**Women in Indonesian small-scale fisheries:**

Strengthening rights to enhance governance,

food security and poverty reduction

Draft Paper

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# Preface

This paper aims to construct alternatives to strengthen the role of women in Indonesian small-scale fisheries, in the fields of fisheries governance, food security and poverty reduction, in line with the *Voluntary Guidelines for Securing*

*Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication* (the SSF Guidelines) of the Food and Agriculture Organization of the United Nations (FAO). The SSF Guidelines address crucial issues in small-scale fisheries all over the world. Yet, not all those issues are valid for a specific region. Each region has its own issues, which may or may not be listed in the Guidelines. For, instance while work in small-scale fisheries is organized traditionally in terms of gender, equal treatment for women, women’s right to housing and women’s access to credit are not pressing issues. Most problems today do not originate from structures of traditional practices, but more from the integration of community fisheries with a market system that flushes them with capital and pushes them to catch more and more fish. Women’s troubles stem not from difficulty in accessing credit, but from too much access to credit. Traditional debt bondage is not prevalent among fishworkers now, but indebtedness to banks has increased visibly and the burden of settling the debt often falls on women.

This study is an effort to bring what should into what happened, and technically it can be complicated. Sea fishery, just like any other economic field, is built on many relationships – ecological, economic, social and political – in which each has its own rules. The introduction of a new idea in an effort to replace an old practice with one fit to the new idea will come head to head with established relations that are generally difficult to change. Firstly, because of the systemic nature of their world, where each relation is functionally connected to other relations; and change in a relation can be done by inducing change in other relation. Secondly, because of the unwillingness of community members to welcome the new arrangement; because the old arrangement is highly beneficial for them. As a consequence, the ideas built on the Guidelines and empirical findings from the field will require strong support from a legitimate authority, such as the government, for implementation.

We hope this work will open more paths to augment women’ roles in fishing governance, food security and poverty reduction in the Indonesian small-scale fishery context.

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# Abstract

This paper tries to find possible entry points to strengthen the role of women in fishing governance, food security and poverty reduction in Indonesia, following FAO Small-scale Fisheries Guidelines. Two fishing communities, Pasongsongan and Batang on the north coast of Java, are taken as an empirical case upon which the Guidelines will be projected.

Pasongsongan represents a closed corporate fishing community with limited fishing grounds, where the village’s fishing business is mainly to supply the village and regional market, under tight control of female fish traders, known locally as *pengamba*. Batang represents an open market fishing community with large potential for fishing grounds expansion and a growing trading network to fulfill demand in local and faraway markets. Fisheries in both sites are very much market-oriented, and as a consequence actions of the communities’ fishers and traders are dominated by market logic of maximizing individual, short-term gain rather than promoting sustainability and common, long-term benefit. The Guidelines and the fishworkers’ everyday practices are of two different worlds, yet it is possible to insert some of the Guidelines’ values to instigate desirable changes.

# Current Situation of Small-Scale and Traditional Sea Fisheries in Indonesia

Women have often been positioned as marginal subjects in the area of sea fisheries, in small-scale and traditional fishing communities in Indonesia. It has been seen as a man’s business; it is men who go fishing and come home, bringing the catch and money for their family. Meanwhile, the wives and other females are seen as domesticated creatures, who spends their lives at home to handle household work and reproductive activities. This notion is not entirely accurate. Upon observing various small-scale fishing communities, it is evident that women have been actively involved in economic activities that directly support fishing. They take jobs as fishing gear makers, fish traders and fish processors, as well as boat owners. In small island communities, women are active in beach fishing, to collect shells, fish and crabs in lagoons, beach strips and adjacent coral reefs (Direktorat Pendayagunaan, 2017). Statistical information on this matter is not available, yet there is a pattern: once the fishery is taken out of household and transformed into a making money business, women’s role in fisheries tends to become less central.

However, before we discuss this further, let us take a look at the wider context of the north coast of Java fishery, where roughly 65% of the Indonesian catch is landed (BPS 2016).

In term of fishing technology sea fisheries in Indonesia is a pyramid-structured industry, with the small-scale fisheries as a majority sitting at its bottom level, the top occupied by a minority of large-scale fisheries. In 2014, a total of 2.2 million Indonesian sea fishers worked aboard 625,633 boats, in which 89% of them (556,569) were small boats under 5GT without an engine, with an outboard or inboard engine; the next 10% (65,253 boats) were medium-sized boats between 5 – 30 GT; and only 1% of the fleet (3,811 boats) were over 30 GT (BPS 2015). Small and medium-scale fishers usually sell their catches at traditional fish landing bases and some coastal fishing ports, while medium and large-scale fishers land fish in national fishing ports and ocean fishing ports. In 2017, the extrapolation of the data as presented by BPS in 2017 show that fleets of Indonesian fishworkers landed 10.5 million tons of total catch, where 5.6 million tons (53%) were landed in traditional ports, 1.4 million tons (13%) in coast fishing ports, 1.5 million tons (14%) in national fishing ports and 2 million tons (19%) at ocean fishing ports. The reality of activities in Indonesian fisheries is larger than the number above, as there some informal, household-based pre- and post-harvest activities, such as fishing gear knitting and fish processing, which are left undocumented.

Still, the above-mentioned number shows that small-scale fishworkers are the main actor in Indonesian sea fisheries. They work aboard small boats and distribute fish mainly for local and regional consumption—instead of export demands. The role of small-scale fishers is crucial in Indonesian fisheries, considering that fisheries with small boats of less than 30 GT are actually small-scale operations who in the last two decades have successfully enlarged boat size thanks to bank loans. Most Indonesian small scale and traditional fishers nowadays have experienced upward social mobility through mechanization of their fishing technology. In addition, the crew members of medium- and large- scale fishing fleets are small-scale workers socially. Their socio-economic status is often lower than the owners of the 5GT boats, because as crew members they are merely laborers, who use their labor and skills to eke out a living.

Just like many other economic sectors, sea fisheries in Indonesia, over the past several decades, has been subjected to ever-increasing market forces, gradually transforming small-scale fishing activities embedded in the fishworkers’ social system and regulated by local social norms into an integral part of the market system. Under the new system, small-scale fisheries have functioned as an arena of capital operation, commodities production and labor market (see Petras, 1997, 2003). Variation in fish stock in local fishing grounds, possibility for fishing ground expansion, fishing infrastructure and access to a wider market network lead to the emergence of communities with various levels of productivity, ranging from a small community of a few fishing boats who work to supply a limited local village market to a large community with hundreds of mechanized boats who work to supply raw material for regional and export market and industry. Variation in the strength of local social structure and network may lead to the emergence of different market structures, from an open monopoly to a disguised monopoly. In most Indonesian traditional fishing ports (454 out of 667), catch trading rests in the hands of local big traders (*tengkulak*) (BPS 2017c).

## Policies on sea fisheries

Historically, Indonesian sea fishery is marked by the absence of effective regulation, accountability, transparency, predictability and participation. In the second half of the 19th century, thanks to economic growth among farmers, sea fishery along the north coast of Java and Madura emerged as a productive economic field to serve market demand rather than subsistence needs. During this period, the government’s presence was felt in the fishery in the form of taxation farmed out to Chinese tax farmers. Tax farmers supplied capital and fishing supplies in return for a fish trading monopoly, and developed a fishing fleet along the north coast of Java—until the fishery fell into a sharp decline due to the abolition of tax farming and overfishing in the coastal waters of the Java Sea (Masyhuri 1996, Semedi 2003). When this monopoly was removed in the 1870s, the fisheries, fish trading and fish processing were taken over by locals.

## Figure 1: Timeline of the North Coast of the Java Sea Fishery Development, 1830s-2010s

|  |  |
| --- | --- |
| 1830 -  1870 | Rise of fisheries: growing buying power among farmers in Java in relation to the cultivation system, availability of capital and trading network from tax farmers |
| 1870- 1920 | Decline of sea fishery due to overfishing in coastal fishing grounds and weakened capital supply in relation to the abolition of the tax farming system |
| 1920- 1930 | Early modernization, establishment of fishing organizations and introduction of mechanized boats, expansion of fishing ground along the north coast of Java |
| 1930 - 1950 | Decline of sea fishery due to the 1930s economic depression, the Japanese occupation and Independence War |
| 1950-  1970 | Transformation of fishing association into fishing cooperative under government policy of cooperative as the main pillar of the nation’s economy, expansion of fishing ground to all corners of the Java Sea |
| 1970-  1990 | Co-optation of fishing cooperative by state, liberalization of sea fishery, expansion of Javanese fleet fishing ground to Natuna Sea and Makassar Strait |
| 1990-  2010 | Bigger access to capital, emergence of large fishing vessel above 100 GT, expansion of fishing ground to Indian Ocean, Banda Sea and Arafura Sea; international migration of fishing labour |

Sources: Masyhuri 1996, Semedi 2003

In the early 20th century, the government sponsored the establishment of fishing associations in several fishing villages in order to release fishers from the claws of moneylenders and monopoly of fish traders. Later, after Independence, the associations were transformed into cooperatives, with similar main functions: running fish auctions, credit services and fishing equipment trades. Fishing activities during that period were in the hands of fishworkers. It was them who decided what kind of fishing gear to use, when and where to fish, and what kind of technical adjustment to make when the fish stock was depleted.

From era to era, policies and activities in Indonesian sea fishery are aimed to land more and more catch based on the assumption of an abundance of fish stock in Indonesian waters, rather than on fishing governance. In the 1980s, the Directorate General of Fisheries declared that the maximum sustainable yields of Indonesia seas was 5.6 million tons per annum. In 2018, the Ministry of Fishery declared that the country’s maximum sustainable yield is somewhere around 12.6 million ton per annum. Declaration of a larger maximum sustainable yield is an encouragement for bigger capital in fishery, a push for fishworkers to catch more. Indeed, the ministry also issued sober news about the depletion of fish stock in certain fishing grounds, but policies to protect the depleted area from further depletion are not welcome among fishers.

For, fishworkers generally welcome government intervention that brings direct and immediate advantages for their economic benefit, such as infrastructure construction in the form of ports and fish markets, offering boat ownership credit or technical skills training. Meanwhile intervention that directly reduces fishing activities and immediately reduces catch, will be resisted—silently or openly.

## Box 1: Fishing Control Policy

|  |
| --- |
| In the 1970s, fishworkers along the north coast of Java adopted trawlers to catch shrimp for the export market. The presence of trawlers in the Java Sea created bitter, endless conflict with traditional, small-scale fishers. So, in the 1980s, to maintain social order, the government took the drastic step of banning trawlers from most Indonesian waters (Bailey 1989). Not long after the trawl ban, small-scale fisheries constructed a simpler and smaller version of a trawler called an *arad* or *cantrang* (Kompas, 1987). Subsequently, the wide use of *cantrangs* among fishworkers has depleted the demersal fish stock in the Java Sea. When in 2015 the government decided to ban *cantrang*, the fishers vehemently resisted, so that eventually the ban was canceled. |

For decades, Indonesian small-scale fishery has been stigmatized as being unbankable, a poor economic sector too destitute to be given access to the bank's loans. However, in the last four decades, the situation has changed; now, boat owners and fish traders are dear customers of banks. They are offered new capital loans as soon as they settle previous loans. For long, the youth of fishing villages have been considered marginal, uneducated, an untrained labor force. Now, they are sent to schools and recruited to work in local and global fishing fleets. In the meantime, all types of marine natural resources and qualities have been transformed into fishing target species, exploited and commodified.

The opening of capital flows into Indonesian small-scale fishing began in 1980, under the government-sponsored small investment credit program (KIK) run by The People’s Bank. From that moment on, in line with the growth of deposit and saving in the banks, the flow of capital into fisheries increased. Using a land certificate, fishworkers can now easily take loans from banks to build new and larger fishing boats or to improve fishing gear. Records from fishworkers indicate that boats operated in waters with abundant stock of fish can settle a loan within two years, some three years faster than the stipulated payment term of small and medium investment loans, which are usually payable over five years. Good payment in turn has encouraged banks to imburse more loans, which the fishers happily accept.

The loans are also opened for fish trading and processing sector. Thanks to the loans, fish traders and processors have access to fresh funds to help them resolve the problems of slow payments from fish buyers.

However, large capital flows into fishery has pushed this sector to increase its productivity, which has meant—in most cases—to fish more and leads the fishers into poor situation. Injection of fresh capital into fishery has increased pressure on natural stock. Additionally, a continuous supply of credit from banks has transformed small-scale fishing into a capital machine, operated to make profit for capital owners. Indeed, through lavish bank loans, small-scale fishing in Java has developed into medium-scale fishing, capable of landing large amounts of fish, but they have also made the small-scale fishing addicted to credit. They grow because of loans, and the enterprise is likely collapse when the loan supply is closed.

## Women in Indonesian small-scale fishery

Traditionally, in small-scale fishery, women are positioned at almost every stage of fishery works except in boat building and fishing activity itself (Siason, et. al., 2002). In pre-harvest works, women are active in fishing gear knitting and fishing supply trading; at the post-harvest level, they work in fish trading and processing. “In Indonesia and Malaysia, women who are involved in small-scale fisheries activities are usually wives or daughters of fishers. In many cases, they work to supplement the family income and in some cases may not receive a wage if it is a home-based family business” (ibid, p. 27).

Fish traders often support fishing by taking a role as capital supplier for boat owners, if not taking a position as boat owner themselves; it is also common for the wives of boat owners to take the role of boat manager to obtain fishing supplies, buy fishing gear and manage boat repairs. Sometimes the wives takes the position of silent managers, who are not engaged in the everyday practice of boat management but have the final word in the use of the boat’s revenue. All those pre- and post-harvest activities constitute fisheries’ hidden labour. Often they escape people’s attention even when people look at them, as women’s work may sometimes appear insignificant. Yet, fishing as the act of capturing fish at sea, would not be feasible if these women’s work was not accomplished.

More crucially, when something bad strikes the boat, it is women who often takes the responsibility of finding money to settle the matter. This role is perhaps related to the fact that among small-scale fishers, fishing is a household-based productive activity. Fishing boat and other equipment are recognized as household assets, and by tradition, women is *de facto* head of the household. This structure is clearly visible among small-scale fishers of Madura, East Java Province, where women occupy a central role in the fishery as a quasi-owner of boat and holder of the boat catch trading right, locally known as *pengamba*. Very likely, the disappearance of women as the head of the fishing business in Java is related to the fisheries’ drastic transformation into a market-oriented production activity (Felsing, et. al., 2000).

In the last two decades, the Indonesian government has issued a number of presidential instructions and ministerial decrees on gender mainstreaming in the fishery (Presidential Instruction No 9/ 2000; Minister of Fishery Decrees No 28/ 2016; No 67/2016). These instructions are mainly addressed toward government officials, especially in planning, implementing and evaluating developmental programs so as to be considerate of gender mainstreaming. In the Decree No 67/2016, the government dealt directly with fishworkers:

“To improve women’s participation in maritime and fishery developmental programs, by: (a)involving women in the planning of fishing village development; (b) to facilitate the needs based on gender maritime and fishery business, and; (c) to include the women’s empowerment component within the structure of the fishing association”. However, it is still not clear yet to what extent the program has been implemented and produced any effects on women's position in small-scale fishery.

