

Globalized Fisheries, Depeasantization and Debt Bondage in Philippine Seafood Exporting

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Abstract

Through national development policies, Philippine fisheries and ecological resources are being rapidly depleted, and peasants have been demonized as the cause of this degradation. This ideological construct serves to legitimate public policies that are pushing toward depeasantization of fisheries to make way for greater resource exploitation by large exporters. Debt bondage requires households to commit a greater share of their budgets to export-oriented production, leaving fewer resources for household survival. Increasingly, peasant fishers must compete with export agendas for their livelihoods and for household access to food proteins. Indeed, fishing households are poorer and are twice as likely to experience chronic malnutrition as other Filipinos.

Keywords: aquaculture, debt bondage, depeasantization, fishery, food insecurity, peasant fisher

External debt drives economic Philippine national economic decision-making. As a result of nine structural adjustment programs since 1980, the country has prioritized rapid exploitation of ecological resources to expand exports (Krinks, 2002). Consequently, the country's productive systems have been transformed to export cheap consumer commodities, and Philippine fisheries and aquatic resources have been integrated into the global food system (McMichael, 1994). To meet its export goals, the government subsidized rapid destruction of a majority of its mangroves and has nearly depleted its fisheries (World Bank Group, 2008). The government has implemented depeasantization policies, reallocated control of ecological resources into the hands of a small number of export producers, and widened its dependence on imported genetically-modified species (Republic of Philippines, 2000). This study examines the impacts of globalization on a peasant fishing community in which seafood production for export is prioritized over outputs for local consumption.

Target Area and Methods of Inquiry

It is in the troubled region of Mindanao, the largest Philippine island, that this case study is situated. To fuel its export growth agenda since 1980, the country has exploited the ecological resources of Mindanao. This island is pivotal to national economic growth goals because it produces 42 percent of the country's seafoods and 40 percent of the farm crops. Since it is one of Mindanao's richest ecosystems, the target study area, Panguil Bay, has been driven to the point of severe crisis over the last thirty years, as its ecological resources and its peasants were integrated into global commodity chains. The Bay region has undergone more than a decade of failed ecological rehabilitation and has experienced intensified resource extraction since 2000. Between 1982 and 1991, small-scale fishponds aimed at domestic markets were displaced by export-oriented aquaculture. In the same time period, commercial capture fishing expanded exports dramatically. However, the livelihoods of a majority of the households along Panguil Bay have been threatened and marginalized by these export agendas.

Why Study Panguil Bay?

In 2007, northern Mindanao was the second fastest growing regional economy in the country (*Philippine Sun Star*, July 26 2007, 1). It is within the context of national development agendas for northern Mindanao that we must understand the transformations that have occurred in Panguil Bay, once the most ecologically rich fishery in Philippines. It is 29 kilometers wide and has a coastline that extends 112 kilometers. Two major watersheds, 32 major rivers and 46 minor tributaries pour into it. Because of these characteristics, Panguil Bay was, in the past, a breeding ground for many species of finfish, shellfish, crustaceans and mollusks. Bay communities supply agricultural crops, industrial outputs, and vast amounts of fish, shellfish and exotic seafoods to the country's Gross Domestic Product (MSU Naawan Foundation, 2006). However, Panguil Bay is neither unique nor peculiar. The patterns that have unfolded here have been replicated in every Philippine fishery, as the national government tries to capitalize on world demand for seafoods to generate "foreign exchange" that will help the country to repay its external debts (Republic of Philippines, 2000).

In 2010, Panguil Bay provided food and employment to more than 11,000 registered full-time peasant fishers, as well as thousands of unregistered part-time fishers. Their public spigots deliver impure water, few of them have access to electricity, and many lack sanitary toilets. They bathe and do laundry in waterways infested with chemical pollution and parasites. To gather seafoods, women daily wade into coastal waters polluted by fishpond discharges and industrial waste. However, there are no viable health care facilities in their communities.

Still, there are gradations of deprivation and disparities in the degree to which Panguil Bay households exploit natural resources. About 29 percent are mid-sector peasants who rely on traders and wholesalers to finance motorized boats and exploitative technologies that generate average daily fishing incomes of \$US3 to \$US5. Another 1.5 percent of the region's fishers use large commercial vessels and ply both coastal and ocean waters. The other 69.5 percent are impoverished peasants who work in small wooden boats or use small nets to average daily incomes of less than \$1, situating these families below the World Bank demarcation for absolute poverty. About one-third are desperately poor households that do not own fishing equipment. Most of these households fish only part-time and must generate income as short-term farm laborers or in the informal sector. By 2000, the most profitable species in Panguil Bay had declined nearly 30 percent, but most peasant fishers could not compete with the larger commercial vessels that needed to go deeper into the ocean to catch them. By 2008, the average daily catch of impoverished peasants had dwindled to less than a kilogram (Interviews).

