

CHAPTER 2

Survival of small-scale fisheries in the post-war context in Sri Lanka

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The post-war era has afforded Sri Lanka, especially those people in the North and the East, a chance to re-start their lives and livelihoods that were disrupted for 30 years. One of the main industries affected was the fisheries. Within this sector, there is a prevalence of poverty among small-scale fishers as well as others along the value chain. With the end to the armed conflict, the fisheries sector has been identified by both state and non-state actors as an important source of income generation for the people affected by war. Amidst this renewed interest in the fisheries sector, this essay discusses the current practices and types of fisheries that poor people are engaged in, the opportunities and constraints they face, and proposes ways of increasing the sustainability of small-scale fisher livelihoods.

Introduction

Although there is no standard definition of small-scale fisheries, various classifications of fisheries include: small-scale versus large-scale, subsistence versus commercial, artisanal versus industrial, inshore versus offshore; or fisheries may be classified according to vessel size (Panayotou, 1985). The literature on small-scale fisheries indicates that the definition differs depending on the context of the country, as those considered small-scale in one context could be considered large-scale in another. Thus, ranges or rough categorizations of the technical and socioeconomic characteristics of fishers' activities are generally used.

In the Sri Lankan context, a range of small- and large-scale fishing can be identified based on characteristics such as the size of the catch and the type of species caught, the technology – type of craft and equipment

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used, the amount of capital (human and physical) invested, and the returns to the producer. Apart from those who engage in capture fishing, there are culture fish producers – both small- and large-scale – and a complex web of men and women who engage in fishing-related activities along the value chain. For the purpose of this discussion, we consider fishers who engage in capture fishing in the coastal and inland waters using traditional methods, equipment and crafts as small-scale fishers.

The fisheries sector in Sri Lanka is divided into three main sub-sectors, depending on the location where the fishing activities take place: coastal fisheries, offshore fisheries and inland/aquaculture fisheries. Coastal fishing occurs within the continental shelf and is undertaken by fishing crafts in single-day operations and beach seine² activities. Offshore fishing involves deep sea fishing outside the continental shelf, extending up to the edge of the exclusive economic zone, carried out by multi-day boats. Inland and aquaculture mainly involves fishing in fresh water, brackish water and fish culture. Sea fishing in Sri Lanka is naturally controlled by the two monsoons that affect the country; the main fishing season in the Southern and Western coastal belt is from September to April and on the Eastern coast from March to September (focus group discussion, Trincomalee).

This essay draws upon information and field experience gathered by the Centre for Poverty Analysis (CEPA) on different assessments and studies conducted in the Northern and Eastern provinces and in Puttalam district in the North Western province of the country. The studies and assessments looked at livelihoods in general in the conflict and post-war context of the country, and we draw specifically on the fisheries related information. The first part of this essay provides an overview of the definitions and concepts related to small-scale and other fisheries in the Sri Lankan context. This is followed by details of the current status of small-scale fishers, highlighting the opportunities and constraints, drawing upon the personal stories and experiences of fishers affected by the war. The essay goes on to discuss the current policy environment and action plans related to the small-scale fisheries sector, followed by potential solutions for the challenges identified.

2 Beach seines in Sri Lanka are called '*maadal*'. The average beach seine measures about 2-3km in extent with the length of the rope varying from 1-1.5km. The body and the bag (or the cod end) measures around 7m. The ropes are made of coir fibres whereas wings are made of coir rope meshes and Kuralon meshes. The bag is totally made of Kuralon. The net is set in water with the use of a wooden craft (8m in length) known as '*maadal paaruva*'. The beach seine craft is paddled by four oars, two on either side, and each oar is paddled by two men. In addition, there are two men in the craft to set the net, and a leader to give directions and coordinate activities.

Overview of the fisheries in Sri Lanka

Coastal fishing involves different types of techniques to capture fish within the continental shelf, as single-day operations and beach seines, using traditional methods such as rod fishing and stilt fishing. For those engaged in this sub-sector, fishing is their sole income source. Their dependency on one livelihood makes them vulnerable to the uncertainty and risks involved as well as lack of income or savings in the offseason. The net income distribution of the coastal sub-sector compared to the offshore sub-sector is low. The number of people engaged in a given coastal fishing activity is high and the harvest is low compared to the offshore sub-sector. For example, a beach seine is estimated to support about 40 families, but the harvest is lower compared to that of multi-day boats (Munas *et al.*, 2009).

