SMASH & GRAB

Conflict, corruption & human rights abuses in the shrimp farming industry

A report by the

Environmental Justice Foundation

in partnership with

WildAid

This report is one of a series documenting EJF's international investigations into the social, economic and environmental impacts resulting from shrimp production and consumption.

More information about EJF and WildAid's shrimp campaign and pdf versions of this and other reports in the series can be found at: www.ejfoundation.org

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What's in a name?

Some people use the terms *shrimp* and *prawn* interchangeably – EJF makes no distinction between the two.

PICTURED: *Shrimp farms in Bangladesh.*
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'The shrimp live better than we do. They have electricity, but we don't. The shrimp have clean water, but we don't. The shrimp have lots of food, but we are hungry.'

Fisherman, Negros island, Philippines[1]

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EXECUTIVE SUMMARY

Shrimp farming has achieved massive growth over recent decades. The industry has been hailed as part of a '*Blue Revolution*', supposedly capable of producing large volumes of food without impacting marine stocks and increasing availability of food for the hungry.

Governments and the international donor community have promoted shrimp farming as a means of speeding development and alleviating poverty in developing countries. However, the expansion of export-oriented shrimp culture has met with strong opposition from some sectors of society, and serious political, socio-economic and environmental concerns have been raised.

Shrimp farming has increased land values and led to conflict over land rights and access to natural resources. Resulting social problems include increased poverty, landlessness and food insecurity, displacement of communities, pollution of drinking water, poor working conditions, and impacts on health and education.

Large tracts of agricultural land have been inundated with saline water to create shrimp ponds. Shrimp farming physically takes over farmland and salt water intrusion can change soil composition and pollute water supplies. Shrimp aquaculture has had direct impacts on crop productivity and on the health and livelihoods of rural farming communities.

Destruction of wetlands, including mangrove forests, together with shrimp fry collection to stock ponds, have been linked to declines in capture fisheries. Shrimp farms have also blocked traditional users' access to coastal and estuarine resources, leaving rural communities increasingly marginalised in degraded environments. Loss of mangroves has also increased risks to coastal communities from tidal waves and cyclones. Given the large range of such hidden costs generated by shrimp farming, there are serious concerns over the sustainability of this industry.

The shrimp farming industry is not labour-intensive and loss of employment in the agricultural sector (as a result of the inundation of land) has led to the displacement of hundreds of thousands of people from lands used traditionally, and sustainably, for generations. Employment on shrimp farms and processing plants is frequently linked to very poor working conditions and exploitation of workers.

ABOVE: *Shrimp farming has had major impacts on coastlines (particularly mangrove forests) and coastal communities worldwide. Shrimp is becoming a more affordable food-stuff in industrialised nations. The true cost of shrimp is that paid by the rural poor in producer countries.*

'With the complicity of our government, we have given away our people's patrimony to a few national and foreign individuals, and we have deprived thousands of persons of their livelihood. We have turned the blood of our people into an appetizer'

Jorge Varela, coddeffagolf, Honduras[2]

Shrimp farming especially affects women. There are reports of sexual abuse of female workers in shrimp processing plants and, in certain countries, the link between the industry and sexual abuse is so strong that reputations of women working in the industry have been tarnished, affecting their marriage prospects. Women who have campaigned against the industry have been subjected to violent intimidation and rape.

Children are also seriously affected. In a number of countries, children miss school in order to help their parents find food and water following salinisation of water supplies and reduced availability of food resources. Children risk their health working for shrimp farms, spending long hours in water collecting shrimp fry or working in unsanitary factory conditions. Child labour in the shrimp industry has been reported in Sri Lanka, India, Bangladesh, Thailand, Cambodia, Indonesia, Peru, Ecuador, and Burma.

Corruption and weak governance have encouraged the expansion of the industry, often illegally. Grassroots opposition to the expansion of the industry has been met with threats, intimidation, violence, and false imprisonment. In at least eleven countries, people protesting the expansion of shrimp aquaculture have been murdered. In Bangladesh alone, over 150 lives are thought to have been lost. Perpetrators of acts of intimidation or violence have rarely been brought to justice.