The government improves women’s social position in fishery through a general developmental program, addressed to the general public of all economic sectors. The establishment of community health centers, housing projects, nine years of compulsory basic education and road networks, all save women in fishing communities from inequality, in terms of access to education, health services and housing. Development in legal services, police services and public safety has protected women from abuse and crime in fishery, so that they feel safe running fish trading and processing. Thanks to the government services and development programs, women in Indonesian small-scale fisheries—just like in any other small-scale sectors—are free from extortion.

## Fishing governance

The issue of governance has become a widely discussed theme among scholars on natural resource management, especially in relation to its status as public goods (see Lemos and Agrawal, 2006; Weiland and Dedeurwaerdere 2010). Stein Kristiansen and Pratikno (2006: 519) propose governance as management of public affairs that includes administrative, political, and economic dimensions of power relations and authority structures; and that “‘[Good] governance’… should be facilitated by the establishment of its ‘four pillars’: accountability, transparency, predictability, and public participation”.

In the case of sea fishery, Svein Jentoft (2006: 671) elaborates further on the idea of governance as management of public affairs to include reflection and deliberation, as “the broader concept, inviting a more reflexive, deliberative and value-rational methodology rather than the instrumental, means-end oriented management concept”. In many cases it is people in the field who acts as a spearhead in natural resource exploitation. Providing them with a sufficient space to think and discuss among themselves is the wisest way of making use of natural resources on which they depend on for their livelihood. It is also a strategically correct move.

There are four possible institutions, with each limitation, for vehicle of fishing governance in Indonesian small-scale fishery: customary law or *adat*, fishing associations, fish market and capital market. As per the observations of Zerner (1994) and Adhuri (2013), local customary law can serve as an effective fishing governance. As a mode of governance customary law is effective because it is capable of holding people accountable for their actions. It is also transparent; information about the rules are accessible to most community members as they are practiced in everyday life and mentioned, quoted and debated in everyday discourse. When somebody breaches the rule, the customary court is open to community members, people can always debate the court proceeding, but the verdict is honoured. Since the rules are publicly known, although details are usually special knowledge of custom guardians, there is a high degree of predictability in terms of people’s actions and consequences. People knows what consequences await them if they engage in certain rule-breaking actions.

Customary law is also highly participatory. A court is invoked at the request of community members who find their private or public right has been violated by another member of the community. The court is an arena for deliberation, people discuss, carefully, the rule-breaking action, the reason for and context around it, the rules, consequences, and victims’ repatriation request. In difficult cases, people debate over and over until they arrive at the right decision. The limitation is, customary law is effective only in small communities, where interaction is mostly personal and people are bound by common social values. Once natural resources in this community are put in the market system, the customary laws that guard them will erode quickly.

Small-scale fishing communities who no longer possess customary law usually equip themselves with a set of informal fishing networks or formal fishing associations or cooperatives. Following Sulu et al (2015: 13), ideas of “governance reforms are means for governments to allow organised communities to shape the institutions that coordinate and manage resource use”. Such institutions are already present in most small-scale fishing communities. Fishworkers, boat owners and fish traders like to discuss, deliberate and find solutions for their day-to-day problems at association meetings, including issues such as the sustainability and long-term use of their marine ecosystem. As citizen initiatives, fishing associations and cooperatives are vulnerable to hijacking, either by the government or local elites, to promote their own interests. At the time of President Suharto, the fishing cooperative was transformed into a government agency to deliver small investment credit to fishworkers, and later on transformed further; into a political machine, to mobilize fishworkers’ vote for the ruling political party. In the hands of village political elites, the fishing cooperative has been turned into a vehicle to make them members of local parliament. In the hands of big fish traders, the cooperative has been manipulated to mask their monopoly over fish trading.

Lindkvist, Basurto and Schlüter (2017) proposed that the trading network could also be operated as a fishing governance institution. This is an excellent alternative, because in market-oriented fishery, demands from the market have a strong role in determining the amount of catch the fishers must land. Regulations over quality and quantity of marketed fish can put fishers’ efforts under control, as rationally fishers will not intentionally catch fish the market will not buy. Apart from this, the fish trading network can be an ideal area to involve women in, regarding fishing governance, since the trading is mostly in women’s hands and they occupy a strategic position with which to decide on the types, quality and quantity of fish to send to market. There are two conditions for the trading network to play the role of a fishing governance institution.

First, it will work if the market demand is smaller than the potential fish supply. In this case, there will be market selection; only good quality fish is taken, and consequently, this drives fishers to be selective too while fishing. By contrast, this may disappear when the fish supply is lower than market demand; as the market will absorb all the supply with little regard to type and quality, which in effect will push fishworkers to catch more. Secondly, a regulated market needs a strong regulator. In other words market regulation can be exercised only if the government is strong enough to carry out the regulation—to keep the non-performers under control. It seems those two conditions are so far absent in the Indonesian fish market.

The fourth institution that can be operated for fishing governance is the capital market. Even small-scale fishing nowadays is a capital intensive business, due to pricey working tools and the relatively short lifespan of fishing gear. Productivity and sustainability of fishing industry is significantly influenced by the availability of capital for fishing boats and gear, their maintenance and fishing supplies. In addition, fish trading also requires a fresh supply of funds to maintain the flow of fish and money smoothly from fishworkers to consumers. In such a situation, capital suppliers occupy a strategic position in deploying fishing governance. They are in a position to regulate the amount of fishing effort by controlling the amount of capital flow into fishing and fish trading. Similarly to the fish market, for a capital market to function as fishing governance, banks should be subjected to government regulation centered on the idea of fishery’s sustainability rather than its qualities as a profit-making arena. Yet, policy that controls capital flow from the bank to the fishery sector is so far also absent, probably because it is against the government’s own agenda to increase catch landing.

## Food security

Food security, as defined by the FAO (2002), is “a situation that exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life”. This ideal situation requires one main condition: namely the existence of activities that supply food stocks for everyone. In connection with this, small-scale fishworkers in Indonesia historically and structurally are one of the parties that contribute greatly to food security. Since the 19th century, Indonesian fishers have been sending out a great supply of nutritious food for a wide-ranging community beyond their village. From the fishing village fresh fish, cured fish, salted fish and dried fish were delivered through a stable trading network that has been running for generations, based on interpersonal trust (Masyhuri, 1996; Semedi, 2003). The trade was carried out from fishing villages, reaching remote villages across the regency borders and different cultures. As for the population of the mountainous Javanese area, the dried, cured and smoked fish produced by the fishing villages have been their main source of protein.

This role has been intensified since the development of fish preservation technology, fish processing facilities, and transportation and communication that enables fish products to quickly reach consumers in distant places in good condition. The contribution of small-scale fishers to food security has recently been increasing with the presence of fish flour processing business, fish meal, and fish feed for breeding. Fish meal is made of bones, heads, and skin of the waste of fish fillet business and small fish of cantrang boats which were disposed of at sea in the past. Only the valuable shrimp were kept and brought to the fishing ports earlier. There is also criticism about the quality of hygiene and health of food supplies from fishing villages, despite control by government agencies and the market (cf. Dimitri and Rogus, 2014:25).

Bigger market demand has created the opportunity for fishing villagers to work in fish processing factories producing fillet and fish meal. Through this job they contribute more for food security, to the wider community. Traditionally, these jobs are occupied by fishers’ wives and daughters; wages from fish processing are brought home as household income and combined with—the husband’s—revenue from fishing. This combination appears as an ideal picture of integration of two different, mutually supportive economic activities. However at the community level, the relationship between fishing and fish processing can be complicated. Driven by the interests of capital, fish processing will create incentives that push fishers to continue fishing—if necessary at an increasing pace.

## Poverty reduction

Poverty can be defined by following absolute economic measures of income, consumption, savings or household debt. In this case, poverty reduction is seen as a series of efforts to lift people out of a state of deprivation (Toye, 2007:506). It can also be defined following the experience of the economic subject itself. Objectively, according to the Indonesian Bureau of Statistics, fishers are considered the occupational group with the lowest exchange value compared to other groups in Indonesia. The average workers’ monthly revenue in the fishing and farming sectors in the fourth quarter of 2014 was IDR 1,144 (US$ 114). This wage was the lowest compared to the trading sector at IDR 1,499 (US$ 149); hotel and hospitality at IDR 1,557 (US$ 155); manufacturing at IDR 1,827 (US$ 182); and mining IDR 4,750 (US$475) (BPS 2015, Wage Statistics of 2015).

According to the subjective experience of fishers and their family, their economic life is hard, particularly related to the fluctuation of their catch—and, thus, revenue. However, when comparing their present situation to their past, they usually stated that their current condition is much better. Using engines has saved fishers from long, slack seasons, and more effective fishing gear has increased their catch. Easier access to primary and secondary education has opened up opportunities to children in fishing communities, allowing them to obtain formal learning that in turn allows them to work in other sectors. Access to secondary education also effectively increases the age of marriage among fishers’ daughters. Now they are married after finishing high school at the age of 18 or older, while a generation ago, their mothers married at the age of 14 to 16. Life nowadays is better for fishers, but it does not mean that it is without problems. An increase in the cost of living and the influx of all kinds of market products have in effect dragged fisher households’ consumption level beyond their ability to earn cash to pay. Life among fishers has become debt ridden.

## Research aims

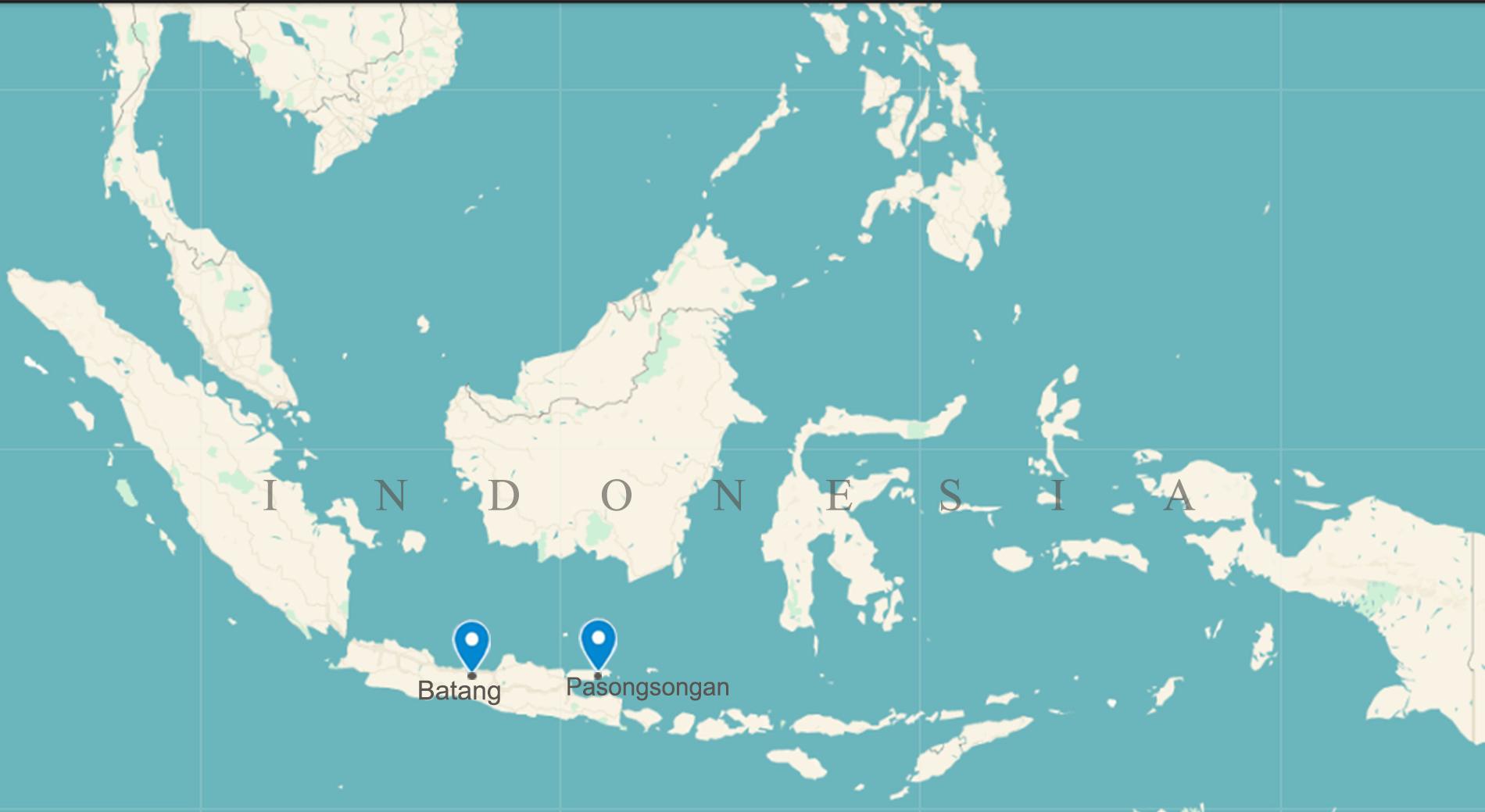
This study aims to explore the position of women in small-scale fishing when fishery in their village is subjected to a bigger capital supply and the catch is traded in a longer trading chain to serve faraway markets. The question is not whether women present in small-scale fishing activities, but to what extent women can speak and act, deliberate and construct value-rational methods in fishery, food security and poverty reduction, as the fishery is subjected to the growing market forces of capital supply and fish demand? Is the current situation in Indonesian small-scale fishery open to opportunities for expansion in women, and the “ability to make strategic life choices in a context where this ability was previously denied to them” (Kabeer, 2001 in Becker et al., 2006, p. 2314). A goal this paper tries to achieve is how to operate existing government policies on gender mainstreaming and FAO guidelines to enhance women’ role in fishing governance, food security and poverty reduction, in this changing socio-economic setting.

Opening fishing to bank loans has in effect bound fisher into the serfdom of fishery. Once they take loans, the fishers are bound to fish more and more. Boat owners, as the loantakers, are forced to do whatever needs to be done to keep the fishing running, otherwise the get into trouble with the banks, which means they have to fish more. In the neo-liberal setting, fishers engage in a race to exploit marine fish stock, not because the fish is a common property, but because they are enslaved by bank loans. Jentoft, Onyango and Islam (2010) argue that in order toprosper, small-scale fishers must be endowed with more freedom to do their work rather than subjected to control and regulations. We would like to add, in this paper, that a freedom small-scale fishers need to be granted is freedom from structures that force them to fish more, including a lack of job alternatives that in effect bound fishing households to dependency on fishery, with the accompanying addiction to bank loans that transformed fishery into a profit machine.

As seen from women’s perspectives, neo-liberal expansion into small-scale fishing has the potential to pose a threat. The strong view stated earlier, that the work of fishery as main source of income is men’s business while the women are otherwise involved, due to their engagement with reproduction and therefore is placed in the domestic sector (Biswas, 2011; 2017) is also prevalent in Indonesia. The dichotomy is not a problem among the fishworkers of the north coast of Java. Indeed, fishing activities by far are still considered and carried out as men’s activities. Women have a place in the fisheries economy, namely in the field of trade and processing of fish. Among Madurese fishers, women hold important positions as shareholders in boat ownership and trader of the boat catch.

Problems among women arise especially from the extension of fishing trips. Medium-sized boats along the north coast of Java currently spend three to four weeks at sea, while fishers who join international fleets in foreign countries sign two to three year work contracts, with annual leave. The long-term absence of fishworkers can place their family in a vulnerable economic situation. To cover everyday household spending, wives are forced to take cash loans from money lenders and obtain daily life necessities through credit from storeowners and peddlers. As in the case of trade and fishing activities, the fishers’ household has been entangled with debts.