Coastal marine resources offer direct and indirect income generation opportunities for a cross section of coastal society; men, women and even children, after school and during school holidays. While the actual capture of fish is the man's domain, women and children boost household income by engaging in post-harvest and support activities such as cleaning fish, preparing fish for drying, and mending fishing nets.

According to the Ministry of Fisheries, Sri Lanka's fishing fleet is mainly mid- to small-scale, with very little large-scale fishing due to lack of technology, boats and capital. Therefore, Sri Lanka has not yet capitalized on offshore fisheries, and new policy directives are looking to improve the offshore sector. Even though the offshore sub-sector has the highest level of productivity in the North and the East, there is a marked lack of fishing equipment and crafts suitable for offshore fishing. Thus, this sub-sector will likely take time to develop due to the lack of capital that is essential for purchasing multi-day boats.

In the recent past, inland fishing and aquaculture has become important to the fisheries sector for various reasons. Some fishers engage in inland fishing as the primary source of income while for others it is a secondary form of income combined with other non-fisheries related activities, such as agriculture, which helps them maintain a mixed livelihood portfolio. This is a coping mechanism that can mitigate the impact of external shocks to income. During the offseason in the marine sub-sector, certain fishers engage in inland activities in the brackish waters as a secondary livelihood option.

The total fisheries production from the three sub-sectors has increased, but with high fluctuations, from about 187,500 tonnes in 1980 to about 320,000 tonnes in 2008. In the early period, almost all production came

from the coastal sub-sector. While more than half of the total production still comes from this sub-sector, the offshore fishing sector is gaining a significant part of the catch share (about 33% of the total in 2008). A similar trend is observed in the inland and aquaculture sub-sector, which currently contributes about 12% of total production.

Role of small-scale fishing as an income generation activity in the post-war context

Agriculture and fisheries are the mainstays of Sri Lanka's North and East economy. They were important livelihood strategies before the war, and are vital for the economic recovery of these conflict-affected areas. The growth rate of the agriculture sector (which includes fisheries) is higher than the industry and service sectors in the North and East. During the ceasefire of 2002-2005, which is closest to 'normalcy' that the North and East provinces experienced prior to the end of the war, agriculture and fisheries showed the highest percentage contribution to the provincial GDP. Also, between 2002 and 2003, this sector expanded by an average of 32% per year in Northern Province and by 19% in Eastern province (Anonymous, 2007). This shows the potential of the agriculture and fisheries sector in the two conflict-affected regions.

About 60% of the coastal area of Sri Lanka is in the North and East Provinces. The geography of these provinces makes them suitable for coastal and inland fisheries. They have an abundance of freshwater and brackish water sources and are very rich in coastal, offshore and deep-sea marine resources. As a consequence, 60% of fishers in the country are from these regions. Even though the North and East Provinces contributed 64% of the total fish production in the country in 1980, it dramatically declined to 32% in 2002 as a result of the civil war. In contrast, Eastern province saw an increasing trend in fish production due to relative accessibility; as opposed to the North where there was limited access to the sea.

The Northern and Eastern provinces also employ the highest number of people in the fishing sector, which comprised 60% of the total fishing population in the country in 2009. They are mostly in the coastal sub-sector and lagoons that fall under small-scale fisheries. In contrast, the offshore sub-sector shows the highest productivity but employs lower numbers of people compared to the other two sub-sectors. According to the available data, Trincomalee and Batticaloa districts in the Eastern province have the

highest numbers of traditional crafts throughout the island. These are used by the small-scale coastal fisheries communities.

During the conflict, security restrictions on time, distance, access and type of craft used in these regions severely affected the fishery sub-sector. The lack of skill, capital and capacity available in the region, loss of livelihood-based assets due to multiple displacements of the fishing communities, damaged infrastructure from landing centers, storage facilities to market infrastructure, financial establishments such as banks and road networks added to further deterioration of the situation.