Methods of Inquiry

In order to capture the global, national, regional and local community vantage points for our investigation, we triangulated ethnographic field research with analysis of statistical databases and public and private archives. Our field research targeted fishing households, government officials, and NGO and nonprofit cooperative staff. Initially, we interviewed fishermen and fisherwomen in informal focus groups. Subsequently, we conducted in-depth interviews with fisher husbands and wives in their own dialect. Husbands and wives were first interviewed together, then separate in-depth interviews were conducted with wives. We captured as many aspects as possible of the economic activities and survival strategies in which fishing households engage.

To capture national and regional agricultural and fishery trends, we analyzed information from three government databases (Bureau of Agricultural Statistics, 1980-2010; Bureau of Fisheries & Aquatic Resources, 1984-2011; Rural Sector Statistical Information System, 2010). In addition to these public sources, we gleaned the electronic archives of Philippine newspapers. On the ground in Philippines, we explored every possible resource base where information about Panguil Bay has been retained in paper form since the 1970s. We acquired copies of published and unpublished reports and internal memoranda from local and regional government offices, NGOs, university programs and Philippine scholars.

Globalization and Depeasantization of Panguil Bay

As fisheries have been targeted for greater exporting and deeper integration into world markets, peasant fishers have been increasingly marginalized (Hagan, Brignall & Wood, 2003). By 2007, 136 commercial operators generated nearly 42 percent of total fishery production for the Panguil Bay region while more than 15,000 peasant fishers captured only 21 percent.¹ In addition to greater exploitation of capture fishing to meet national export goals, this region has reoriented moved its fish farming away from local consumption.

In order to justify marginalization of peasant fishers from public funding, government policy makers blame them for most of the ecological degradation of fisheries and depict them as an outmoded way of life that cannot provision its communities. Government fishery programs demonize peasant fishers as “poverty stricken communities where the exploitation of natural resources is most intense” (Bureau of Fisheries & Aquatic Resources, 2011). For example, one NGO staffer told us that ecological threats to the Bay will continue “for as long as the poor fishers remain dependent on its resources.” Such rhetoric is grounded in the myth that fisher population is too large for the ecosystem and that their population growth has caused the ecological degradation (Department of Environment & Natural Resources, 2006; JEP-ATRE, 2004; MSU Naawan Foundation, 2006). However, such claims ideologically blame that 9 percent of families who fish with traditional methods and have the lowest capacity to damage the Bay.

Decisions affecting access to waterways and natural resources are made by national bureaucracies whose definition of “stakeholders” in fisheries gives more weight to government-contracted NGOs and to the minority of middle-class and large producers than to the thousands of small peasant fishers. Moreover, there is no national or local political will to regulate commercial capture fishing and aquaculture. Instead, national development policies curtail peasant access to Bay resources and pressure peasant fishers to shift into alternative livelihoods, even though there are few viable options (MSU Naawan Foundation, 2006). Consequently, there is a tendency in government-funded reports of NGOs and universities to blame peasant fishers for the declining state of Philippine coastal areas while ignoring or understating the more destructive impacts of commercial fishing, aquaculture, and industrial waste (e.g., JEP-ATRE, 2004; Subade & Abdullah, 1993).

Depeasantization of Capture Fishing

The country’s Medium-Term Development Plan (Republic of Philippines, 2000) stresses increased exporting of processed finfish, fresh shellfish, crabs and exotic species (e.g., squid, octopus, sea cucumber). However, the species that is most significant among the country’s seafood exports is tuna. Despite worldwide concerns about endangered tuna populations, Philippines continues to over-fish this nutrient-rich seafood (World Bank Group, 2008). Between 1992 and 2008, Philippines tripled its tuna production, and Panguil Bay generated one-third of that output. In 2007, tuna accounted for nearly 11 percent of total peasant harvesting and more than 34 percent of commercial production from the Bay. Moreover, this region accounted for 17 percent of national production, and tuna generated one-fifth of the value of all regional fishery exports (Bureau of Agricultural Statistics, 2010).

Even though there are nearly 300 small fishers to every commercial operator, peasants account for much less of the total regional fish capture. Small and mid-size boats in coastal waters average about four kilograms daily while commercial vessels average 333 kilograms (Bureau of Fisheries & Aquatic Resources, 1988-2010). While poor fishers now average daily catches of about three-quarters kilogram, more affluent fishers employ exploitative technologies to acquire massive harvests. Financed by regional wholesalers or absentee investors, these fishers install large stationary nets in Panguil Bay or operate small commercial boats on shares (Interviews). In 2003, the national government implemented a new policy to permit large commercial vessels to exploit the fifteen kilometers of coastal waters that had been historically reserved for smaller boats. By 2008, peasant fishing had been overwhelmed by the mass production strategies of capital-intensive commercial capture fishers who generate three-quarters of regional production (Bureau of Fisheries & Aquatic Resources, 2008). In their public outcry against “government’s continued callousness and indifference,” Panguil Bay fisher organizations raised alarm that:

commercial fishing ruins our coastal fishing grounds. Their heavy destructive gears have heartlessly raked the corals, damaged the marine ecosystem, the fertile breeding grounds of fish. Over the years, our income continues to shrink, our families, especially the children, suffer malnutrition (*Philippine Daily Inquirer*, July 18 2003, 3).