In some situations, human rights abuses are enacted with the apparent complicity of authorities including the military, police and judiciary. The social impacts of shrimp aquaculture constitute significant violations of human rights as recognised by the Universal Declaration of Human Rights and United Nations Covenants on Human Rights.

The negative social impacts of shrimp aquaculture often outweigh the industry's economic benefits. Farmed shrimp are produced almost entirely for export, primarily to consumers in Europe, Japan and the USA. Governments, financial institutions, development agencies and consumers promote the continued expansion of this destructive industry which, under present conditions, is unsustainable.

ABOVE: *Women protesting against the shrimp industry in Bangladesh, where many have been victims of rape and assault.*

INTRODUCTION

'I say to those who eat shrimp – and only the rich people from industrialised countries eat shrimp – I say they are eating the blood, sweat and livelihood of the poor people of the Third World.'

Shri Banke Behary Das, India[1]

ABOVE: *Most farmed shrimp are produced in tropical and sub-tropical countries but consumed as a luxury food in Europe, North America and Japan.*

In this report, we describe some of the negative human impacts of shrimp farming and show how they have led to serious conflicts between stakeholders following the privatisation of lands that were previously common-access resources. We present illustrative examples of illegal land seizure, false imprisonment, forced labour, summary expulsion, enforced resignation, intimidation, rape, arson, violence, torture, and murder enacted upon poor and vulnerable communities at the alleged behest of shrimp farming concerns, often with the apparent complicity of corrupt officials. In cases of unfettered abuse by local police and judiciaries, the implication is one of *de facto* sanction by public officials.

In addition to instances of domestic legislation being ignored or poorly enforced, a number of internationally-accepted human rights standards are frequently breached. In particular, there are numerous contraventions of rights to life and security, equal protection before the law, and protection against deprivation of property, discrimination, torture, cruel or degrading treatment, and arbitrary arrest or detention. Economic exploitation of children, performing work that is hazardous or interferes with their education, is a feature of the industry in some countries. This document catalogues the widespread denial of these rights to individuals and whole communities who have either protested, been employed by, or simply lived near, shrimp farms.

These problems are not unique to shrimp farming but have manifested in a new and intense way because of the global scale of the industry. Although shrimp farming has brought employment and revenue to some, the industry's social impacts are sufficiently widespread and grave to warrant immediate attention from the financial institutions, governments, global seafood industry, retailers, and consumers who, together, continue to promote the industry's expansion at significant cost to the rights and livelihoods of the rural poor in a number of developing nations.

'The costs of ecological and social damage far exceed the benefits that accrue out of coastal aquaculture activities.'

Conclusions of India's National Environmental Engineering Research Institute cost-benefit analysis[5]

Degraded mangrove forest and shrimp farm, Vietnam.
© Thornton / EJF

The blue death

Aquaculture is the farming of aquatic plants and animals, an activity that has grown globally at an average 9% per year since 1970[2]. Aquaculture was heralded, in the 1970s, as a '*Blue Revolution*', capable of relieving pressure on marine stocks, which were beginning to exhibit indications of over-exploitation. In recent years, shrimp aquaculture, which is undertaken largely in Asia and Latin America, has experienced particularly spectacular growth. Annual production in 2000 was 1,083,641 metric tonnes, valued at over US$6.8 billion[3]. Today, 28% of shrimp consumed are farmed[3], compared to about 5% in the early 1980s[4].

Most farmed shrimp are produced in tropical and sub-tropical countries but are exported for consumption, primarily to the USA, Europe and Japan. The industry has been actively promoted by organisations such as the World Bank, Asian Development Bank, and the Food and Agriculture Organisation of the United Nations (FAO) as a means of creating jobs, bringing foreign exchange, and alleviating poverty in developing nations. Indeed, shrimp exports make major contributions to the economies of producer countries. However, these nations often lack clear governance to ensure equitable use of resources. In many cases, the industry's external costs are not borne by those who reap the benefits, but are displaced and impact some of the poorest and most vulnerable communities. Furthermore, the financial benefits of shrimp production often fail to trickle down to these communities.