The end of the armed conflict has made it possible for long-term development interventions to take place in these provinces. The fisheries sector contributes 70% of the nation's animal protein intake, and so is a vital contributing factor to the health of the population. The policies are also looking at promoting alternative livelihoods and pushing people to move towards offshore or culture fishing mainly targeting the export market. There are also implications of overfishing and resource depletion of Sri Lanka's fish stocks. This has spurred a renewed call for tighter regulations and limits of licenses for fisheries, especially on coastal/near-shore fishing. These changes have implications for small-scale fishers; testing their ability to adjust and benefit from post-war development.

Experiences of small-scale fishers

During the war from the 1980s to 2009 and in the immediate post-war context, communities lost family members, property and livelihood assets; experienced multiple displacements; and faced fear and uncertainty, restricted physical mobility and limited access to livelihood opportunities. Some resettled communities in the post-war North and East provinces of Sri Lanka engage in small-scale fishing because of their pre-displacement experience. Also, the relatively low capital requirement in engaging in small-scale fishing using traditional crafts and equipment means that they are in a position to restart these activities in the fragile time of immediate return to their original communities. Some small-scale fishers were able to take their fishing gear (such as nets/rods) with them during their displacement so this enabled them to restart a livelihood with relatively low capital cost.

Some experiences of fishers in the East, immediately following the end of the armed conflict and the resettlement process, highlight some of the challenges on the ground.

Vicious cycle of debt: Is there a way out for small-scale fishers?

Marine fishing in Sri Lanka is seasonal with the peak season from February to July in the Eastern and North-Eastern coastal belt. Small-scale fishers with their non-motorized one-day boats – unlike the offshore/multi-day boats – cannot engage in fishing activities during the off peak season. A secondary form of livelihood – either related to fishing or not – which can cushion them during the offseason is not available to them. This leaves them with no other alternative but to take credit at high interest rates from individual money lenders, trapping them in a cycle of debt. Consequently, fishers' indebtedness binds them to sell the catch to these money lenders, who are also the collectors/buyers (*Mudalalis*) during the fishing season.

Mudalali (local collector/buyer) is the one who decides the price of the catch we sell. We don't have a say in the price because we are indebted to him. We are in debt to him because during the offseason, we survive on the credit that we get from him. If we can supply the product to a different buyer then we can get a better price.

(Focus Group Discussion, Trincomalee)

Lessons for offseason survival can be learned through resourceful fishers from the same area. As an alternative to engaging in marine fishing during the offseason, some fishers switch to lagoon and brackish water systems to supplement their income. Some look for employment in the informal agriculture sector on a daily wage basis. They also try to diversify their household portfolio with members taking on different income generation activities.

I have one son and one daughter. Son in grade nine. My husband died in 1996 during the war. My daughter who is in grade five also engages in fishing after school, and my son is a member of the fisheries society. So he can use a small boat to fish in the village tank. I fish using a rod and undertake home gardening. I have enough land of about ½ acre for home gardening, so in Yala (rainy) season I cultivate chilli, long beans, tomato, brinjals, and bitter gourd. (Female fisher, Batticaloa)

There is a clear need to break away from the cycle of debt that traps the fishers and tightens around them during the offseason. Finding ways to reduce the monopoly of the buyers and their control of prices is one option. Better management of their spending patterns during the peak season when

most of them earn a sizable income is another. Finally, diversifying income sources to tide them over the off peak season should be encouraged.

A future for beach seines?

Beach seine fishing is an important aspect of small-scale fishing, especially in the Eastern coastal belt. However, many beach seines in this area are owned by people from the Northwest coast. Local people can obtain employment on the beach seines either as temporary workers (where they are given fish as payment) or as permanent workers with cash wages. However, most of the permanent workers on these beach seines are from outside the district and they have been brought to the East on a contract basis. Some women from the area engage in the last phase of the beach seine activity, “the illippu”, and are paid in kind with two or three baskets of fish.

I support myself by taking part in the beach seine related activities. Women are usually needed to bring in the last part of the beach seine and we are usually paid in kind with fish. We usually get about four fish per net. But this depends on the amount of fish that is caught in the net. Sometimes there aren't any fish caught in the nets at all and we come off empty handed. We can sell the fish that we get to the buyers that come to collect the fish and take cash. (Female villager, Trincomalee)

However, being employed in beach seine activities is seen to bring less return, as most of the time they are paid in kind. Fishers thus prefer to go out to sea in their traditional crafts. Hence, this type of fishing is undertaken by the most vulnerable fishers of the community because it does not require any capital cost.