Technologies that generate the highest outputs are concentrated into the hands of the minority of middle-sector peasants and commercial fishers. Motorized boats can double the fisher’s daily capture, but a majority of peasants own a wooden boat and a few nets, hooks and lines. Even simple technologies are not very widespread among fishers. The bamboo crab pot is used most frequently, but only about one-third of fishers own them. Similarly the crab lift net, the bottom set long line and the bottom set gill net are owned by 11 to 29 percent of fishers. Large stationary high-catch net technologies are operated only by 1 to 4 percent of fishers. The scoop net captures the largest daily catch, but it is owned by only 0.2 percent of fishers.

Because they are permanently installed over larger areas of the Bay, more expensive net technologies average harvests that are two to eight times greater than those attained by peasant fishers with simpler equipment. Annually, a small stationary net system (termed *bungsod*) captures twice as much as the typical production of one peasant in a wooden boat. In 2005, there were 648 bungsods permanently stationed in Panguil Bay, each averaging annual catches of 1.5 metric tons. Combined these nets hauled out nearly 1,400 metric tons, an amount of fish that would have required nearly 1,300 peasant fishers to capture. Each year, a large fish tower ensnares three times more seafood than a productive peasant boat owner. In 2005, there were 141 giant fish towers permanently installed in Panguil Bay, each averaging an annual catch of more than 2.6 metric tons. The largest of the stationary net systems are the 543 *sangaabs* that average an annual catch of nearly 2.7 metric tons each. In 2005, nearly 2,000 peasants struggled to catch as much fish as the 684 fish towers and sangaabs (owned or controlled by fewer than fifty investors) withdrew from the Bay.²

Debt bondage systems provide middle-sector peasants the capital investments for the exploitative technologies that produce massive fish harvests, even though these large stationary net systems have been illegal for more than a decade (MSU Naawan Foundation, 2006). As a result of financing through debt with traders and exporters, there are now more of these illegal exploitative gears on Panguil Bay than there were in 1990 (Dickinson, 1987; MSU Naawan Foundation, 2006). In 2005, there were nearly 1,400 stationary net systems installed in Panguil Bay (MSU Naawan Foundation, 2006). Combined, these exploitative gears withdrew 4,086 metric tons from the Bay, an amount that would have required nearly 5,500 peasant fishers to capture with simpler technologies (MSU Naawan Foundation, 2006: 90-93). Because these stationary gears require high capital investment, peasant fishers contend that they are not feasible enterprises for the poor. Interviewed fishers reported that construction of these illegal technologies is subcontracted to peasants who are willing to assume the scope of the indebtedness and marketing constraints imposed by the larger fish traders, fish processors and exporters who recruit them. Several peasant fishers emphasized that the capitalists who finance these illegal technologies are so powerful that there is no national or local political will to dismantle their illegal structures. Instead, recent national policy redefines these large exploitative technologies to be “passive fishing gears” that are “viable alternatives to fish hunting in the wild.” Couching these gears as “nondestructive,” Bureau of Fisheries and Aquatic Resources officials conducted training sessions in their operation to Panguil Bay area fishers in 2010 (*Philippine Star*, June 13 2010, 4).

Depeasantization of Aquaculture

More than any other food production sector, aquaculture has been prioritized by government-funded research, lending programs and policy formation. Nationally, aquaculture technologies have shown a consistent, steady rise since 1978. In the early 1950s, there were 2,022 hectares of fishponds along Panguil Bay that specialized in polycultural production of indigenous species that were fed with natural inputs to generate food for local consumption (Bureau of Fisheries & Aquatic Resources, 1984-2010). As a result of the country’s implementation of structural adjustment policies during the 1980s, major transformations occurred. Local aquaculture grounded in ecologically-friendly peasant operations for community consumption was displaced by capital-intensive enterprises that targeted new species for export to global markets (Gauran, 2003). Rapidly, Panguil Bay mangroves were deforested and farmlands were converted from crop production to fuel the expansion of aquaculture. This resource degradation was stimulated by two national government policies. First, new fishery regulations leased public lands to fishpond operators who could become owners of those areas after 25 years of fishpond operation. To encourage rapid growth of aquaculture facilities, the government declared the region’s mangrove areas “undeveloped territory” and extended long-term fishpond leases to investors who established export-oriented fishponds. Second, the national government embedded a fishpond conversion clause in land reform legislation. By converting farmlands to export-oriented fishponds, large land owners were permitted to shield their holdings from redistribution to landless peasants (Republic of Philippines, 1995). Subsequently, Panguil Bay experienced one of the highest rates of land conversion in the country (Umehara & Bautista, 2004).