## Figure 1. Research sites: Batang and Pasongsongan



## Methods

This paper is based on two ethnographic cases, located on the north coast of Java and Madura. They illustrate the diversity of the condition of small-scale fishers and the position of women in small-scale and traditional Indonesian fishing communities. The first case revealed women in the fishing community of Klidang Lor and Karangasem villages, Batang. The fishing business in Klidang Lor village had experienced a downturn during the cantrang ban in 2017. But now the cantrang has persisted, and the fish processing business run by women has continued working. At the same time, young village fishers also began to get involved in the workforce, recruited mostly by a foreign fishing fleet based abroad. The second case looks at the fishing community of Pasongsongan, Sumenep and Madura, characterized by the strong position of women in fishing economies. The Pasongsongan fishers are featured in this study as a case of small-scale fishing that held the influence of neoliberalism back, due to the ability of boat owners and traders to keep their networks among themselves and prevent the intrusion of fishers and traders from other place into their village’s fishery.

Ethnographic data of this study is partly collected through fieldwork carried out in Pasongsongan in 2016/2017, for the purpose of Elok Anggraini’s master thesis, and in Batang for Pujo Semedi’s study. Additional field research was carried out in December 2018 for a data update and to collect more focused data on on women’s empowerment. Pujo Semedi also accessed the data collected by Katharina Schneider and Onesya Damayanti in Batang around 2013–18. Data from the two research villages were obtained through observation, interviews and reading documents at a number of institutions as well as business records made by traders and boat owners. The use of detailed ethnographic data is intended to avoid the withdrawal of generic recommendations from this study, which seem to be applicable in all fishing communities. Social life is a complex system and process full of internal contradictions. The idea of change must be sensitive to the situation and people's aspirations about the future they expected. Recommendations and ideas for social change that are constructed based on generic information will often be the same as children’s puzzles about how to put an elephant into the fridge— recommendations that look good on paper, are pleasant to articulate, sound logical but cannot be implemented.

## Scope of study

Discussion in this paper is based on data collected from these two fishing communities in the north coast of Java, where small-scale fishery has been transformed into market-oriented economic activities. Outside those two cases, there are many smaller fishing communities where fishery is more or less oriented to fulfill village subsistence needs. This subsistence-oriented fishery is uncovered by this study. Data in this paper is mainly ethnographic, obtained through fieldworks focused on economic activities by following value chain of fish and money. As a result, discussion of women’s role is mainly attached to the value chain. Other issues, such as crime, sexual abuse and violence against women in the fishing communities have to be revealed and discussed through further studies.

# Women in Small-scale Fisheries of Pasongsongan and Batang

## Pasongsongan fishing community

Pasongsongan is located on the north coast of Madura, approximately 40 km away from the regency town of Sumenep. Facing the Java Sea, Pasongsongan is just one among many fishing villages lined up along Madura’s coastline (Niehoff, 1998, 2007; Niehoff, Jordan and Santosa, 2014). The southern part of Pasongsongan village is a hilly area inhabited by farmers who cultivate corn and vegetables. They also raise cattle, goat and duck. Fishers inhabited the northernmost part of the village; having only small pieces of land where their houses stand, they huddled in a densely populated hamlet. In the old days, fishers and farmers were different social groups, separated by different places of residence and occupation. Recently the differences have begun to soften; during the dry season, when farm work is less intense, some farmers take a temporary job as crewmembers in the fishing village. Pasongsongan boat owners welcomes the farmers, as for years, the sea fishery has been suffering from labor shortage.

Currently, Pasongsongan fishing port is one of several landing points along Sumenep coast. The small port in Pasongsongan has grown large and is equipped with facilities for port administration buildings, a meeting hall and three official housing units for employees from outside Sumenep. On the outside, there are 20 shops units for rent, for 1.5 million rupiah per year. In addition to market and shop buildings, there is currently an ongoing reclamation, to build a 300 meter-long boat landing facility to accommodate fishing boats from other regions. The government hopes that if fishers from other regions sell catches in Pasongsongan, the fisheries business in Pasongsongan will also be growing.

In general, Pasongsongan fishers work with two types of fishing gear, long line (*pancing tonda*) and purse seine. Long line fishers work aboard 8GT fishing boats with one or two crewmembers. In Pasongsongan, fishing crews mostly consist of male workers. The captain’s position and the ship crews, for instance, are commonly filled by men, with the latter often hailing from poor households, although currently most Pasongsongan youth are not interested in this kind of work. They prefer land-based jobs, in fish trading and fish processing, or to work in construction projects in Surabaya, Jakarta or Malaysia.

Parents also discourage children from working in fishing because of its unstable income. To fulfill the empty spots left by the youth, recruiting people from the south is an option but not without its own problems. These mountain people are not used to the sea, even fearing its currents.

Boats from Pasongsongan commonly go to their fishing ground, in the waters of Masalembu Island, south of Sulawesi. With 200 liters of diesel fuel, five kg of rice, four eggs, a large box of ice cubes, a gallon of drinking water and two million rupiah of cash, a long line boat can spend a week at sea. Supplies brought from home will expire in three days, and after that the boat will land in Masalembu Island for a resupply, especially fuel and ice. In Masalembu, the fishers also sell a portion of their catch before resuming their fishing trip, heading southwest in an effort to reach Pasongsongan before they are running out of supplies. Long line fishers normally catch large pelagic fish such as tuna, mackerel and skipjack tuna. Upon landing in Pasongsongan, the fish were immediately taken by the fishers' wives to Tamberu fish market.

During the monsoon, from December-January, the bad weather forces fishers to take a long break, and fish supply in the market dries up. Sometimes, some traders have brought boiled, dried or smoked fish from Kalianget, on the south coast of Madura, for local consumption. Fish trading activities during this season are largely inactive.

The catch is taken to the market, the biggest of which, for Pasongsongan fish, is Surabaya, the province capital. Its demand on fish is big, and it takes all kinds of fish. Big traders transport their wares with their own open-air car. From Surabaya’s main market, the fish is distributed further to smaller markets all over the city. Once bought by big fish traders, the fish is washed and put in plastic containers of 50 kg in a mix with ice cubes, salt and chemical preservatives, to keep it fresh. From Pasongsongan, the fresh fish are sent to the canning industry in Banyuwangi, and consumer markets in the cities of Surabaya, Tuban and Lamongan, among others. Excellent quality skipjack tuna is immediately sent to Pamekasan traders for further export to Hong Kong and Japan. Meanwhile, smaller village markets in Sumenep and other regencies, along the coastline and in the hinterlands, also absorb fish. Through the hands of small fish traders network, fresh fish from Pasongsongan is brought to the rural population. The village-based traders buy their fish from small fish traders in Pasongsongan—who in turn buy them from fisher wives.

Competition among big fish traders over fish in Pasongsongan is quite stiff. Traders who serve market of other cities in East Java also want to protect their share.

## Batang fishing community

Sea fishing in Batang is located in the villages of Klidang Lor and Seturi, which, like other fishing villages along the north coast region of Java, started to develop in the 19th century. In 1885, there were 336 fishers recorded in Batang sub-district, making this area the third biggest fishers center in Pekalongan regency after Pekalongan (600 fishers) and Wonokerto (450 fishers) (Algemeen Verslag Pekalongan 1885). Seturi was the oldest fishing village, inhabited by migrants from agricultural villages in Batang hinterlands. After learning from the success of Seturi fishers, farmers of Klidang Lor village entered the fishery business by building bigger boats. Klidang Lor eventually became the largest fishing village in Batang. As migrants from other places, people in Seturi had no access to farmlands. Much of the area around Seturi was swampland, with thin strip of land along the coastline—leased by the government in 1874 to private companies for coconut plantations (Binnenlandsch Bestuur, 1914: 56).

Figure 1. Corrected number of catch landing, Batang 2002-2017 (in tons)

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Legend: Blue column = BPS data

Red column = corrected data

Source: BPS Central Java, 2012-2017

There are five fish markets in Batang and data from 2013 indicated that 90% of Batang fisher catch was landed at Fish Market I and II in Klidang Lor. The remaining 10% was landed at three other smaller markets in Ujungnegoro, Reban and Celong. Fish Market I facilitated 37.2% sale of the total catch landed; while Fish Market II, a much smaller market designated to facilitate small boats, contributed 53.4% of total catch sales. This data goes against the results of observation. All large boats sold their catch in Fish Market I therefore the number of sales in this market has to be higher than in Fish Market II. The reason behind the smaller number in the official report is because larger parts of sales in Fish Market I, that is fish for the fillet industry from *cantrang* boats, were never auctioned and recorded.

Data from fishing boat Cakra Mulya indicated that at least 80% of the boat’s catch is fillet materials. Simple extrapolation from this information indicates that actual sales in Batang are around 185% higher than the data presented in the official report. A corrected estimation shows that between 2002 and 2009, Batang fishers landed approximately 42,237 tons of fish per year, which then rose to 79,414 tons per year between 2011 and 2017. The main contributor to this production is *cantrang* fleet, while the exact amount is hard to know, because of the increasing numbers. Data from the Central Java Fishery Service pointed out there were 137 *cantrang* boats in Batang in 2013, which makes *cantrang* the dominant fleet. The increase in the catch in Batang is supported by the increase of the number and size of *cantrang* boats, which in turn is achieved with the help of a bank loan. Data from the Fish Market Service in 2014 showed that the number of fish sales recorded in Fishmarket I accounted for 30% of the total number of Batang fishers.

Batang fishers are very fond of *cantrang* boats as this boat can be operated in all seasons. To the fishers’ experience, it is the *cantrang* boat that brings them a stable income throughout the year—a good economic life in other words, as they do not have to face the dread of the slack season anymore. According to the fishers, up to this time *cantrang* boats produces a good catch. Catch selling in every fishing trip is generally greater than the fishing supply cost. However, the quality of *cantrang’s* catch is not as good as the catch of purse seine, gill net or long line boats. Larger parts of *cantrang’s* catch, *iwak cantrangan*, are small demersal fish with low economic value. Yet, there is a strong demand for this fish from fish fillet and fishmeal industries.

The shortest trading chain is for fish that ends in local fish processors for fillets, *pindang* and salted fish, although this is also the riskiest trade, financially. Fish fillet and fishmeal processing developed in Batang in the early 2000s. In the case of fillets, fish traders are often owner of a fillet-processing factory and they buy the fish directly from boat owners—even though there are four boat owners who also running fillet business. Fish fillet and fish meal processing absorb the lower quality fish of *cantrang* boats’ catch. The smaller fish, of five cm in size or less, are sent directly to the fish grinder to produce fish meals, while larger fish of 10 cm or so, are manually filleted. Leftovers from filleting—head, fin, tail, skin and remaining bone—are processed further into fishmeal. Fish fillets are wrapped in plastic and frozen in cold storage before being distributed to fish-based food industries in various cities of Java and South Sumatra.

## Fish trade in Pasongsongan and Batang

Fishery in Pasongsongan is marked by the strong presence of local institutions and very minimum government intervention. The whole affair of boat purchasing, fishing, fish trading and fish processing is carried out through traditional networks centered on figures called *pengamba*, the holder of boat’s catch trading right. Until the 1990s, *pengamba* in Pasongsongan were mostly local Chinese traders. Two decades or so after the adoption of boat engines in the 1970s, the catch of Pasongsongan purse seiners started to decline. Eventually, this pushed the Chinese *pengamba* to quit the fishery as they saw there was no profit anymore, in the business. They left the Pasongsongan fishery and invested their money in groceries or other businesses in the cities and their position was taken over by local *pengamba*. Specifically, it was taken over by local females, a transformation that very likely related to the fishers’ matrilineal kinship system.

The role of *pengamba* are crucial in the Pasosongan fisheries scene. *Pengamba* act as investors in purchasing new or second-hand purse seine boats: a new purse seine boat cost between 500-750 million rupiah to build in the mid 2010s, while a used boat cost is around 250-300 million rupiah. This amount of capital is too daunting for Pasongsongan boat owners. To solve this, the boat owner will invite—as candidates—the boat captain and a *pengamba* to become the boat shareholder. However, the shares among these three parties are not equal. The boat owner covers the cost of the boat, main engine and fishing gear, the boat captain pays for the costs of the seine towing engine, and *pengamba* contributes 10% of the boat’s price in return for the right to sell the boat catch at 10% commission. Apart from this, *pengamba* also takes another 10% commission from fish traders who buy the boat’s catch.

Boat owner and boat captain contributions are valued in cash to determine their share from the boat catch. Boat owners have a right over 50% of the boat catch sale after deduction for fishing supply and *pengamba’* commission. If boat owners consist of more than a person, the 50% share is to be divided among them in proportion of their contribution in the fishing boat. Traditionally boat owners’ source of capital came from their immediate family of mother or wife’s line, in general acting as *pengamba*. Although it is becoming more common for a boat owner or fish trader to obtain a bank loan to build a new boat, usually the loan is not more than half of the boat price. To ensure the honesty of *pengamba’*, the wife of the boat owner usually participates in the catch sale. As an intermediary between boat owner and fish trader, *pengamba’* is responsible for catch payment once it is transferred to fish trader.

Fishers’ catch in Pasongsongan is not subjected to the auction process. From fishing boats, fish are directly taken by *pengamba’*, the holder of the right to sell the boat’s catch. From their hands, the fish are channeled to big fish traders—who are mostly their own sibling or children or other close kin. If traders from outside Pasongsongan need fish, they must buy it from the big fish traders. In this sense, *pengamba*’ hold significant power in fish trade in Pasongsongan, if it is not considered as a monopoly. As a consequence, traders from cities often did not even dare to buy fish in Pasongsongan directly from fishers. They will buy from big fish traders.

All boat owners are tied to *pengamba’*and socially obliged to sell their catch through *pengamba’*. *Pengamba’* on the other hand dare not take the unnecessary risk of selling fish to people from cities they barely know. This creates a long chain of closed exchange system of fish trade under the monopoly of *pengamba’*. As a result, competition within this system can get stiffer—especially when catch among fishers decrease. Approximately a hundred tons of daily catch is viewed by 169 traders, big and small, during the fishing season. Each trader wants to have their share of the fishers’ catch and fiercely guards their trading turf. In this sense, fish trading in Pasongsongan is a dense market, too many traders for too few fish.

Every morning during fish season, Pasongsongan fish market is always filled with women with the role of fish traders, fisher wives, and *pengamba’,* waiting for the fishing boat to land. When a boat arrives, some male labour unloads the catch and takes it to the fish market. Upon landing at Pasongsongan, 10% of the catch will be taken for crewmembers’ side dish share, *ceperan*. After *ceperan* is taken, the boat’s catch is sold through *pengamba’* under close supervision of the boat owner’s wife, to ensure a good selling price.

Typically all fish is sold through bidding. *Pengamba’*will offer the catch to fish traders who are shouting the price in an effort to win the bidding. The bidding session often does not run for long, as, usually, the catch of a boat is not large enough—and it is to be repeated again and again when other boats arrive. Fish trade must be done quickly to keep the fish from rotting. For *pengamba’,* the faster the fish got to the hand of large traders, the better. Although the price offered by big traders is normally slightly lower than normal price, big traders buy fish in large amount. Usually *pengamba’* prioritize big traders who are their own kin. The next pecking order is non-related big traders. Small fish traders rarely come to boat *pengamba’* because they usually buy fish in small quantities and put *pengamba’* at risk in terms of unsold fish. From big traders’ warehouses, the fish will immediately be sent to the market in the cities.