Based on the experience of the Southern coastal belt, beach seine activities are not encouraged by policymakers due to resource depletion in the near-shore area. One way of controlling beach seine activities is by not issuing the license that is necessary to operate a beach seine in the East. However, each beach seine supports about 40 families and, given that a large proportion of these families belongs to the most vulnerable group, sufficient attention should be paid to including them in the post-war development phase.

Emerging sub-sector: Freshwater capture and culture fishing

Freshwater capture fishing has been identified as a potential area for support by both state and non-state entities in the conflict-affected areas of the

country. The quick returns of this sub-sector can enhance the livelihoods of the rural poor as well as add nutritional value as a protein supplement in the diet. Fishing provides the communities with a secondary source of income which helps them maintain a mixed livelihood portfolio to mitigate the impact of external shocks to their income.

The communities lack the initial capital and the necessary technology to engage in culture fishing. Since this is a relatively new livelihood option for most of these communities, market linkages and maintaining quality production levels will be a challenge at the initial stage. External interventions in terms of capital, technology, and facilitation of market linkages will be crucial in the current context.

We are interested in engaging in cage culture fishing, but don't have the capital for it. (Focus group discussion, Batticaloa)

Culture fisheries suit the vulnerable groups in the post-war period, such as female-headed households, with the initial capital costs financed either through micro credit systems or livelihood assistance projects. The amount of heavy manual labor required for culture fishing is relatively low, which makes it more favorable to women and the elderly.

Although freshwater fish was not seen as a sustainable income generation activity due to its relatively low marketability compared to marine fish, at present there is a high and increasing local demand for inland/freshwater fish, and for brackish water species such as prawns and crab. This market can be capitalized upon.

New avenues for new generations?

The reluctance of the younger generations to engage in direct fish capture has become markedly more apparent in the recent past. Fishing traditions have been passed down through generations but the present younger generations seem to want to shift away from their 'inherited' livelihood in preference for livelihoods that represent 'better acceptance in the society'. They seem to go into other sectors (services or industry), fisheries-related support services or move to new forms of livelihoods such as tourism, using the fisheries-related skill-base.

As seen in a fishing village in Kalpitiya region in the North-Western coast of the country, some of the younger generation has left to seek employment in other sectors. Cultivating aloe vera is a secondary income source, while others have turned to tourism-related activities such as providing dolphin-watching and coral reef tours as an alternative source of

income to fishing. On the whole, there is increased engagement in tourism-related jobs due to the end of the war and relaxing of security restrictions.

The switch to tourism-related activities such as providing tours is an alternative that is aided by the native knowledge of sea and the coastal areas and already having the basic equipment. However, they do not have financial resources to modify their boats according to the safety and comfort standards set by the tourist board, and expectations of the targeted tourist segment. In addition, poor infrastructure, inadequate lodging, regulations placed by the Department of Wildlife through permit issuance for visiting coral reefs, and security checks by the Navy pose hurdles to the tourism services they could provide. The community's lack of English further hinders their ability to communicate with foreign tourists. Despite these challenges, the fishers (especially the younger generation) see tourism as a good income source and employment generator for the future.

Way forward

Based on the current trends and the livelihood challenges presented above, this section looks at potential options to strengthen and improve the opportunities available to small-scale fishers in Sri Lanka.

Providing a platform for livelihood diversification

Diversifying income sources can prevent the risks related to seasonality and cushion adverse economic shocks. Certain vulnerable groups, such as families that are supported by beach seines, should be provided the platform to move into these diverse livelihood options. Introduction of high-value culture fishing can be one of the ways of diversification. There is a strong state interest towards culture fishing of high value fish species based on abundant brackish water resources that fetch higher incomes targeting the export market. In addition, small-scale, high-value aquaculture industries, for species such as sea cucumbers, lobsters and oysters, were present in an ad-hoc manner before the conflict in the North, and can be regularized and improved to provide better returns. The presence of favorable environmental conditions such as brackish water lagoons makes the area suitable for aquaculture. Using the zonal plans done for the East by the Ministry of Fisheries and Aquatic Resources in line with the ten-year plan for the fisheries sector, culture fishing can be developed beyond the model farms that have already been created in the East. The communities will have to be provided with the necessary skills training and initial capital to start this process.