Nationally, there was widespread corruption and new wealth concentration in the agenda to expand aquaculture. Several hundred large landholders easily escaped land reform through fishpond conversions, 28 members of the Philippine Congress made investments in aquaculture facilities, and illegal pond development was rampant in restricted mangroves. Moreover, fifteen corporations dominated the trade in aquaculture commodities (Krinks, 2002).

Because of the two land loopholes in public policies, Philippine mangroves were “steadily transformed from a common property resource, of multiple use and benefit to a large number of people, to a private good. . . narrowly channeled to the benefit of a select few” (Nickerson, 1999: 279). Guided by the development doctrine of the Food and Agriculture Organization (2004: 3) that “large growers are more efficient than small growers,” the government implemented an export-led strategy that privileged rapid investment in large ponds controlled by corporations and absentee investors. With World Bank backing, the Philippine Fisheries Credit Program prioritized expansion of monocultural ponds that relied on artificial inputs. Between 1973 and the 1980s, public fisheries credit programs allocated 90 percent of loan funds to 723 large fishpond operators (Dickson, 2003). Because of these national development agendas, fishpond development along Panguil Bay expanded to 28,250 aquaculture hectares by 1995, an area 14 times greater than the land used for 1950s peasant fishponds. Over this period, there was a steady decline in production of species for consumption by local peasant households (Bureau of Fisheries & Aquatic Resources, 1984-2010).

Following advice from the Food and Agriculture Organization (2004: 3) that vast areas of Philippines “are still under-utilised with respect to aquaculture,” the country’s early 21st century fishery policy advocates even more aggressive expansion of aquaculture than has occurred in previous decades. Consequently, Mindanao is expected to triple exports of aquaculture products to China early in the 21st century (Republic of Philippines, 2000). Because 43 percent of the country’s aquaculture production occurs here (Bureau of Fisheries & Aquatic Resources, 2010), government funds have been earmarked for “realizing Mindanao’s agribusiness and aquaculture and mariculture potentials” (U.S. Agency for International Development: Philippines, 2011). To meet these goals, the government has undertaken several strategies. Public subsidies and credit programs for development and importation of genetically-modified species have been expanded and promoted as “high value” export commodities. Regional fishing ports were constructed to speed exporting, and six refrigeration facilities were developed to improve durability of seafoods (Bureau of Fisheries & Aquatic Resources, 2010). To move fish to market as quickly as possible, the government has developed a “mariculture highway” system that connects 23 fishery parks in Mindanao to major ports, in order to “enable the country to be an important player in the live food-fish export market” (Bureau of Fisheries & Aquatic Resources, 2009). Twenty processing plants have been opened, including eight canneries that can process 300 metric tons daily (*Mindanao Magazine*, April 20, 2009, 1). For the Panguil Bay area, the primary fishery export goal is to “supply upscale foreign markets such as China and Hong Kong with high-value, high-demand aquaculture products,” not to feed local people who produce those exports (*Philippine Daily Inquirer*, January 1 2009, 1). As a result, two depeasantization strategies have been implemented:

1. increased subsidization and promotion of export-oriented aquaculture technologies, accompanied by constraints on small capture fishers and
2. greater reliance on imported genetically-modified species that are in global demand, alongside economic devaluation of natural species captured by small fishers (Bureau of Fisheries & Aquatic Resources, 2011).

While encompassing less than one percent of the country’s coastal waters, this region has exhibited greater fishpond expansion than other Philippine regions, and it generates an inequitable share of the country’s aquaculture production. By 2010, Panguil Bay aquaculture production was 29 times greater than the 1984 level, but aquaculture outputs grew at less than half that level nationally. In 2008, this small region produced for export nearly 17 percent of the country’s shrimp output and more than one-third of its mudcrab (Bureau of Fisheries & Aquatic Resources, 1984-2010). A high proportion of ecological resources are now controlled by foreign and absentee capitalists, either directly or through subcontracting arrangements. Moreover, peasant fishers have been excluded from participation in these growth ventures (Interviews). A Panguil Bay fisherwoman poignantly captured the precarious position of contemporary peasant fisher households when she said:

We fishers are squatters on public lands where the shrimp and fish in the ponds are more welcome than us. Our government celebrates aquaculture as the technology that will make this country globally competitive. But where we live, fishponds consume and defile our waters, and they waste resources that were once our daily foods. We eat less of the wild fish so the fishponds can have more.