In this light, *pengamba’* fully regulate the fish trade, both the price and the buyers. With the help of smartphones, *pengamba’* follow the news of fish prices in city markets for selling reference. Meanwhile, boat owner’s wives will carefully observe the whole fish sale process and make a detailed record of all transactions. The boat’s catch is their main source of revenue and they do not want to take chances and let something bad happen to their precious fish. *The pengamba’*s strategy of selling fish to big traders often incites protest from boat owner wives, who prefer to have a higher selling price. Finding a meeting point between these two often brings *pengamba’*, boat owner’ wives and fish traders into long and heated negotiations.

Beside the large-scale fish trading regulated by the big *pengamba’*, there is active *ceperan* trade between fisher wives, small *pengamba’* and small fish traders. Right after catch unloading is finished, boat crew members approach their wives with a bag of fish. *Ceperan* fish is designed for fishers’ own household consumption, but it is also a common practice among fisher wives to sell a large part of it for cash to small *pengamba’*, small fish peddlers, *blija*, and fish processor producers. *Ceperan* fish is sold at a piece rate of between 500 to 1000 rupiah each—depending on the size. Small *pengamba’* have to satisfy themselves with slightly expensive *ceperan* fish, because they have little access to the boat’s main catch, which is normally cheaper. Sometimes, when demand is high, small *pengamba*’ pool their capital to buy in large quantities from big *pengamba*’, although this effort is rarely successful, because of the stiff competition.

In the regional market network, the Pasongsongan traders are only a small part of an expansive system where deployment of kinship to protect business interests is difficult. In the regional market, Pasongsongan traders must compete with traders from other fishing communities in East Java. If, for one reason or another, they fail in maintaining their channel, their access to the market will be lost, taken over by traders from other places. Pasongsongan big fish traders, children of rich *pengamba’,* perceives the regional markets as the right place to expand the business, but every market in every city and town is already in the hands of a certain trader. All Pasongsongan fish traders can do so far is maintain a good trading contact to supply the needs of traders who have control over their market. In the meantime, they keep their eyes open to find a slight crack to enter the market whenever the opportunity takes place. *Pengamba’* cannot help their children to enter these markets, because their power is anchored mostly in Pasongsongan.

Fish trading is a treacherous business, some cautious *pengamba’* perceive faraway markets as risky. Fish buyers are traders too, and not easy to deal with. They are eager to receive fish but clench their fist tight when paying; they tend to delay payment over and over. Pasongsongan fish traders have to treat them delicately, using the right combination of nice and friendly talk, harsh words and sometimes downright threats, to keep the trading going. They have to be patient, when telephone communication fail to work, to visit the buyers and talk to them personally to get the payment.

In an effort to keep their business running, other fish traders urges Pasongsongan boat owners and *pengamba’* to send their boat to Bintaro in the south coast of Madura, some 30 km from Pasongsongan. Bintaro is saved from west monsoon and their fishers can continue fishing from December–January. However, *pengamba’* respond to this request cautiously. Competition in Bintaro is very stiff, as traders from the north coast of Madura all come there and leads the fish price extremely expensive—often beyond Pasongsongan fish traders’ reach. The fishing cost in Bintaro is also much more expensive, as it also covers crew members’ living cost and boat parking. As a result, boat owners prefer to lay off workers rather than risking their money; philosophically big traders take December-January as their holiday season. Though it is not actually a full holiday season, because fish traders also use this time to visit their buyers in the cities to collect overdue payments.

In the last four years, two big fish traders quit the fish trading because of insolvency. They failed to collect payments of accumulated and long overdue debts from buyers in cities. In the meantime, the number of small fish traders increase by two. This change indicates how fishery in Pasongsongan gradually becomes the arena fit mainly for traders with small capital.

## Figure 2. Diagram of Fish Trading, Pasongsongan

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On the other hand, the Pasongsongan fish trade is also a long chain of inefficient exchange. This can be seen from the long chain of fish trading. The fishers’ catch changed hands four times before it reaches the consumers’ plate, namely: *pengamba’*, Pasongsongan big traders, city-based fish traders and market vendors. Each party in this chain often claims their share by increasing the fish price without adding anything to the fish value.

In comparison to Pasongsongan fisheries, in Batang, fresh fish is marketed to local markets around Batang and to up land sub-districts within a 50-kilometer radius, and to Bandung and Jakarta markets for further distribution. Some expensive fish species such as snapper, mackerel, and white pomfret are sent to foreign markets through export companies in Pemalang. Restaurants in various cities in Java regularly request shipments of red snapper, tuna and fresh squid for their menu. In fulfilling this demand, fish traders immediately clean fresh fish they get from the market, put them in a storage box in a mix with ice, and send them with trucks to the buyers.

The total amount of fish contributed by Batang fishers for the consumer market is difficult to know. But it can be said that all of their catch is utilized, starting from fresh fish, fish processed, fish fillets, fish crackers, fish nuggets and fish meal for animal feed.

Figure 3. Fish Distribution from Batang

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| **Fresh** | Anchovy | Java city-based processing industry |
| Fish, squid, and prawn | Local market: Batang, Bandar, Kedungwuni |
| Local restaurants |
| Big city markets |
| Japan, export via Pemalang |
| **Processed** | Smoked fish | Local markets: Batang, Bandar, Limpung, Kalibening, Karangkobar, Batur |
| Broiled | Local markets: Batang, Bandar, Limpung, Kalibening, Karangkobar, Batur |
| Dried/salted | Local markets: Batang, Bandar, Limpung, Kalibening, Karangkobar, Batur |
| Regional snack/food stores |
| Fillet | Regional food industries in Java and Sumatra Island |
| Fish meal | Fish meal industry in Java |

In addition to purchases at the fish market, traders dominated by women are supplying fish to companies who also buy fish directly from small fisheries, who maintain customer relations with a number of small fishing boats. This exchange is so stable that it develops into trader-to-trader customer relations, so that the small traders know what kind of fish the company suppliers need from them. There is also debt incurred in this exchange, so that fish suppliers often delay their payment for some time. On another occasion, fish suppliers give an advance payment to the small traders.

Alternately, there are various fish trading chains in Batang, from short to long chain. The shortest trading chain is for fish, which ends in local fish processors for fillets, *pindang*, and salted fish. In the case of fillets, fish traders are often women owners of a fillet-processing factory and they buy the fish directly from boat owners—there are four boat owners who also run fillet businesses. Trading relations between fillet bosses and boat owners is bound by fishing supply loans. Fish fillet bosses pay the full amount or a part of the cost of supplies, so that the boat can go fishing in return for direct catch sales to the fillet boss. Fishing supply cost is paid through direct deduction of the catch sale. This credit relation protects both sides of the exchange, fillet bosses get a secure source of raw material and fishers get supplies for the next fishing trip. Of course, this relationship is not without risk. Fishing is not always successful and the boats return bringing catch below the fishing supply cost. So far, however, to fillet bosses and fish traders’ calculation, the total catch for a certain period is still above total fishing cost, which means that with careful management, the risk of covering fishing supply cost is acceptable.

The trading chain to serve the fish processing home industry—producing smoked fish, boiled fish and salted fish—is a bit longer than the trading chain of fish fillets. This sector is often run by women, especially in small-scale fish processing. The fish processors obtain raw materials from traders in the fish market. These traders sometimes obtain the fish from bigger fish traders with enough capital to participate in bidding, or from smaller fish traders who buys *lawuhan* fish from crewmembers. Even before the fish left the fish market, it already changed hands two or three times. Fish processors do not always pay immediately as their cash supply depends on the market situation. When consumers’ market for processed fish is slow, fish processors will not have enough cash to pay for fish for the next production line and they have to ask for a delayed payment. In the long run, debt relation between fish traders and fish processors becomes stable and institutionalized and bond the two parties into a long-lasting, personalized customer relationship.

A longer trading chain occurs among fish traders who supply modern fish processing companies, factories and wholesalers in Jakarta and Bandung markets. Fish traders associated with frozen fish companies act as agents to collect shrimp, white pomfret and squid. It turns out their contact with the company is passing through intermediaries—often nicknamed ‘boss’. Meanwhile, this trading chain to the city market is no longer the domain of women; most of the traders are men. Sometimes, the intermediaries provide fish traders with working capital to bid on the fish market or buy directly from fishers. Similarly, traders supply fish to markets in Bandung and other cities. They send fish to the markets’ big traders, and they usually get some capital from them so as to take part in the auction.

As described, all of these chains are built on debt relations, in the sense that there is no trading based on cash payment. All of the trades are commonly conducted on the basis of delayed payment. The buyers—other traders, fish bosses or wholesalers—can take the fish first and pay them back later on. One reason behind this, the transfer of fish from fisher to consumers, is faster than the speed of money from consumers to fishers. Fishworkers barely have the ability to delay the sale of their catch, while consumers have the freedom to delay fish consumption. Generally, fishers have to sell the catch immediately, while consumers can choose to eat fish or decide to do so while financial conditions allow. Fish was sold but money was not paid, in some cases, and such problems haunt the fish trade, dragging many traders to bankruptcy.

As a result, as explained by traders, fish trade is viewed as a very tough arena. Fish traders have to work from early in the morning when the boat lands on the shore to buy fish, and sell until late afternoon. In addition, fish traders also have to maintain good relationships with customers to know exactly when to play soft and hard, during the exchange. If a trader is too soft on the payment, they will not get the money back. On the contrary, if they are being too hard in asking for the payment immediately, this will keep customers and fishers away. Flexibility of providing loans and postponed payment, among fellow traders, between traders and fishers and between traders and fish bosses or wholesalers in the city markets, can be seen as an effort to make this stiff, harsh and competitive trade possible to run.

In this light, fish trade in Batang is a chain of exchange that runs on a perpetual credit system. For generations, fish traders emerge and go bankrupt in service of fishers who work with changing fishing technology, which also emerges and goes bankrupt—but the trade relations that have taken place since the last century remain stable.

In addition, fish trade in Batang is also an almost closed system. Traders from other places or new players cannot just join the market to get fish. If they need fish, traders from Pekalongan or other places have to contact local Batang traders to bid for fish for them in return for a commission. In this way, both parties get what they need without harming each other. Outside traders who dare to enter the fish auction without cooperating with local traders will be beaten during the bidding that forces them to pay an expensive price for their fish—until they run out of capital. For new players from Batang, the only way to enter the bidding is by taking up an apprenticeship under more senior traders. Almost all fish traders start their business from below, with a small amount of capital, until they build their own network and capital as well as sensitivity to calculate profit and loss in bidding.

Control of the fish market by big bosses is actually an old practice. With large capital they can buy larger part of fishers' catch for further selling to small traders and retailers. This practice can be seen as the result of local traders’ efforts to protect their market share from outsiders by preventing them from participation in the fish auction. Over time, internal competition grew among local traders, as some traders were able to accumulate capital and gained strength to outbid other traders. These powerful traders slowly marginalized other traders in the fish auction. They took the best or largest portion of the fishers’ catch to supply their buyers and left the rest of the fish for other traders with smaller capital. If small traders need good quality of fish or large quantities of fish, they must buy from the big traders.

Furthermore, since the mid-2000s, fish auction have also been practically undermined by big fish traders. They are willing to provide fishing supply loans to the *cantrang* boat owners, to be paid back by deducting the proceeds from the boat sales. In this way, the boat owners are saved from the headache of obtaining supplies for the next fishing trip, while the big fish traders/owners of the fillet business are assured that the supply of raw material for their fish fillet business is secure. This kind of monopoly of big fish traders has become rampant since the emergence of *cantrangs* in Batang. As a result, the government, the supposed authority of the fish auction, looks helpless.

Big traders’ monopoly combine with the increase of fishing boats pushed by the government—which intervened by building a new auction hall for Fish Market II, intended to facilitate the sale of small size boats owned by Seturi fishers and seasonal migrant fishers from East Java in the early 2000s. With the development of Fish Market II, the government hopes for small fish traders to get a working arena free from big traders’ domination. Yet, this intervention is failed as not all fish traders and small boat fishers find this fish market fit their need. A number of small fish traders, for example, prefer to run their own fish market next to their house or in a spot on the river banks some distance from Fish Market II. In this way, they wish to establish stable, long-term, personalized customer relations. In addition, small traders also provide loans for boat maintenance and a bonus to the fishers. In return the fishers are obliged to sell their catch to the small traders; when they return from a fishing trip, instead of stopping at Fish Market II, these fishers would go straight to their trader.

## Fish Processing in Pasongsongan and Batang

In Pasongsongan, a more or less similar pattern also occurs among a few families who engage in fish processing, producing fish sauce or boiled fish. Daughters of fish processors are generally active in the business, helping their mothers. They are often poor families.

The daughter goes to buy *ceperan* fish in the fishing port under their mother’s direction. *The pindang* maker also buys fish from small *pengamba’*. To ensure the availability of fish, they give advance payments to the *pengamba’*. Their production rate is between 10 to 20 kg of fresh fish per day, and for that amount that have to compete with other buyers.

Upon returning home, they help their mother in preparing the ingredients, observing the cooking process until eventually they can do this on their own. The next step is packing the boiled fish and fish sauce in a plastic box. Vendors will take the fish to farming villages south of Pasongsongan. Some skillful daughters have started their own fish processing operations. They obtained small capital, of 300 thousand rupiah, from a moneylender. Fish is then purchased from traders or fisher wives who were regular customers of their mothers. The products are marketed through their mother’s vendor network too. Currently, a piece of boiled fish is sold for 1,500-2,000 rupiahs per piece, depending on the size and type, giving the producer around 50 thousand rupiah of revenue per day, depending on how much is bought. Note: sometimes fisher wives also cook fish sauce out of fish leftovers when not all their husband’s side dish fish is purchased by *pengamba*’.

About five years ago, the village women association of Pasongsongan proposed a better quality fish sauce, *petis pancit*as, as an exemplary product of Pasongsongan. But this plan fell short. The number of fish sauce makers in Pasongsongan is small, and they look at this as a side line; a means of utilizing *pindang* by-products. Economically, fish sauce making is not very profitable; thus, they are not interested in developing it further.

Traditional fish processing in Batang mostly produces smoked, boiled and dried/salted fish. Most of the products are sent to local markets, and are highly valued among farmers in the upland area. Since the mid 19th century, processed fish from fishers is the main protein source that farmers can afford. Processed fish from Batang is sold in the upland markets of Paninggaran, Kalibening, Karangkobar and Batur sub-districts, following weekly Javanese market rotation. A day before the market day, smoked and boiled fish processors will buy the raw material in the fish market.

## Fig. 4. Numbers of fish processing unit in Pasongsongan

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| --- | --- | --- | --- |
| **No** | **Type of Fish Processing** | **2014** | **2018** |
| 1 | Fresh fish, big traders | 10 | 8 |
| 2 | *Pindang* (boiled fish) | 7 | 7 |
| 3 | Dried fish | 4 | 4 |
| 4 | Fresh fish, small traders | 147 | 150 |
|  | Total | 168 | 169 |

Salted fish is processed by soaking it in salt water for 12 hours, then drying it in the sun until the fish loses half of its weight. With water content of around 50%, dried fish can be stored for up to several weeks. Small-scale processors process 50-100 kg of fish per processing and the products are marketed in Batang markets. Large processors can process up to 1.5 tons of fish in a batch drying, to serve the demand of dealers for further distribution in the upland area and West Java markets.

