring the Resource
8. Graduated Sanctions
9. Conflict-Resolution Mechanisms
10. Minimal Recognition of Rights
11. Nested Enterprises

The team concluded that the eleven principles seem fit to the case in Negombo, and hence utilized the model to assess governance of commons-pool resources in Negombo. We used a scoring system to visually illustrate the current level of resource management and governance structure.



Recommendations

Based on observations in the field and a review of the literature on common resource management principles, we propose the following recommendations to the local authorities: (1) clarify mandates of existing government agencies involved in lagoon management, making it easier for fishing communities and NGOs to hold them accountable; (2) establish a task force with adequate resources to monitor lagoon activity and enforce penalties for violators; (3) integrate civil society and church representatives into the Lagoon Management Authority to take on the role of mediator, oversight body and forum for government officials and fishermen. The team has found the third recommendation to be one of the most crucial, as civil society organizations operating around Negombo – including the Church, an important presence in the life of fishermen – are uniquely positioned to make the Lagoon Management Authority more credible and accountable.