In addition to loss of access to ecological resources, fishponds generate only a few short-term low-paying, waged jobs.³

Through legal constraints on access to waterways and mangroves, peasants have been marginalized from seaweed farming, another traditional livelihood. Philippines is one of the world's top exporters of seaweed for production of additives used in food processing and several other industrial agents (Bureau of Fisheries & Aquatic Resources, 2000). Currently, two-thirds of all sales are made by the twenty largest producers, and seaweed farm parcels are disproportionately assigned to them. In one Bay community, the largest fourteen planters control two-thirds of the territory, leaving the vast majority of poor small growers to compete for use of the remaining third, most of which are situated in the unproductive shallows. Seaweed farming is no longer a livelihood strategy that is feasible for a majority of Panguil Bay peasants. Fishers who want to begin farming "find no area" in the Bay, complained one frustrated peasant. On the one hand, most of the shallow parcels are either polluted or already occupied, and most peasants do not own the motorized boats required to farm seaweed in the ocean. "To plant seaweed in the deep seas requires capital, and the small fishers cannot afford to start it," a fisher cooperative officer explained. The financial investment to engage in seaweed production in deeper water is prohibitive, each line costing about twice as much as a line in the shallows. On the other hand, parcel holders market their access rights, making it impossible for a peasant newcomer to acquire a site legally. Local regulations require growers to forfeit a site that has not been cultivated in the previous three years, but most parcel holders sell or rent their inactive spaces. "Why are they selling the sea when it's not theirs?" queried one peasant fisher. "The seas belong to Nature" (Interviews).

The Pervasive Reach of Fisher Debt Bondage

To insure that export production will expand, the government promotes and subsidizes more exploitative fishing technologies. However, that modern equipment requires credit mechanisms that are not easily available. Relentlessly, Panguil Bay peasant fishers have been locked into a *putting out system* (Littlefield & Reynolds, 1990) that draws them deeper into debt bondage while their ecological resources are extracted by capitalist exporters and distant consumers. A prime response by impoverished fishers to the need to meet debt obligations has been to increase outputs. Export firms and traders advance credit against future production to finance fishponds, fishing boats, gears and nets, as well as advances for household needs. Peasant fishers are deeply indebted and are always working to repay past debts. In this way, fishers have become low-paid contract workers for lenders who specify the commodities to be produced and purchase their outputs at below-market prices (Interviews).

Philippine and American ethnographers who studied the country's fishing communities in the 1980s call attention to the *suki* linkages between fishers and traders, and a majority of these analyses emphasize the exploitative aspects of this form of debt bondage (Torikari, 1990). In the *suki* relationship, the fisher markets output to one buyer, who extends "favors," such as credit. Thus, fishers are "tied to particular buyers, known locally as *suki*, from whom they obtain credit and sometimes inputs, such as fuel, and to whom they must sell their catch at a discounted price" (Smith & Mines, 1982: 22-23). The indebtedness of the peasant fisher is advantageous to the *suki* because it helps to insure a steady supply of fish. However, the *suki* acts in a noncompetitive fashion to set the price of the commodity below its market value and demands immediate repayment of loans if the fisher takes a catch to another trader. Many *suki* charge outrageous interest rates over time, but the system persists because peasants have no better means to obtain credit (Jocano & Veloro, 1976). Since 1995, debt bondage has operated at three levels.

1. Most poor peasants acquire credit from small fish traders who advance small amounts for household needs against future production.
2. At least 60 percent of the peasants fish on shares for traders or wholesalers who advance capital for boats, equipment, stationary net systems and household survival needs.
3. Contemporary marketing and investment networks employ debt bondage strategies to finance fishing technologies or aquaculture facilities (Interviews).

Contemporary Debt Bondage Mechanisms

What has changed in the modern context is that small traders in local markets cannot finance the kinds of costly technologies that the most productive fishers and fishpond operators utilize. There are several points in the export commodity chains at which producers can become financially-bound to the buyers of their seafoods. Wholesalers, processing plants and absentee investors finance fishpond operators and operators of stationary nets. Being able to advance credit allows regional level wholesalers to capture a higher segment of the total production.

On the one hand, national firms now decentralize agents into regions like Panguil Bay. On the other hand, regional wholesalers often secure capital from national wholesalers or agribusinesses that advance funds to be used to insure monopsonistic advantages with producers (Interviews). These are not “economically backward” structures that modern capitalists seek to obliterate. Instead, these debt bondage systems institutionalize mechanisms through which most of the risks are shifted to peasant producers while most of the market value is collected by capitalists to whom they are indebted. In this way, credit advances are “a calculated means to extract produce via debt claims, which places the producer in a dependent, exploited position” (Fegan, 1981: 12).