The profit margin on processed fish is thin, between 2 to 5 thousand rupiah per kilogram of fresh fish. To keep the production cost low, fish processing is mostly carried out by using household labor, and the profit is received as household revenue. Although this provides a thin profit, for traders in the Batang fish market, fish processing is considered as a secure business. Payment from the processors is stable. This is probably related to the fact that processed fish is much less perishable than fresh fish, and therefore has a longer selling period and greater rate of market absorption. Apart from this, the trading chain for processed fish is short; as most of it is sold directly to consumers, the cash flow is fast and steady.

The financially riskiest trade occurs in fish fillet and fishmeal processing, which developed in Batang since the early 2000s. Fish fillet and fish meal processing absorb lower quality fish of *cantrang* boats’ catch. The smaller fish, of 5 cm in size or less, are sent directly to the fish grinder to produce fish meal, while larger fish, of 10 cm or so, are manually filleted. Leftovers from filleting—head, fin, tail, skin and remaining bone—are processed further, into fishmeal. Fish fillets are wrapped in plastic and frozen in cold storage before distribution to fish-based food industries in various cities of Java and South Sumatra.

The fillet and fishmeal industry in Batang has become the reason for the *cantrang* fleet existence as well as a source of income for hundreds of households. Thanks to the industry catch of *cantrang*, the market can absorb largely low quality fish. In early 2010, there were around 15 fillet processing businesses in Batang, each of which was able to absorb between 1 and 3 tons of fish per day and involved with between 100 and 150 fish cutters. About 90% of workers in fillet processing are women, wives of fishers and farmers from villages around the fishing village. For every kilo of fillets, every worker gets a wage of Rp 1,500 and generally, in a day, they can finish around 30 to 40 kilograms of fish.

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## Fishing Associations

In Batang, a government initiative to establish an effective fishing cooperative was immediately refused, as it would cut *pengamba’* monopoly. From time to time, there are always rumors about a corrupt cooperative’s board of management; which makes it difficult for this institution to gain people’s trust to run their common economic interests. Without a formal institution, fishing and fish trading are based mainly on kinship and guarded by Madurese social values and notions of honor. A failure to keep one’s promise, regarding payment of a fish bill for instance, would bring shame for the whole extended family.

In the 1990s, the government tried to move fish trading in Pasongsongan to a newly established Harapan Jaya village cooperative. The efforts failed because the cooperative did not possess enough capital and the staff had no knowledge of fish trading. Later on, the government built a fish auction hall. In the government’s view, an open auction will allow fair competition in the fish market that is good for fishers. An open auction will invite new players, both traders and fishers from other places, to trade fish in Pasongsongan. To support the government intervention on fish trade, Pak Khalik, the fish market chief, asked fishers to sell their catch in the auction hall. Again, the effort of the government and fish market chief did not work; the village *pengamba’* continued to trade fish directly from a boat on the beach.

Some five years ago, the fishing port authority reiterated the idea of a fish auction in a proposed effort to protect fishers from arbitrary prices set by *pengamba’*. So far the plan has not yet materialized, because of regulatory constraints around creating a body to run the auction. Apart from this, the *pengamba’* were against the fish auction idea—open market would certainly crush their monopoly. They refused the initiative, arguing that boat owners owed them some investment and should settle their obligation. A compromise was achieved: fish trade would be carried out in the fish auction hall, but still under the control of *pengamba’*. From then on, the only roles the fishing cooperative can play are selling fishing equipment and distributing fishers’ subsidies from the government.

In the case of Batang, government intervention in fishing associations can be traced to the Dutch period. Other than establishing new fish markets, government intervention to help the fisher economy is also a form of the establishment of a fisher association. The Dutch started this kind of intervention by establishing a fishing association called Ngupaya Mina in 1914, which held the rights to run a fish auction to help fishers obtained a good sale. When Indonesia gained its independence, Ngupaya Mina was turned into a cooperative with the same purpose. However, during the New Order, Ngupaya Mina was used by the Suharto regime for political purposes, and later on, the right to run a fish auction was transferred to the regional government. The democratic atmosphere that had been growing among fishers since the reformation has subsequently led to the emergence of a variety of fishing associations in Batang, especially in Klidang Lor. Just like Ngupaya Mina, none of those associations have a systematic program in fishery, in regulating and facilitating fishers’ activities. Fishers from other areas who land in Batang often complain that the association is behaving like a mafia who extort money from migrant fishers.

Other than Ngupaya Mina, there is also an association of Seturi village fishers called PINES. This association was sponsored by a shipyard boss and run a fish auction business as its core business. The fish auction lasted only from 2007 to 2010, as it could not compete with fish traders who run their business through customer relation with fishers. As an auction center, PINES also suffered from insolvency. Traders who take part in the auction do not always pay in cash. The extent of their debt increased with time until eventually the PINES auction service ran out of cash to pay the fishers. This well-intentioned association went bankrupt in 2010.

Similarly, for the fish trading service, Ngupaya Mina received a 5% fee off the sales value, which was not much and far from enough to cover the association’s running cost. After deducting operational costs of the fish auction and the organization, there was only a small amount left over for association capital, to build a credit service and fishing equipment supply. Also, again, clients in credit service and fishing equipment supply, ie boat owners, fishers and fish traders, were not so good at repaying their debts. As a result, working performance of these services was always poor and hardly provided Ngupaya Mina with any revenue.

The cases of the PINES auction service and Ngupaya Mina reveal the problems faced by fish trade association in Batang: shortage of cash and inability to get fish traders to pay on time. While potentially offering a fair price, fish auctions, by contrast, formalize relation between fish traders and fishers, making contact between the two parties short-term and contractual. But when it is not endowed with the power to keep traders accountable, a fish auction will turn into a mere toll booth to extract a fee from both fishers and traders without providing any additional use. When a fish auction service is not accompanied with a proper safety net, to help fishers deal with a financial crisis, a fish auction will place fishers in a vulnerable situation.

Moreover, neither Ngupaya Mina or PINES cooperatives have the power to regulate fishing methods or the type of fishing gear that is right for fishers to use, or the type of fish that can still be caught and the type that needs to be reduced. These kinds of matters are fully determined by the fishers—boat owners, and, to some extent, boat captains.

## Bank and Financial Institutions

In Pasosongan, it is common now for a boat owner or fish trader to obtain a bank loan to build a new boat. Usually, the loan is not more than half the boat price. Credit access to banks is increasingly open at the moment; people in Pasongsongan have also begun to borrow from banks for business capital, using land certificates as collateral. For some boat owners, a bank loan is considered too complicated and risky, as they are obliged to pay a fixed amount as monthly payment no matter how much catch the boat actually lands, for five consecutive years.

Taking a bank loan has a direct impact on the fishers’ household financial arrangements. A bank loan makes it is possible to build bigger boats now, which in turn make it possible to bring in a bigger catch. However, bank loans entangles the household in financially risky situations. As people are getting closer to banks, saving money in the form of jewelry is now gradually being replaced by putting money in a bank account. From the account, a boat owner can directly pay his/ her loans—if there are sufficient funds in it. When there is enough left in the account, people use it to buy land, which in turn can be used to take out a bigger loan. Boat owners and fish traders who used to save their money in the form of jewelry now began to buy land in the south.

## Box 2: Risk of Expanding Market

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| In 2016, Haji Haris, one of the big traders in Pasongsongan, went bankrupt. He expanded his market to Rembang, Central Java. In the beginning the trade went well; he got payment for every ton of fish he sent on time. Several months into the trading, his buyer in Rembang delayed payment until eventually the total debt amounted to 25 million rupiah. Haji Haris tried to contact him, to no avail. Haji Haris visited the buyer at his house in Rembang, but neighbors said this trader had gone, explaining further that the man was not a local. Unable to withdraw any payment, Haji Haris had to cover his losses by taking a bank loan of 20 million rupiah to pay fishers. Before poor Haris settled the loan, his business collapsed. He ran out of cash to pay for the fisher’s catch to keep his trading going. |

Learning from Haji Haris’ bankruptcy, many traders in Pasongsongan say it is better to restrain themselves and play safe by keeping secure lines, rather than risking quick expansion.

## Box 3: Bank Loan

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| Pak Junjung, for example, took a 200 million rupiah bank loan to build a new boat. Actually, he was a bit reluctant and troubled by the complexity of the loan administration. He considered it risky to use his land certificates as collateral, as he might lose it if he failed to pay off his loan. However, his wife assured that the catch of the boat and household savings would be enough to pay the bank installments. Apart from the bank loan, Pak Junjung asked his brother-in-law to become the boat shareholder, and he asked Hajjah Mahmudah to become his *pengamba’*. Pak Junjung thinks he needs *pengamba’* to ensure that the boat catch will be bought immediately, before its price starts to decrease. |

Access to bank loans and support from *pengamba’* can increase capital pressure on boat owners. In the case of Pak Junjung, the bank loan binds him to submit a monthly payment, while, at the same time, sales from his catch suffer a 20% cut for *pengamba’* commission. The only way for Pak Junjung to deal with this situation is to increase his efforts to keep his boat produces well catch for most of the time. Fortunately, so far, the role of bank loans in Pasongsongan fishery is considerably small; this is related to the problem of labor shortage. For boat owners, it would be futile to take bank loans for building new boats without enough supply of fishing labor. A large portion of capital in the fishery is coming from internal sources—either from boat owners, boat captains or *pengamba’*. As a consequence, the limit for a lower catch among fishers is mainly set by their ability to keep the fishing operation going—so that the catch is sufficient to buy fishing supplies and manage boat maintenance.

The economic situation of boat owners can be worse than crewmembers. Many boat owners are deeply in debt to many sources of loan, including moneylenders. The tendency is that once income from fishing gets lower, boat owners’ debt gets higher; they have to shoulder fishing supply debt, other fishing costs as well as their own everyday household needs. It seems there is no way out for indebtedness among boat owners but bankruptcy. Once a boat owner is indebted, they tend to seek another loan; a bigger loan to pay the previous one. Often, they have to take loans from moneylenders who charge high interest. This process keeps going until finally there is nothing left to pay the mounting debt but selling the fishing boat.

When a fisher loan has been paid off, often the *pengamba’* offers a new loan just to ensure that the next sale will not go to other pengamba’. Just like boat owners, *pengamba’* do not always fulfill fishers’ request for loan. If they fail to get a loan from pengamba’, fishers will go to the moneylender, *mabudhu' pese'*. Basically, only in a desperate situation such as the need to cover hospitalization cost for a family member, that fishers seeks a loan from the moneylender, because the interest rate is 10% per month. If a fisher fails to settle a monthly payment, the unsettled payment will be added to the principal debt and interest payment in the following month will grow bigger. Many fishers have been indebted to moneylenders for years without knowing when they will be free. Their income as crewmember is taken to pay the moneylenders.

Indebtedness to moneylenders has forced a number of fisher households to send their family members to other countries to earn money. A fisher wife went to Malaysia as a migrant worker and sent her wages home to pay off debts to the moneylenders.

In 1914, with government support, boat owners and fish traders in Batang established the Ngusaha Mina fishing association, with a mandate to conduct fish trading and saving and credit services, as well as operating a fishing gear store (Beseling 1939:). When the government banned trawl in 1980 and followed the policy with a small investment credit (KIK) program in the form of a 5GT boat with outboard engines, the credit for this was given to Klidang Lor fishers. Upon finding that the boat from the credit program did not work properly, as the fishing gear was too small, some boat owners rebuilt their boats into mini purse seines to operate in fishing ground just a few hours north of Batang. As purse seines became more expensive to operate in the 1990s, one by one, they went bankrupt; with the help of bank loans, Batang boat owners built *cantrang* boats capable of producing a good catch—albeit of decreasing quality.

The increase of catch in Batang is supported by an increase in the number and size of *cantrang* boats, which in turn is achieved with the help of a bank loan. Since the early 1990s, state-owned banks have opened access to boat building loans for fishers. Many boat owners took advantage of this opportunity to increase the size of their boats, either by rebuilding the old boats or building new boats. They took bank loans to finance the boat building with a land certificate as collateral. In Batang, a new boat allows the owner to settle their bank loan in two years—three years faster than the credit agreement term of five years. Quick repayment of loan opens up opportunities for a larger loan to build a much bigger boat; thus almost all large boat owners are indebted to banks. The larger their boat size or number, the greater their debt to banks.

The majority of bank loans since 2005 has been used to build *cantrang* boats that effectively capture demersal fish of all sizes. According to the fishers up to this time, *cantrang* boats produce a good catch. In the fisher’s experience, it is a *cantrang* boat that brings them a stable income throughout the year—a good economic life in other words, as they do not have to face the dread of slack season anymore.

When these two solutions had not resolved the problem, they took a shortcut by taking a loan from moneylenders—now euphemized as an informal bank. No data was available on the amount of fishers' household debt, but observations indicate that the fishing communities have become a lucrative target for the money lending business. From morning till evening, loan collectors of this so-called informal bank go back and forth every day along the village alleys, offering new loans and asking for payment. According to the observations of the fishers themselves, when the economy was in a bad condition, such as when *cantrang* boats were forbidden to operate from January - March 2018, the number of moneylenders who visited the village increased visibly.

Loan interest from moneylenders is quite high: 20% within three months. So, Rp 1,200,000 returns a loan of Rp 1,000,000 within 3 months. Vendors selling clothing and various household appliances on credit also apply this 20% interest. The latest trend that has developed in recent years is collective credit, *bank sekolah* or a “school bank”, in terms of fishers’ wives. This system was developed by moneylenders to discipline loan takers in the matter of returning loans, by manipulating social relationships among them. In school banks, prospective loan seekers are asked to form credit groups whose members trust each other. Once the group is established, the “bank” staff will give a lengthy talk regarding the procedure for taking loan. Group members can determine the amount of loan they would like to take, but it has to be agreed collectively because when they come to the payment due date and there is a group member unable to settle her obligation, the payment has to be taken over by the whole group. In return for the collective responsibility, this school bank charges a light interest of 30% a year, much lighter than the rates of money lenders but twice as expensive as those of an ordinary bank.

Even though they often complain that debt bills give them a constant headache, fishers do not see debt as a bad thing, as a thing they had better avoid. When they need household appliances, televisions, a kitchen or motorcycle equipment, they choose to get these goods through credit instead of buying them in cash, using their savings.

It seems that for fishers, paying debt is easier than saving part of their revenue, that loan institutions are more effective at instilling discipline among fisherfolk to pay their loans than personal self-discipline to save money. Systematically, credit institutions create a structure that makes it easier for fishers to take a loan and get credit, while on the market side, continuous advertisements encourage fishers to consume more. For the credit institutions, it is more beneficial for their business if they teach fishers to take loans rather than teaching them to postpone consumption until the money is sufficient to pay for it. From everyday practice in fish trading, the fishers also learns that payment for debt can always be postponed—or even left unpaid. So taking loans is not perceived as a big deal. The message of this story: the fishers are now living in a world where incurring debts is easier than creating savings.