Inland capture fisheries can be integrated with the agriculture system and promoted as a rural livelihood option, working through the already existing government structures of agriculture and irrigation. These factors and the presence of a large percentage of inland water bodies in the provinces, suggest that the inland fisheries sub-sector has a potential to grow in the North and East.

Introduction of cash crop cultivation or non-farm activities such as three-wheeler/motorbike repairing/servicing, information technology businesses such as 'communication centers' could be promoted, particularly to communities that have better access to main roads. An alternative/secondary livelihood option will provide fishing communities a reserve that they can fall back on during the fishing off-season, and move them away from the cycle of debt to the fish collector/trader.

Small and Medium Enterprises (SMEs) could be promoted, anchored around identifying more enterprising fisher communities/societies or individuals with initial capital. The more vulnerable fishers can then be linked to these SMEs which would give them a more stable income than the unproductive non-motorized day-boat fishing.

In the areas where the coastal fisheries are not profitable and the tourism industry is booming, communities can service the tourism sector. This provides an alternative source of income which is supported by native knowledge of the sea and the coastal areas. It assures them a continuous income, and one that seems to be preferred by the younger generations.

Creating linkages between coastal fisheries and deep-sea fishing through support services

Youth who are unwilling to engage in ocean-going fishing activities, and fishers in the less productive coastal sub-sector, should be encouraged to join the chain of support services related to fishing. Construction of boats, boat cleaning and maintenance, fish net manufacture, ice production, and supplying other services required by the industry such as transport, food provisions, and mechanical parts for the boat engines should be promoted with financial capital along with technical training from the relevant state authorities.

Promotion of support services locally will also boost the expanding fisheries sector in the conflict-affected areas, while also providing a larger range of jobs with wider benefits to the community. The shifting of fishers from the coastal sub-sector to the other services will also have added benefits of reducing over exploitation and resource depletion, thereby ensuring sustainability of the fishing industry.

Creating market linkages

The monopoly of the collector/wholesaler can be reduced by facilitating direct market linkages with wholesale markets inside and outside the district. The involvement of the private sector, such as hotels and restaurants, could be sought for other high-value culture fish and fish products. Awareness of the profitability of the culture fish industry should be made among the private sector, encouraging them to invest in these coastal regions. However, culture fishing should be introduced and managed with caution, with clear resource management mechanisms, in order to minimize possible damage to the environment.

Final thoughts

Over 30 years of war has taken its toll on the lives and livelihoods of the people of North and East Sri Lanka. There is now an opportunity to redevelop this area, and the fisheries sector has been identified as an important economic driver of this process. Resettled communities are engaging in small-scale fishing because of their previous experience, salvaged fishing gear and equipment, and the relatively low capital requirement. However, the revival of small-scale fisheries in the North and East faces several constraints: vicious cycle of debt, lack of capital to incorporate appropriate technology in culture and capture fishing, and the reluctance of the younger generation to engage in direct activities such as capturing fish. In addition, the government policy encouraging offshore fishing gives a hint of de-prioritization of the coastal/near-shore fisheries.

The discussion in this chapter reveals that there is a need to strengthen the small-scale fishing sector, recognizing its importance in terms of the number of people depending on it as a means to restart and re-establish their lives and livelihoods. In order to survive, small-scale fisheries in post-war Sri Lanka need to evolve from traditional primary production activities to more efficient, diverse and higher-value income-generating activities. Diversification is seen as a way of eliminating the shocks of seasonality by providing alternative income sources. Diversification can also help to captivate the younger generation and provide additional income which can address the problem of debt cycle in the long run. Providing support services to capture fishing can create alternative opportunities to those engaged in the low-value coastal sector. Coastal fisheries communities, especially the youth, also have the potential to gain from the growing tourism industry; an avenue that can capitalize on existing fisheries related skills, equipment

and knowledge. However, in order to allow small-scale fishers to gain from these opportunities, providing initial capital and technical support as well as creating market linkages are crucial and necessary at this transition stage of rehabilitation and recovery.

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