Most large traders and wholesalers extend loans to fishers and fish farmers through a system that Filipinos dialectically term “fresh fish by contract.” Fishers are tied by debt bondage to traders or wholesalers who advance capital for fishing gears or household needs, and their future outputs are committed to those lenders until all debts are paid. In the 1990s, wholesalers initiated the *kasama* approach in which a company broker supplies a boat, a household hut and advances credit to a fisher household. Brokers purchase the catch at about half the market price and keep a running account of accumulated debts. The shift to more productive technologies generated another treadmill of mounting debts. Middlemen brokers advance credit to middle-sector peasants to purchase boats, boat motors or stationary nets on installment, in return for agreements that outputs will be sold at reduced prices. To exacerbate their vulnerabilities, peasants are required to purchase new equipment, equipment repairs and gasoline (usually at inflated prices) from these brokers (Interviews).

Through these debt bondage mechanisms, Panguil Bay fishers have been integrated into a *monopsonistic* trading system that links indebtedness to export commodity chains in order to allow traders (1) to obtain commodities at below market prices, (2) to shift more of the risks and costs to producers, and (3) to capture peasant labor and outputs over a longer term. As the only purchaser, the monopsonist is able to dictate terms to suppliers, including prices, types of commodities, and production standards. In monopsonistic contexts, the trader or broker tries to push the price down near or below the actual cost of production. Consequently, the rate of exploitation is high, and the value of the producer’s contribution to output is far greater than the price received. Because these forms of debt bondage shift bargaining power to the buyers, long-term trade/credit linkages insure greater national and international corporate control over fish supply, price-setting and profit taking (Robinson, 1993). Because they control limited services such as cold storage and transport to distant markets, large traders and brokers are able to discount prices and to externalize responsibility for spoilage after delivery to producers (Interviews).

Sharecropping and Contract Farming

Debt bondage is also structured through sharecropping and contract farming. Peasants who do not own equipment fish on shares with owners of boats or nets. In some instances, the share arrangement for use of boats or nets is with a local small trader to whom the fisher has a long history of indebtedness. Since 1995, however, most share contracts have been arranged by commercial firms. For example, a majority of tuna is sold by firms that employ fishers who work months on the ocean for a share of the outputs of the boats to which they are assigned. In similar fashion, exporters provide a boat and crabpots to a *bintolero* who earns a share of the crab harvest, minus credit advances (Bureau of Fisheries & Aquatic Resources, 2010). Fish corrals, bungsods and other stationary nets are managed as contract farming in which the costs of construction and some of the production inputs are advanced by financiers who take large shares of the harvests. However, financiers pass to peasant operators the risk of unexpected eventualities, like rising costs of inputs or natural damage to nets. In addition, these peasants borrow against future production to meet household needs. As a result, most bungsod operators retain little of the value of their harvests and are deep in debt to the firms with which they contract. To exacerbate the situation, financiers employ a variety of price discounts to lower the share they assign to peasant operators, interest can accrue at 10 percent monthly, and peasants must pay commissions of 6 percent or more of gross value to brokers who handle their sales. Moreover, financiers often take over the equipment or stationary net sites of peasants who are not meeting debt obligations (Interviews).

The second context for debt bondage involves several methods to operate aquaculture contract farming. Corporations and absentee investors recruit local households to convert mangroves into fishponds and manage them. In those instances in which the financier provides construction costs and capital inputs to production, the operator receives a 50 percent share or less, minus any credit advances. In a second approach, peasants manage fish cages on shares for absentee financiers or traders, typically for less than half the harvest, accruing debts for repairs and household advances between harvests.

The third type of contract fish farming is *leaseholding* land controlled by peasant households an arrangement in which corporations, traders or absentee speculators finance construction of fishpond and pay annual “rents” of 5,000 to 10,000 pesos for five years. In addition, monthly wages of about 2,000 pesos and a sack of rice are paid to the operator. Since these investors only erratically cover the cost of repairs, artificial inputs and feeds, these costs of production are externalized to the peasant operators (Interviews).

Interviewees reported few positive experiences with these arrangements. In one household, the spouses deforested the palm trees that the wife used to produce crafts for marketing, in order to construct a fishpond financed by an absentee investor. After their first successful harvest, every production cycle failed. Repeated floods overflowed the fishpond and contaminated the shrimp. When the mud dike was destroyed by flood waters, “the financier did not have it repaired.” Subsequently, their household food resources have declined sharply, as they had lost income from the wife’s previous informal sector marketing. The husband reported that her destroyed livelihood had been significant to the household food budget.

When she sold [her palm crafts], she always brought home with her four kilos of meat. She would also buy a sack of rice, some big dried fish and mongo beans. The financier does not supply us with that much food. So now, we are just eating the fishpond feed. These are low-quality corn grits that have to be boiled before the shrimp can eat them. If the financier refuses to advance us new loans because our debt is still big, we have no other option but to eat the fishpond grits. The shrimp eat better than we do, and I have to worry about their health in ways I can’t afford to look out for my own.