Information on the total amount of bank loans invested in Batang fishery is not available, but almost every owner of large fishing boats for cantrang and other gears has been taking a bank loan. Without bank loans it would be impossible for Batang fishery to develop its fleet. The involvement of banks has added Batang sea fishery to the arena so that fishers may earn a livelihood, and added them to the arena for banks to make profit as well. The involvement of the bank, although the government initiated it, has in effect added energy among fishers to undermine the government’s role as regulator in Batang sea fishery. As the case of *cantrang* boats exemplifies, in an effort to ensure their hundreds of million rupiah businesses are secure, *cantrang* owners and big fish traders developed direct fish trading outside the government fish market. Presence of banks as capital providers in Batang fishery has gradually pushed aside the government role as fishing regulator, as well as the fisher association’s role as an arena for fishers and fish traders to independently discuss their common interests. With the flood of bank loans to Batang fishery, the banks determine the lower limit of catch among fishers. Fishers who fail to meet that lower limit of catch will be unable to repay their loans and have to quit the business. Under the pressure of bank loans, players in Batang fishery are forced to become complicit in the banks’ scheme of using fishery as a profit-making arena.

From the above discussion we can see that small-scale fisheries in Indonesia, more particularly in Pasongsongan and Batang, have an interconnecting dimension, namely fish trade, fish association, fish processing, and financial institutions (formal and informal). All of these dimensions are an integral part of fisheries. As a result, change in one part will influence other parts. Moreover, small-scale fisheries in Batang are heavily integrated with the market. One of the reasons is because of the emergence of financial institutions in the fisheries sector, as shown by the above studies. In Pasongsongan, although market influence has touched small-scale fisheries, in general local institutions, through *pengamba’*,are still playing a large role. Here, women’s participation in small-scale fisheries vary—this will be discussed in the following section.

# 3. Women’s Role in Small-scale Fisheries

In Pasongsongan, wives control the family’s financial affairs, collecting revenue—which mainly comes from fishing—and spending the money to cover expenses. Among the better off families, wives have the additional responsibility of managing the family’s fishing business. Although in public it is husbands who are acknowledged as the leading figure in family businesses, actually it is the wives who run almost the whole show. *Pengamba’* are clear examples for that role. Currently all Pasongsongan *pengamba’* are female, they run the fishing boat investment and fish trading business, and all fishing boats in Pasongsongan are under control of *pengamba’*. At home, *pengamba’* as mother provide support for children to start their business either in fishing or fish trading, and keep the business within the family.

## Fig. 5. Type of roles based on gender

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| **Location** | **Type of Roles** | **Gender proportion** |
| **Pasongsongan** | Ship Owner | Equal |
|  | *Pengamba’* (fish trader and ship capital supplier) | Only women |
|  | Traders to city market | Men are dominant |
|  | Village fish retailers | Women are dominant |
|  | Crew members | Men from poor households |
|  | Small scale fish processing (household) | Women from poor households |
|  | Small fish trader | Women from poor households |
| **Batang** | Ship owner | Men dominant |
|  | Fish trader | Women dominant |
|  | Traders to city market | Men dominant |
|  | Village fish retailers | Women dominant |
|  | Big scale fish processing | Women dominant |
|  | Small scale fish processing (household) | Only women |
|  | Board members of fishing associations | Men dominant |

An example of the crucial role of women as *pengamba’* can be seen in the following case.

## Box. 4 Haji Said

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| For three months, Haji Said has not received any payment for his boat catch from Haji Udin, a big fish trader. Hajjah Mariyam, as *pengamba’,* was supposed to provide a bailout, but she was unable to do this because her money has been invested in building a new boat which belongs to another owner. The debt was eventually settled with the proceeds of the pawning of Haji Udin’s wife jewelry. Although Hajjah Mariyam failed to fulfill her role as a bailiff, she did not suffer any consequences except of delay in receiving the sale commission. Her position as *pengamba’* is socially secure, as fish traders who fail to make on time payment cannot shift to another *pengamba’*. News, especially bad news, spreads quickly in villages, and no pengamba is willing to risk her business by sending fish to fish traders who fail to pay on time. Like it or not, a fish trader will depend on his *pengamba’* forever. In some cases, *pengamba’* and wholesalers are mothers and children so delayed payments rarely become a source of tension. |

Businesses of *pengamba’* children are forever dependent on the networks of their mother. They take capital loans to the same *pengamba’* as their parents. On the other side, boat owners will choose *pengamba’* for children’ boats when they build their own. In the case of new boat owners, the mother or mother in law of the boat owners’ wife will keep her company during the boat catch sale, to direct her in how to deal with *pengamba’*and fish traders. Disagreements on price and selling always take place from time to time; when it happens the mother or mother-in-law of the boat owner’s wife will intervene to keep the boat relation with the *pengamba’* intact and smooth.

In several cases, it is a mother who takes the role as *pengamba’* for her children’s boats. As a *pengamba*’, the mother is obliged to provide the 10% share in boat building, in return for the catch trading right. Aside from this, the mother also provides a capital loan, to be paid back once the boat is operational. Some children of *pengamba*’ also run fish trading to make money from marketing further fish from their mother’s monopoly. Certain *pengamba’* prefer to run closed fish trading between them and their children and/or close kin. By running their fishing business within a family network, *pengamba’* and wives of boat owners have been regenerating their economic roles through the family line. Children of *pengamba’*and boat owners have a better chance at becoming *pengamba’*and boat owners, like their parents.

A more or less similar pattern also occurs among a few families who engage in fish processing—producing fish sauce or boiled fish. Daughters of fish processors are generally active in helping their mothers. They go to buy *ceperan* fish in the fishing port under their mother’ direction. *Pindang* makers also buy fish from small *pengamba’*. To ensure the availability of fish, they give advance payments to the *pengamba’*. Their production rate is between 10 to 20 kg of fresh fish per day, and for that amount that have to compete with other buyers. Upon returning home they help in preparing the ingredients and observing the cooking process until eventually they can do it on their own. The next step is packing the boiled fish and fish sauce in plastic box. Vendors will take the fish to farming villages south of Pasongsongan. Some skillful daughters have started their own fish processing. They obtained small capital, of 300 thousand rupiah, from moneylender. Fish are purchased from traders or fisher wives who were regular customers of their mothers. The products are marketed through their mothers’ vendor network too. Currently a piece of boiled fish is sold for 1,500-2,000 rupiahs per piece depending on the size of its type, which give the producer around 50 thousand rupiah of revenue per day, depending on the amount which is procured.

About five years ago, the village women association of Pasongsongan proposed a better quality fish sauce, *petis pancit*as an exemplary product of Pasongsongan. But this plan fell short. The number of fish sauce makers in Pasongsongan is just a few and they take it as a sideline work to utilize *pindang* by product. Sometimes fisher wives also cook fish sauce out of fish leftover when not all their husband side dish fish is purchased by *pengamba*’. Economically fish sauce making is not so profitable, thus they are not interested to develop it further.

There is no formal fishers association in Pasongsongan to accommodate fish traders, boat owners and fishers interests. The whole affairs of fishing are institutionally facilitated by *pengamba’* and their networks. It is *pengamba’* who control the fish price and decides the lower and upper selling price—to keep the fish competitive in city markets. It is *pengamba’* too who keep the fishing business as a closed system that prevent outsiders to join. Government initiative to establish effective fishing cooperative was immediately refused, as it will cut *pengamba’* monopoly. From time to time there always rumour on corrupt cooperative’s board of management that makes this institution can not gain people’s trust to run their common economic interests. Without formal institution, fishing and fish trading are based mainly on kinship and guarded by the Madurese social value of honour. A failure to keep one’s promise, in paying fish bill for instance, would bring shame for the whole extended family.

In the 1990s the Government tried to move fish trading in Pasongsongan to a newly established Harapan Jaya village cooperative. The efforts failed because the cooperative did not possess enough capital and the staff had no knowledge on fish trading. Later on the government built a fish auction hall and Pak Khalik, the fish market chief, asked fishers to sell their catch in the auction hall. Again the effort did not work, the village *pengamba’* continued to trade fish directly from a boat on the beach. Some five years ago the fishing port authority re-voiced the idea of a fish auction in an effort to protect fishers from arbitrary prices set by *pengamba’*. In the government’s view, an open auction will allow fair competition in the fish market, which is good for fishers. Open auction will invite new players, both traders and fishers from other places to trade fish in Pasongsongan.

So far the plan has not yet been materialized because of regulatory constraints to create a body to run the auction. Apart of it *pengamba’* were against the fish auction idea. Open market would certainly crush their monopoly. They refuse the initiative arguing that boat owners owed them some investment and obliged to settle their obligation. A compromise was achieved, that fish trade will be carried out in the fish auction hall but still under the control of *pengamba’*. From then on, the only roles the fishing cooperative can play are selling fishing equipment and distributing fishers subsidies from government.

## Box 5. Hajjah Hamidah

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| In the early 2000s, Hajjah Hamidah and Hajjah Ama initiated two different fisher wives associations (*Kelompok Wanita Nelayan*), each with around 10 members. The associations’ main program was to train its members in an income generating activity focused on fish sauce, *petis*, making and marketing. In 2009 both associations received government support in the form of packages of cooking utensils for *petis* making. Soon a tension arose: the association members accused each other of receiving bigger shares of the government package. Currently, both associations are inactive. The members were getting bored because their fish sauce producing project failed to produce money. They made good sauce, but not many people willing to buy; apparently, the village market for fish sauce is over-supplied as many households produce sauce for their own consumption. Currently, the association meeting is held once every three months with an agenda to discuss proposals requesting assistance from the government. In 2017, a group of university students conducted home industry training for fisher wives to produce fish crackers, *kerupuk*. The students also initiated a working group for the marketing. Just like the fish sauce association, this fish cracker-working group was only active for a few weeks. Once the students left the village, the group ceased their activity. |

Beside the large-scale fish trading that is regulated by the big *pengamba’*, there is active *ceperan* trade between fisher wives, small *pengamba’*and small fish traders. Right after catch unloading is finished, boat crew members approach their wives with a bag of fish. *Ceperan* fish is designed for fishers’ own household consumption, but it is also a common practice among fisher wives to sell large part of it for cash to small *pengamba’*, small fish peddler, *blija*, and fish processor producers.*Ceperan*fish is sold at piece rate, between 500 to 1000 rupiah each—depending on their size. Small *pengamba’* had to satisfy themselves with more expensive *ceperan* fish because they have little access to the boat’s main catch, which is normally cheaper. Sometimes, when demand is high, small *pengamba*’ pool their capital to buy in large quantities from big *pengamba,*’ although this effort is rarely successful, because of the stiff competition.

Home industry in Pasongsongan is facing the problem of marketing. Fisher’s wives are highly creative, they can make many handicraft products, but it is always marketing that hinders them from developing these further. Maybe cooperation with *pengamba'* or big fish traders who already have access to various markets outside Pasongsongan will increase demand for the fisher wives’ products. Yet such cooperation has not existed, maybe because *pengamba’*and big traders have not seen boiled fish, fish sauce and fish crackers as profitable commodities. It is also possible too that fisher wives are reluctant to cooperate with *pengamba’*; they know very well what fishers and boat owners get from their cooperation with *pengamba’* and big fish traders.

For sea offering celebration, every boat owner and *pengamba’* is obliged to donate between 300,000 to one million rupiah, while each household of fishers is to donate 50 thousand rupiah. Among boat owners, these obligations erode their ability to save and invest, and when combined with continuous poor catch, will lead to bankruptcy. Among ordinary fishers, social obligations that have to be paid in cash lead them to perpetual debt to *pengamba’*and moneylenders, ‘*mabudhu' pese'*. Actually, fisher wives have tried to save money through a rotating saving scheme, *arisan*. Twenty or so fisher wives collect money on a weekly basis, between 10 to 100 thousand rupiah depending on the participants’ agreement, and draw a kitty; the winner takes the collected money and the procedure is repeated until every member gets her turn. To some extent, *arisan* money can ease fisher wives’ headaches in dealing with donations for social events which occur from time to time. Many fisher wives join more than one *arisan* group in an effort to collect a bigger amount of cash. This strategy can backfire; instead of easing their headache, participating in several arisans can become the source of a new headache, as each contribution has to be paid regularly without delay.

The loan has been recorded by the boat owner’s wife and payment is made through direct deduction of the fisher share in every fishing trip. In many cases, loan request from a fisher is not granted. This could be caused if the boat owner himself was in financial difficulty or the fisher’s loan has grown so big that his ability to pay is doubtful. In this situation, the alternative is seeking a loan from a small *pengamba’* to whom his wife usually sells their *ceperan* fish.

Debt to moneylenders has forced a number of fisher households to send their members to other countries to earn money. A fisher wife went to Malaysia as a migrant worker and sent her wages home to pay off debts to the moneylenders. Her husband remained in Pasongsongan, working as a crewmember to pay their obligation to a small *pengamba’*. A fisher quit his job in Pasongsongan, went to Malaysia as a construction worker and sends his wage home to settle his debts to moneylenders, while his wife stayed in Pasongsongan to take care of children and sell food to pay debts to the *pengamba’*. To take a job in Malaysia, a fisher needs to pay 6.5 million rupiah to a broker, and this money is obtained from a moneylender, again.

Severe financial pressure in the fisher household finally falls on the shoulders of women. Wives of bankrupt boat owners and indebted fishers mostly stay home with all the problems on their shoulders, while their husbands are wandering around looking for work elsewhere. There are also some bankrupt boat owners and jobless fishers who give up on hope, sitting idly at home. Facing this situation, the wives take whatever work comes, as long as it brings money. They go to the beach to buy *ceperan* fish from fisher wives or small *pengamba’*and trade it to other villages. If there are leftovers, they will be processed into nuggets or crackers for sale in the neighborhood. If there are leftovers again, they will be consumed by the family.

Participation of women in fishing cooperative and fisher associations in Batang is marginal. When cooperatives get a lot of government support, all administrators are men. Women are only employed as non-policy maker administrators. It was only after the 1998 reformation that women were elected as members of the cooperative board, and by that time the economic role of Ngupaya Mina was already weak; all of its revenue generating activities had collapsed.

## Box 6: Fish Traders by Gender and Daily Business Turnover

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Gender | Daily turnover (in US$) | | | | | | | | Total | % |
| >100 | % | 100- 250 | % | 500 | % | 1000 | % |
| Female | 42 | 64,6 | 11 | 16,9 | 6 | 9,2 | 6 | 9,23 | 65 | 100,0 |
| Male | 18 | 40,9 | 13 | 29,5 | 6 | 13,6 | 7 | 15,9 | 44 | 100,0 |
| Total | 60 | 55,0 | 24 | 22,0 | 12 | 11,0 | 13 | 11,9 | 109 | 100,0 |

Women’s participation in Batang fishery takes place mainly in the areas of fish trading and fish processing. From these, some traders expanded their activities to the fisheries sector through providing fishing supply loans in return for the right to buy the boat’s catch outside the fish auction hall. At the end of 1990s, Batang fish traders organized themselves into an association, currently possessing 109 members. Outside the association there are still a number of very small traders, with just a few thousands of rupiah of trading capital or even without capital. They buy fish from fishing boats, from fish washers, and from fishers’ kids, *alang-alang*, who earn a bit of fish as a reward for their help in carrying the catch to the fish market. There are also a number of wives of fishers who sell *lawuhan* fish, a part of the catch given to the crews to take home. These traders sell fish directly to consumers around the fish auction hall.

Based on the observations of the traders themselves, members of the association can be divided into small traders and large traders with a range of turnover between 0.5 million rupiah and above 100 million rupiah per day.