Furthermore, the household faces even worse crisis if the investor takes legal control of their land, as he has the contractual right to do (Interviews).

Seaweed farming is also organized on shares through financing from traders and commercial processors (*Philippine Daily Inquirer*, May 18, 2008, 5). To start in seaweed farming, the grower needs at least \$US9.10 for two or three lines in the shallows, more than twice as much in deeper water where a motorized boat is essential. However, the inability to afford a motorized boat will prevent most peasant households from moving from the polluted shallows to deeper water. “Poor people need finance capital,” report officers of one cooperative of seaweed growers. Since their organization has no funds to lend them, producers go directly to traders for marketing and financing. One peasant grower described the financial hardship caused by the price fixing of seaweed brokers. “The three buyers set the same low price for a kilo of dried seaweed. If we questioned the price, they threatened to stop buying. This low price was only a hoax engineered by the three buyers.” Like other growers, his “savings were eventually consumed during this crisis of seaweed marketing” (Interviews).

Globalized Fisheries and Local Malnutrition

Depeasantization policies associated with globalization of this fishery into world markets have resulted in food shortages and malnutrition. Even though their communities are exporting vast amounts of farm produce and seafoods, Panguil Bay households are 1.3 times more likely to fall below the food threshold than other rural Philippine households. More than one-third of Bay families lack sufficient food, so nutritional deficiencies are common. Since 1987, per capita consumption of fishery products by Panguil Bay households has steadily declined. In 2008, Bay residents consumed per capita about half as much fresh fish and shellfish as they did in 1993. While this globalized fishery produced and exported massive amounts of shellfish in 2008, per capita local consumption of shrimp was negligible at less than five grams annually. In addition, traditional household consumption of fresh mollusks and crustaceans dropped significantly between 1990 and 2010.⁴ At the household level, mothers confront resource shortfalls routinely. The diet of Bay fisher families has been increasingly limited to corn meal or rice, small amounts of fish, and a few vegetables, with protein missing from many meals and on many days. “We have fish rarely, meat never, oysters a few times a year,” a majority of poor peasants told us. “Every morning before school,” one fisherwife said, “our sons open all our pots expecting to see left-over food from the night before. Often they find them empty.” Another wife told us she had “learned not to feel hungry” in order to have more to feed her toddlers (Interviews).

In these circumstances, it is not surprising that malnutrition increased in Panguil Bay communities between 1990 and 2010 while declining in other Philippine rural areas. Nearly 82 percent of Bay residents do not meet nutritional requirements for energy adequacy.

Two of every five Panguil Bay citizens are malnourished, compared to one-fifth of all Filipinos.⁵ Increasingly, fisher households must compete with export agendas for access to protein. First, massive food outputs are exported while less than 13 percent of Bay aquaculture production is consumed locally. Second, traditional elements of the peasant food chain have been redirected into production of export nonfoods. In fact, nearly 88 percent of Bay aquaculture outputs have been diverted to nonfoods, such as industrial fish oil, livestock, aquaculture and pet feeds and seaweed byproducts (Bureau of Fisheries & Aquatic Resources, 2008).

To complicate matters, household shortages are driven by the accumulated burden of debt bondage that is linked to export-oriented production. Ahead of household survival needs, husbands prioritize payment of debts caused by their intensified fishing methods. When wives deliver fish catches to local markets, the trader or commission merchant calculates the discounted price in such a way as to insure debt repayment plus interest, before proffering daily survival goods that will once again be tallied into the running account of a household that cannot easily move to another fishery dealer. As our interviewees explained, neither spouse receives cash very often, and the trader determines the amount of food that will be paid for fish catches. When they borrow from fish traders, their daily credit primarily becomes a revolving door of exchanging the fish catch for food advances, primarily rice. As one grandmother told us about deliberations with traders, “You must run fast and work hard to catch the rice and something to eat with it” (Interviews).

Conclusion

Through national development policies, Philippine peasants have been demonized as the cause of degradation of the country’s fisheries. This ideological construct serves to legitimate public policies that are pushing toward depeasantization of fisheries to make way for greater resource exploitation by large exporters. Debt bondage requires households to commit a greater share of their budgets to export-oriented production, leaving fewer resources for household survival. A fisherwoman captured the precarious situation of Philippine peasant fishers this way.

Our government blames us for the environmental problems in this fishery, tells us we are in the way of progress, and wants us to go into alternative livelihoods that leave us even poorer. The world has not mourned the deaths of so many of our small creatures and plants that were used to feed fishponds. And the world will not weep if we small Philippine fishers disappear.

Increasingly, peasant fishers must compete with export agendas for access to protein. Thus, the fishing households in this Philippine seafood exporting enclave are twice as likely to experience chronic hunger and nutritional deficiencies as other Filipinos. Despite the hardships, traditional fishing is their way of life and their historical heritage, and none of the fisher men and women we interviewed will leave this livelihood without considerable resistance. One fisher captured the sentiments of the majority when he told us: “My father and my grandfather was a fisherman, and so I am a fisherman. I was born a fisherman, and I will die a fisherman. That does not make me unhappy.”

References

- Bureau of Agricultural Statistics. 1980-2010. Land, crop and fishery databases. Manila: Philippines Department of Agriculture.
- Bureau of Fisheries & Aquatic Resources. 1984-2011. Philippines annual fisheries profile. Manila: Department of Agriculture.
- Bureau of Fisheries & Aquatic Resources. 2011. Philippine fishery program goals. Manila: Department of Agriculture.
- Department of Environment & Natural Resources. 2006. Managing municipal fisheries. Cebu City: Republic of Philippines.
- Dickinson, J. 1987. Panguil Bay, Philippines: The cause of its over-exploitation and suggestions for its rehabilitation. Paper presented to the 20th Fisheries Symposium, Asia-Pacific Fisheries Commission.
- Dickson, A. 2003. The fisheries development loan program in fishing communities in the Philippines. Rome: FAO Corporate Document repository.
- Fegan, B. 1981. Rent capitalism in the Philippines. Quezon City: University of the Philippines, Third World Paper Series No. 24.

- Food & Agriculture Organization. 2004. Philippines: national aquaculture sector overview. Rome: Fisheries Technical Paper.
- Gauran, D. 2003. Fishery sector program: coastal resource management in Panguil Bay, Mindanao. Manila: CBCRM Library, unpublished MSS.
- Hagan, N., Brignall, C. & Wood, L. eds. 2003. Putting fishers' knowledge to work. University of British Columbia Fisheries Centre.
- JEP-ATRE. 2004. Inception report for Panguil Bay resource management program, unpublished MSS.
- Jocano, F., & Veloro, C. 1976. San Antonio: A case study of adaptation and folk life in a fishing community. Quezon City: University of Philippines.
- Krinks, P. 2002. The economy of the Philippines: elites, inequities and economic restructuring. London: Routledge.
- Littlefield, A., & Reynolds, L. 1990. The putting out system: Transitional form or recurrent feature of capitalist production? *Social Science Journal* 27 (4): 359-72.
- McMichael, P., ed. 1994. The global restructuring of agro-food systems. Ithaca, NY: Cornell University Press.
- MSU Naawan Foundation. 2006. Resource and socio-economic assessment monitoring of Panguil Bay. Naawan, PH: Mindanao State University.
- National Statistical Coordination Board. 2004. Census of fisheries, 2002. Manila: Special Release No. 169. [Online] Available <http://www.census.gov.ph> (April 15, 2013).
- Nickerson, D. 1999. Trade-offs of mangrove area development in the Philippines. *Ecological Economics* 28 (2): 279-298.
- Republic of Philippines. 1995. Act No. 6657: Comprehensive agrarian reform program, modified. [Online] Available <http://www.gov.ph> (April 15, 2013).
- Republic of Philippines. 2000. Medium-term development plan for 2004-2010. [Online] Available <http://www.neda.gov.ph> (April 15, 2013).
- Robinson, J. 1993. The economics of imperfect competition. London: Macmillan.
- Rural Sector Statistical Information System. 2010. Module 7. [Online] Available <http://www.bas.gov.ph/rssis/index.php?> (April 15, 2013).
- Smith, I., & Mines, A., eds. 1982. Small scale fisheries of San Miguel Bay, Philippines: economics of production and marketing. Manila: University of the Philippines in the Visayas.
- Subade, R., & Abdullah, N. 1992. Are fishers profit maximizers? The case of gillnetters in Negros Occidental and Iloilo, Philippines. *Asian Fisheries Science* 6 (1): 39-49.
- Torikai, Y. 1990. The economic structure of fishing villages in the Philippines. *Journal of Southeast Asian Studies* 24 (4).
- Umehara, H., & Bautista, G. 2004. Communities at the margins: reflections on social, economic and environmental change in the Philippines. Quezon City, PH: Ateneo de Manila University Press.
- U.S. Agency for International Development: Philippines. 2011. Philippines trade and export overview. [Online] Available <http://www.usaid-ph.gov> (April 15, 2013).
- World Bank Group. 2008. Philippines environmental monitor. Manila: World Bank Philippines.

Notes

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- ¹ Analysis of Bureau of Fisheries & Aquatic Resources (2007).
- ² Analysis of MSU Naawan Foundation (2006: 90-93).
- ³ Analysis of National Statistical Coordination Board (2004).
- ⁴ Comparative analysis of Bureau of Fisheries & Aquatic Resources (1990, 2010).
- ⁵ Comparative analysis of Rural Sector Statistical Information System (2010).