Women are the dominant members (65 or 59% out of 109 members) of the association. Based on the daily turnover, it can be seen that fish traders in Batang are structured pyramidally: the majority of traders (55%) work in the lower layers, with a daily turnover of under 10 million rupiah, 22% work with 10-25 million rupiah turnover, 11% work with a turnover of 50 million rupiah and 11.9% are at the top of the pyramid with a turnover of 100 million rupiah and above. The cross between gender and the amount of turnover shows that the majority of women (64%) are in the group of traders with a business turnover of under 10 million rupiah per day. Male traders are distributed more evenly across all turnover groups.

Hajah Markonah, one of the traders, is believed to have 70 small boat fishers as her customers. Besides Markonah, there are still a number of other fish traders in Seturi that are directly related to fishers. Most of these traders are women.

The story is similar: from time to time, buyers from cities asked for fish for further marketing. On early shipments, payments was good, but a few shipments later, the payments became smaller and slower, resulting in growing arrears. Eventually, no payment came. All kinds of efforts to get payments were carried out, often to no avail—because the buyers themselves were already insolvent. In 2017/18, Mother Tini, a big fish trader, lost 170 million rupiah to a buyer from Palembang. When Tini checked directly in Palembang, the buyer said that he had paid all the fish to the intermediary traders who had been their liaison. Tini checked with the intermediary trader, and found out that he was bankrupt. Tini noted that since her career as a fish trader in 1998 there have been a total of Rp 700 million in unpaid fish bills, among her buyers. Tini kept asking for payment until she felt tired, and no substantial payment was made. "Well, people owe me and are not eager to pay, then they have to pay in the hereafter life", Tini reassures herself.

Traditional fish processing in Batang produces smoked, boiled and dried/salted fish. Most products are sent to local markets, and are highly valued among farmers in the upland area. Since the mid 19th century, processed fish from fishers is the main protein source the farmers can afford. Processed fish from Batang is sold in the upland markets of Paninggaran, Kalibening, Karangkobar and Batur sub-districts following Javanese weekly market rotation. A day before the market day, smoked and boiled fish processors will buy the raw material in the fish market. A fish trader explains that she normally sell 1.7 tons of fish per day to fish processors. If fish supply in Batang is low, they will order from Pekalongan and Kendal fish markets.

Fish processors specialize either in making smoked, boiled or dried fish. As a household industry, women are often both owners and workers. They mostly run fish processing in traditional ways. In addition, they also work as traders to sell their product in markets. They will buy raw materials in the fish market, a day prior to market day. At home, in the afternoon, they will boil or smoke the fish for two or three hours. The following morning, at 2 o’clock, they take a chartered bus to the upland markets—for the Kalibening market some 5 kilometers away in the hill range, but usually 4 to 5 hours away. Commonly, they will carry around 100-150 kg of fish, to directly sell the finished product to consumers and village vendors. *Pindang* and smoked fish that do not sell on one market day will usually be sold to food stalls, so that they do not have to take them back home.

Many women are involved in fish processing. However, fillet processing is very vulnerable to bankruptcy. From 15 fillet-processing units in 2010, 10 remained in operation in 2015. Five big processing units which were considered prosperous by fishers went bankrupt due to the same problem: payment default. Expansion of the market to big cities has helped fillet processing to grow into a lucrative business with hundreds of million rupiah daily turnover. Fish fillets are sent in large quantities to city-based big buyers for further retailing in stores or by snack producers. The thing is, in this trade, payment is slow; payment is made in the next shipment of goods. Problems arose when marketing at consumer level slows down and payments have slowed down, delayed by three or four shipments that lead to a growing amount of arrears.

Data from the Cakra Mulya fishing boat shows that on average a crewmember’s share plus bonus per fishing trip is 2.2 million rupiah. This is the amount of money that fishers’ wives have to cover daily household expenditure—food, electricity, children’s schooling, clothing etc. Even if the whole revenue of a fisher is spent for food, it appears that a fisher eats almost twice as much than his family members; a fisher spends 60.000 rupiah/day, and family members (a wife and two children) spends 110.000 rupiah/day. If all household spending is put into calculation, it will appear that cantrang fisher revenue is barely enough to cover his household expenditure.

Single revenue of a fisher with a family of two children is not enough to cover the basic monthly routine costs of the household. "If you only rely on your husband, you will run into a never-ending debt", a housewife explained. Fisher’s wives solve the problem by taking a job or engaging in any income generating activity. Many fisher wives work in small-scale trade and fish processing. Some housewives take the initiative to sell breakfast for neighbors, become traders in the Batang market or open a grocery shop on the veranda of the house. Fish processing has long been one of the jobs for fishers’ wives, either as entrepreneurs or as workers. The development of the fish fillet business since the early 2000s opened up at least 1,500 jobs for women. Among the various employment opportunities available, working in a fillet business is an option favored by fishers’ wives because their jobs are stable and always available and the wages are good, two times as much as the wages offered by traditional fish processing of smoked, boiled and dried fish. On average, a worker can complete 40 to 50 kg of fillets per day and get a salary of IDR 70,000. Generally, they work around 20 days per month, so they can earn around 1.4 million rupiah.

The inequality in food spending does not lead to a harmful consequence to the family members yet, but it has caused unnecessary tension in the family. There is no sign of malnutrition in Batang fishing community; there is no sign of shortage of food supply either, in the market and stores. However, as fishers are getting used to nice food at sea, they expect to have the same quality of food when they are at home. When they find that food at home is not up to their expectations, to the dismay of their wives, they go to food stalls to eat. Lavish food expenses both at sea and at food stalls have incurred an economic opportunity loss. In households with limited revenue every cent of money is valuable; money spent on the lavish foods may be used for something else more crucial, and to reduce burden among fishers’ wives in earning household revenues.

Discussion in this chapter shows that there are similarities and differences in the role of women in Pasongsongan and Batang. In Pasongsongan fishery, women play an active role as *pengemba*’. In this light, women hold a significant role in Pasongsongan fisheries. However, as a local institution that has an active role in fisheries governance, the role of *pengemba*’ is also not without weakness. Women *pengamba*’ also have a personal interest, and thus tend to marginalize those who are not part of her family.

Meanwhile, women who are not a *pengamba’* are often active as fish retailers, or small-scale fish processing and small fish trader, a trade in which women from poor households are often involved. This kind of role also appears in Batang, in which women are involved as fish traders, village fish retailer, big and small-scale fish processing. However, it should be noted that women’s role in Batang fisheries are minimized as Batang gears its fisheries toward market orientation. This pattern, in the long run, will minimize women’s role in fisheries, and even put women in a vulnerable position, close to poverty, as it is often women who will take responsibility when problems occur, as in the case of debt, shown in the studies discussed earlier.

# 4. Strengthening Women’s Role

Discussion in the previous chapters presents activities in small-scale fisheries in Batang and Pasongsongan. Batang is the case of small-scale fisheries recently developed into medium-scale, operated by thousands of fishing labourers—socio-economically belong to the category of small-scale. Pasongsongan is presented as the case of small-scale fisheries which, for decades, have been structurally stable. Sea fisheries in Batang started to experience drastic development in the 1970s with the adoption of purse seines, and continued by the adoption of cantrang in the 2000s after purse seines were no longer capable of producing good catch. This development is made possible by the availability of access to bank’s credit, sufficient supply of fishing labour and strong market demands for cantrangs’ catch, which largely consist of small and cheap fish—mainly fit for fish meal. In Pasongsongan, the mechanization of the fishing boat in the 1980s did not change their fishing gear. In the last four decades, the fishers have been practicing one day fishing mini purse seine in the waters next to their village.

In contrast to Batang, easier access to bank’s credit cannot be fully utilized by Pasongsongan boat owners as they are facing a fishing labour shortage. Pasongsongan youth are more interested to work in towns and cities that offer better wages, and boat captains have to rely on a trickle of crew members from agricultural villages.

Bank loans are available as a source of capital in both Pasongsongan and Batang, but at different intensities. Among Pasongsongan fishers, the supply of capital is largely still in the hands of local *pengamba*’. In Batang, especially among *cantrang* fishers and big fish traders, capital is mainly obtained from banks. Without capital loan from banks, fishery in Batang would not develop and very likely would collapse once the access to the bank loan is taken away. The additional burden of paying bank loans makes Batang fishers less resilient to deal with a poor catch, compared to Pasongsongan fishers, who do not shoulder this burden.

Both strength of market demand and amount of catch are beyond the ability of any trader and fisher to ensure. Uncertainty at these two ends means credit and debt in sea fishery often lead traders and boat owners into bankruptcy. The phenomenon of traders losing their business is common in Batang and Pasongsongan, but since they take credit from banks the bankruptcy is often accompanied by loss of household assets—housing land or farmlands.

A consequence of capital intensification in the fishery is an increase in fish stock exploitation. Only through catching more fish can boat owners recover their—both fixed and variable—investments. Increase in capital supply into the fishery has pushed fishers to prioritize immediate economic gain at the cost of sustainability. Even this short-term gain is not for their full revenue as part of it must be sent back to the credit provider, which in effect transforms boat owners into banks’ labour and crew members into labour of banks’ labour. As a result, the whole economic machinery in Batang and Pasongsongan are vulnerable to the downturn of fishery. When catch landings decline, due to seasonal fluctuation or a long-term trend, the community's economic life is reduced too.

As the discussion above shows, both in Pasongsongan and Batang, women play a significant role in the fisheries: as boat owners, fish traders, fishing supplies guarantors or providers, without whom the whole fishery’s activities would cease turning. However, as bank loans flow into the fishery and this economic field is converted into a profit-producing arena for banks, governance in this field has been dominated by the bank’s interest, which has pushed fishers to land more and more catch in an effort to reach immediate gain, paying little attention to the long-term usage of natural stock. Under the bank’s fishery governance, immediate economic gain is the priority, and fishers are held accountable by banks in the form of the ability to pay a loan on time. This type of fishing governance often influences women’s position, especially when the fish catch decreases and drives fishers to bankruptcy. In many cases, when this occurs it is women who will held responsibilities to pay the debt.

This profit-driven fishing governance potentially dulls the women’s voice and power to reflect, deliberate and construct value-rational method in fishery. At a technical level, innovation has helped Batang fishers and traders to deal with the decreasing quality of the catch. Small and cheap fish, the main catch of cantrang fleet, is processed into fillet, fish cake and fish meal. This innovation is certainly increasing the fishers and traders’ contribution to public food security and, to some extent, has improved their own economic situation. *Cantrang* fleet and its poor quality catch have saved Batang fishers from the dread of fish slack season and allowed them all year-round household revenue. Yet, all these achievements are accomplished under a fishing governance that places little value on sustainability.

From the perspective of the 2015 Food and Agriculture Organisation (FAO) Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries in the Context of Food Security and Poverty Eradication, the main challenge for Indonesian small-scale fisheries is to reform the current market-driven fishing governance into a more rational and environmentally friendly governance that places sustainability among the goals of the fishery management. By their nature, banks are only interested in making a profit and they can always move their investment to other profitable economic fields once profit in fishery is dried up; but the fishers would stay in the fishery until there is nothing to catch anymore—as the case of Pasongsongan fishers clearly tells. In this paper, we selected only several points from the guidelines that we see as highly relevant to the theme of strengthening women’s role in fishing governance, food security and poverty eradication.

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## In fishing governance

A combination of strong market demand and easy access to capital leads both fishers and traders to work after short-term gain and hardly leaves any space in their imagination to think about sustainability. To a great extent, government agencies also participate in the construction of this structure, as reflected in the fisheries’ annual statistic that from year to year always shows an increasing number of catch landings.

At the central level, the Ministry of Maritime and Fisheries have been busy establishing a conceptual foundation to push fishers to catch more. They produce decrees and publications on the abundance of natural fish stock in Indonesian waters; only part of it has been utilized by the fishers and the rest is subjected to theft by foreign fishers. In 2017, the ministry announced a new number for Indonesian waters’ maximum sustainable yield: 12.7 million ton/year—while the catch in 2016 was just 6,83 million ton (Kepmen KKP No 50, 2017; KKP 2018: 8). It seems that the atmosphere among high-ranking fisheries officials is loaded with optimism; nobody dares to speak realistically, stating that fish stock in Indonesian waters is limited and that after decades, subjected to heavy fishing, it must be at a critical level, so that sea fishery resources must be managed carefully by putting sustainability before productivity. With their political power, the government is capable to create policies based on their claim of fishing stock abundance—however shaky the claim is—to open capital flows into the fishery sector in order to push the fishers to catch more.

In this era of decentralization, the local government, as the third party that stands between fishing communities and central government, maintains a similar view. They compete with each other to increase regional revenue and the sea fishery sector is pushed to contribute more through fish trading tax, fish market rent and fishing boat landing fee. Local governments build fish landing facilities, fish auction halls and cold storages in an effort to attract more fishers to land their catch in their region and contribute to the revenues. The bigger the catch landing, the better it is for the local government income. Other effects the local government would like to achieve through this policy is to increase turnover in local economies as more fish enters the market.

In this situation, where everyone's attention is focused on catching more fish for immediate gain, introducing the idea of fishing governance through policy that directly reduce the fishers’ catch is not effective and can even be counter-productive.

Within the current structures that push fishers and other stakeholders in small-scale fisheries to catch more fish, putting women—or anybody else—in any strategic position in fishery institutions, such as office of fishery service, fishing cooperative, fishers’ association, traders’ association, will hardly change anything. Women are present in small-scale fishing in Pasongsongan and Batang, and gender equality (SSF Guidelines 8.1, 8.2, 8.3) is already practiced. The problem is that the women’s work ethic and practices are structured by policies of central and local governments, capital providers, and market forces that drive them to push fishers to catch as much fish as possible.

Indeed, there is an opportunity for the introduction of fishing governance in Pasongsongan. Constrained by labour shortage, boat owners in Pasongsongan cannot easily increase the number and size of their fishing boats. Fish traders from this village also face constraints to expand their market in East Java towns, as each market has been controlled by traders from other villages or cities. Labour and market constraints can effectively set a barrier among fishers to increase their fishing efforts. Institutionalization of these constraints will provide a niche for *pengamba’* in Pasongsongan to take the role as agents of fishing governance, to bring in the idea of conducting sustainable sea fishing.

Control over fishing efforts, however, has to be accompanied by opening job opportunities in non-fishery sectors as valves to release labour and capital excess from fishery. Meanwhile, managerial expertise of Pasongsongan *pengamba* as boat owners and fish traders can be applied to these non-fishery sectors. Up to this date, policies to systematically diversify source of revenues in fishing communities have not been formulated yet. So far, attention is focused on capture fishery.

Compared to Pasongsongan, fishing governance in Batang is potentially more difficult to practice, due to the number of people and amount of capital directly and indirectly involved in the fishery. Fishers, traders, fishing supply shop keepers, boat builders, engine workshops and banks all depend on their revenue from the fishery. In Batang, women do not directly engage in fishing. Their role is more in trading to market the fishers’ catch and in fish processing, which in some cases developed further into making them providers of fishing supply.

Among fishers who works to serve market demand, introduction of fishing governance can be started from policies to regulate the market. As long as the market absorbs fish products of all kind of qualities, fishers will work to fulfill the demand. The market is beyond the fishers’ capacity to control, but to some extent the government possesses the power and mandate to do so—at least regulating the quality and type of fish products. Regulation over market will decrease demand and eventually reduce fishing efforts; fishers will not catch fish which is not absorbed by the market.

In order to transform the current situation of market-driven fishing governance into a sustainability-oriented fishing governance, capacity development among fishers is the most important step to start with. SSF Guidelines 3.12; 12.1; 12.2; 12.4). SSF Guidelines 3.12. and 12.1 stipulate promotion of “community solidarity and collective and corporate responsibility and the fostering of an environment that promotes collaboration among stakeholders” and that “states and other parties should enhance the capacity of small-scale fishing communities in order to enable them to participate in decision-making processes”. To enable small-scale fishers to participate in the decision-making process in relation to their fishing activities is a tall order, as it must be started from an institutional reform as a part of the fishers’ capacity building. So far the decision to fish and how much they should—ideally—catch is determined by market forces. Capacity building for the fishing community is to allow them to generate their own capital, that allows them to run their fishing work free from the pressures of the capital market.

An institutional alternative to deal with the situation above is through re-activation of the fisher association, the trader and processor association in Batang that can exercise bargains toward market forces. Women are the right gender to have an active role in the cooperative and associations, as members of the board of management and as operational staff as well, since they are the one who spend more time on land. In Pasongsongan, due to the dominant role of *pengamba’* in the fishery, introducing or reactivating formal fishing institutions can be a challenge, but if the movement is initiated by the *pengamba’* themselves, the process can probably be made much easier. The immediate task here is to make *pengamba*’ see the benefit of formal associations for their business in the short and long term. There should be no problem inviting women onto the board of management of cooperative and associations, since they have been active in the village fishery management. On the contrary, in Batang the task to reactivate cooperatives and associations can be a bit easier since the institutions are already established, but it is still a challenge to provide a larger space for female boat owners, fish traders and fish processors in the associations and on cooperative boards of management. The rules for cooperative and civil associations have been laid under laws no 25, 1992 and 17, 2013. An element that needs to be developed, further from these laws, is a rule on gender balance; that board of management, staff and job positions in cooperative and civil associations should be open for women on a gender balance principle. This rule will strengthen women’s bargaining position against the traditional social dichotomy of the domestic: public and women: men, and open a wider path to enable them to run for positions at the fishing cooperative and on association boards of management.

Following the reactivation of the fishing cooperative and associations, serious effort should be made to make them capable of operating, serving the members’ interest and their own financial power—instead of taking subsidies from government or other sources. Rather than providing financial subsidies, governmental support can be implemented in the form of allowing the fishing cooperative and association to handle the fish trading and other income generating business related to fishery—fuel trading, ice production. The role of government should be focused as facilitator and controller, not as a player who directly runs a fish auction service like what we witness in Batang.

For the board of management and staff, a more fundamental challengeawaits them: so far the cooperative and associations have been operated in the spirit of social organizations, without a clear mission and the firm discipline of a business institution. What is absent from the fishing community is not cash, but a proper management and mechanism to operate community-based business institutions. While it is true that the cooperative is owned by members and to serve the members’ interest, the mechanism should be made clear and implemented firmly to avoid free riders. Training programs on business management, to develop knowledge and skills in running cooperative and business institutions owned by fishing associations among board of management and staff, are necessary. Crucial to the training is the idea of cooperatives and community-owned business institution technically operated as a business entity with a goal of producing economic benefits.

For daily operations, the cooperative board of management must establish a set of formal rules sanctioned by legal agreement to protect credit service and fish trading from bad loans. Certainly this formal rule will looks as a bit anti-social, and most probably some fishers will raise a negative comments against it, but without legal protection credit and fish trading services would sooner than later fall victim into bad loans. While mechanism and rules for taking loans are not different to other business institution, the fishing cooperative and associations can make themselves attractive by offering lower rate of interest to its members. Lower interest of capital from the fisher credit service has to be counterbalanced with control and campaign to protect the natural fish stock and marine ecosystem, otherwise it will be used as an opportunity for boat owners to increase the number or size their boat rather than to increase margin of revenue. The strategy of reactivating the fishers’ own credit service and counterbalancing it with fishing control and campaign to protect fish stock, as itemized in the table below, is a reasonable alternative to implementing point 5.20 of the SSF Guidelines to “avoid policies and financial measures that may contribute to fishing overcapacity and, hence, overexploitation of resources that have an adverse impact on small-scale fisheries.”

## Fig. 6 Suggestion for capacity building and fishing governance

|  |  |
| --- | --- |
| 1 | Reactivate fishing cooperative and associations |
| 2 | Implement gender-balanced principle for the fishing cooperative and associations board of management and staff |
| 3 | Operating the fishing credit service, fish trading service and other fishing-related services according to business principles and mechanisms |
| 4 | Launching internal campaign to protect fish natural stock and marine ecosystem through control over fishing efforts |

## In poverty reduction

Historically sea fishery in along the north coast of Java and Madura has been active absorbing labour which failed to find a place in the agricultural sector. Entry into fishery—fishing, trading and processing—is not too complicated, as the job does not require formal education and skills can be learnt on the job. As a consequence, the sea fishery has become an economic arena where limited or even dwindling catch has to be shared among too many people, leading fishing communities to live in poverty. Policies that directly resulted in less catch will make a poor economic situation in the fishing community poorer.

The SSF Guidelines point 6.8 urges “support [to] …the development of complementary and alternative income- generating opportunities—in addition to earnings from fisheries-related activities—for small-scale fishing communities, as required and in support of sustainable resource utilization and livelihood diversification.” Learning how to earn revenue from diverse economic sources, through the example of Indonesian farming households, is a lesson that can be applied in a poverty reduction program in the fishing community. Dependence on a single source of revenue made the fishing community economically vulnerable. Increasing their sources of revenue by creating economic fields which are close to the fishers’ everyday life but not related to exploitation of sea fish natural stock. Fish culture can be an interesting alternative, but difficult for fishers to access. Most land strips along coast line are owned by farmers. Even when a block of field emerges from the sea due to siltation on a river estuary and the land is immediately occupied by fishers, they do not have enough capital to develop the new lands into fish ponds. Soon, the lands changed hands to farmers (Semedi, 2015).

In Pasongsongan, fishers’ wives have been active in marketing part of their husband’s fish share for cash. Poverty in fishing communities comes about not because people are shy to work, but because their work reward comes from a single, limited and dwindling source: that of the fishers’ catch. Women and other household labour in Pasongsongan and Batang will take a great role in poverty reduction if their potential is released in economic activities beyond sea fishery.

Other opportunities to develop poverty reduction efforts in fishing communities is to extend the market of fish processing products. The local government of Sumenep, Madura, for instance, has initiated a community empowerment program in cooperation with universities to develop household-level production of fish-based snacks. The program should be followed with promotion of maritime tourism and marketing of local products, for example, through internet and social media, to reach a wider audience. In this way, women who have roles as boat owners and fish traders can participate in this maritime-based tourism promotion. They are familiar, through long experience, in managing fishing boats and fish trading, so will not meet with many difficulties in running a new business. Meanwhile, women who play a role in fish processing are not neglected.

Apart from creating and opening access to non-fishery income generating activities, the SSF Guidelines point 6.2 shows some points to promote activities that already take place among the fishers through “human resource development such as health, education, literacy, digital inclusion and other skills of a technical nature that generate added value to the fisheries resources as well as awareness raising.” A growing market for food in Indonesia opens a wide opportunity for Batang and Pasongsongan fish processing activities to earn bigger added value through diversification of product, promotion of products quality and hygiene, and digital marketing. Recruitment of the younger generation into the fish processing industry is necessary to reach this goal. The young generation in Pasongsongan and Batang are generally familiar with digital communication, and with some training they can integrate their digital literacy with productive activities: fish products marketing, observation of trends of demand in the market, as well as learning about new products from the internet.

The development of fish processor sectors can be followed by establishing an association for fish processors to provide them with a stable forum for collective learning, access to new information, an organizing market, and a means of solving internal conflicts of interest among the members. So far, fish processors work on their own, and are poorly organized. Cooperating with each other will solve a good number of technical problems—fish storage, packaging, labeling—among fish processors. It will allow them to obtain raw materials collectively—usually leading to a cheaper price. At the final stage of the production chain, cooperation among producers of similar products allows the creation of a common branding and products’ quality assurance that will potentially increase market share.

A well-structured and consistent training program on hygiene, processing technology, marketing and keeping up with information on the value chain (SSF Guidelines 7.10) is needed to support fish processing activities. The long-term target to be set as a goal in the training program is an increase in the proportion of processed fish among small-scale fishers; in the future, the small-scale fishing communities send more processed products rather than raw fish. Improving fishing household revenue without increasing pressure over fish natural stock can be achieved through the creation of added value of fish within the fishing community: the larger the fishers’ catch processed in their community, the larger their household revenue will be.

## Fig. 7 Suggestion for poverty reduction program

|  |  |
| --- | --- |
| 1 | Creation of non-fishery job opportunities |
| 2 | Recruitment of young generation into fish processing industry to access marketing opportunities avaiable through the Internet |
| 3 | Diversification of fish products, promotion of fish products hygiene and quality |
| 4 | Establish fish processing association |

## In food security

Before the adoption of boat engines, the fishers suffered an annual slack season that lasted for three to four months. Poor weather during that season forced fishers to stay home and earn no income at all. Releasing household assets usually to the pawnshop or secondhand goods trader began with the less important commodities, such as drinking cups and plates; as the slack season extended, more important assets would be sacrificed. By the end of a slack season, many fishers lived in windowless, doorless and even roofless houses.

With the use of boat engines, the slack season has been cut down to a few weeks in relation to the low fish season. Nowadays, with a cantrang boat, Batang fishers can operate all year long. Only when waves are really high, on just a few days in a year, they seek temporary shelter on small islands in the fishing grounds.

Apart from better fishing technology, over the last few decades, the Indonesian national stock of food and its distribution are in good shape. When fisher households experience a poor season, they can always get food supply through credit relation with food stores, to be paid when the season is over. In Pasongsongan, fisher wives also have access to credit from boat owners, fish traders and money lenders to cover household consumption during slack season.

In the old days, food security in fishing village was maintained through exchange with people from agricultural villages. As their exchange is now facilitated by the market system, food security in fishing households is dependent on the availability of cash to buy food. Threats to food security in fishing households currently comes from monetization of their economy, as everything must be bought with money. From time to time, there has to be cash or access to credit in fishing households, or they will find themselves in a difficult situation. This situation could get worse as men’s income from fisheries is often not stable; women have to look for another way to generate income to access food. In this light, food security greatly impacts women in fisher community. Having source of revenues from non-fishing sectors will certainly helps fisher households to maintain their food security and welfare.

Importantly, a potential threat to current food security among small-scale fishers is expansion of fish trade to the export market that leaves local market with poor quality fish (SSF Guidelines 7.8). Empowerment of local demand is a good alternative to help deal with this challenge, since fish and fish product distribution is mainly regulated by the market mechanism. Success of the program is directly related to the availability of access among fishing household members to cash generating jobs.

## Fig. 8 Suggestion for Food Security Program

|  |  |
| --- | --- |
| 1 | Strengthening local demand for fish and fish products |
| 2 | Enlarging access to cash generating activities for fishing households |

The discussion above shows how Batang and Pasongsongan communities are haunted by high dependency to capture fishery and strong flow of capital into the fishery that pushed fishers to catch more and more. We agree with Jentoft, Onyango dan Islam’s (2010) view that in order to provide them with better socio-economic life, small-scale fishers must be provided with autonomy rather than subjected to restrictions. However, this study argues that this autonomy should not be addressed to increase fishing efforts that lead to heavier exploitation of the already over-exploited fish stock, but to release the fisher economy from the domination of capture fishery by creating job opportunities in other sectors or through strengthening fishing governance promoted by the government along with the fish community itself; such as by controlling fish price to overcome overfishing. Although these attempts have to followed by capacity building among fishers to finance, deliberate and determine the direction of their fishing activities, crucial here. This can be achieved through re-activation of the fishing cooperative and associations.

Finally, the key to further developing women’s role in fishing governance, poverty reduction and food security is diversification of sources of household revenue. Diverse occupations will reduce the fishers’ pressure on the natural stock of fish in their fishing ground, which in effect creates a space for fishing governance. Only at this stage can people start thinking about long term benefit and sustainability of their economic practice rather than continuing their old habit of catching fish based on unrealistic assumption that abundant stock of fish is available. Here, women in small-scale fishing can become agents of fishing governance as fishery management, with a strong emphasize on sustainability. Reduction of labour pressure in fishing by transferring labour surplus in fishing community to other sectors will also open a path for women to actively engage in poverty reduction. Lower pressure of labour in fishery creates an opportunity for fishers to improve the quality of their catch, which can then generally fetch a much better price. In turn, a catch of good quality opens a path for the development of better fish processing activities to produce healthier, more hygienic fish products as a contribution to food security in wider society.

# Conclusion

Discussion in this paper shows Indonesian small-scale fishers’ day-to-day challenges. For the fishers, life is better now, but it is still not easy. Market-driven fishing governance has led the fishers to catch more fish for immediate gain rather than to conserve the natural stock for sustainable use. High dependence on sea fishery as the main generator of the community’s economic power puts the fishers in a vulnerable position. Yet, there is always something that can be done to make things better. In accordance to the FAO Small-scale Guidelines, we propose that the most strategic step is transforming fishing governance: from market-driven to sustainability-oriented governance. This goal is to be achieved through capacity building among fishers by reactivating fishing cooperative and associations, with a bigger role for women on the board of management and staff, in order to enable a small-scale fishing community to run the fishery with their own capital. Fishing cooperatives have been established in many Indonesian small-scale fishing communities, as have fishers’ associations but they have been inactive because of lack of commitment among board of management, staff and members. Putting women in the cooperative and associations board of management is not only politically correct. Technically, it is they who stay on the land when husbands and sons spends most of their time fishing at sea; and practically, it is they who run land-based fishing activities—capital providing, fish trading, fish processing.

Often, it is a woman who actually runs and thus holds responsibility for the household fishing business; her husband serves as the business front man. In Batang this fact is disguised, but in Pasongsongan it is clearly visible. The problem is, this active role is usually limited to the domestic domain. With some support, women in Indonesian small-scale fishery can move forward and take a role in the public domain. Systematic and consistent training programs are necessary to support the capacity building process that very likely will take years to accomplish and many more years to achieve its institutional goal: of establishing good fishing governance. The role of providing the training program is best taken by fishery NGOs, in close coordination with government fishery agencies. NGOs’ non-bureaucratic approach and their flexibility will make it easy for them to work with fishers, board of management and staff of fishing cooperative and associations. NGOs’ non-budgeter system will make it easy for them to create a program fitting the dynamics among fishers.

This paper has come up with recommendations to strengthen women’s role in small-scale sea fishery. Yet the recommendations are basically conceptual ones. It is far from clear to what extent the recommendations we proposed are effective in dealing with the situation among the fishers. A series of action research and pilot project need to be carried out before the FAO Small-scale Fishery Guidelines can be effectively implemented.

Apart from this, again, there is an important theme this study does not cover: that of crime, violence and sexual abuse against women in small-scale fishery. This theme is often hidden from sight and rarely talked about openly. Legal and police protection and public education in Indonesia has effectively lowered violence and abuse against women to a degree that society does not tolerate the practice anymore. It does not mean, however, that violence and abuse against women has totally disappeared. If one listens carefully, from time to time people quietly share stories about a poor housewife in the neighborhood. More focused research is necessary to cover this field.

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