FOOD FOR THE HUNGRY?

'We used to be able to live by growing ragi and rice, and catching fish. Now, the land is taken over or poisoned, and all the fish are gone. We can't even go to the sea, because the shrimp farms have blocked the way.'

Sitalakshmi, Secretary of Women's Committee, Ramachandrapuram village, Andhra Pradesh, India[1]

For a billion people, mostly in developing countries, fish represents the major dietary source of animal protein[2]. Although hailed as being a means to compensate for declining wild fish stocks, a recent paper in *Nature* concluded that there was no evidence that aquaculture promoted a recovery of coastal fisheries[3]. Conversely, as this chapter shows, shrimp farming contributes directly to a reduction in marine and coastal resources. The industry not only results in a net loss of protein (as fish is caught to feed shrimp); but is also associated with declines in the availability of marine and coastal species traditionally harvested by local communities (as habitats are lost). Furthermore, agricultural productivity and the availability of potable water are also impacted (see below). The vast majority of shrimp produced from local resources are exported, rendering those resources unavailable for local consumption – Thailand, for example, the world's leading producer of farmed shrimp, exports up to 90% of its output[4]. Thus, the production of a luxury foodstuff for consumers in industrialised nations has direct impacts of the food security of the rural poor in producer countries.

A consequence of such depletion is that traditional fisher-folk have fewer resources, must devote more time and energy to food collection, and are less likely to be able to harvest sufficient fish for local sale. Shrimp farming can therefore promote local poverty as well as food insecurity. In some cases, social dislocation results as people are forced to move to cities in search of work.

ABOVE: *Muisne, Ecuador – when mangroves are cleared to build shrimp farms, food security is threatened as forest resources are lost and local fish catches decline.*

Depletion of coastal resources

Mangrove forests are among the most productive ecosystems on the planet. The forests support a high diversity of marine and terrestrial life through food web interactions, and act as refuges and nursery grounds for many species of fish, shellfish and crustacean of value commercially or to subsistence harvesters. In Malaysia, it has been estimated that from each hectare of mangrove, 600 kg each of finfish and shrimp are produced annually[3]. Mangroves are closely linked to the habitat conditions of coral reefs and seagrass beds, and around two-thirds of all fish harvested globally depend on the health of these and other wetlands for various stages in their life cycle[5]. Positive correlations between mangrove area and near-shore yields of fish or shrimp have been documented in Australia, the Philippines, Indonesia and Malaysia[6], but there is debate over these studies and further research is clearly required to elucidate the relationship between mangroves and yields.

Sustainable exploitation of such resources is contingent upon the continued existence and health of mangroves and associated habitats. However, shrimp farming and other human activities have supplanted considerable areas of these ecosystems throughout the tropics[7]; up to 38% of global mangrove loss has been attributed to shrimp farming[8]. Indeed, in some countries, shrimp farming has been the principal threat to mangrove ecosystems (see EJF's companion report on environmental impacts of shrimp farming[20]). The central problem for local food security has been the conversion of a multiple-user, open-access resource into a single-user, single-owner one. This has been termed a *'tragedy of enclosures'*[9]. For example, in Muisne, Ecuador, up to 80% of the population have lost their main source of nutrition due to mangrove destruction since the arrival of shrimp farming[10].

- In Thailand, where an estimated 65,000 ha of mangroves have been converted to shrimp ponds since the mid-1980s, it is estimated that for every 1 kg of shrimp produced, 434g of fisheries are lost due to habitat conversion alone[3].
- Within 2-3 years of large-scale mangrove clearance in Kuala Muda (Kedah, Malaysia) fishermen reported a drop in income to one-sixth of its prior level[11].
- In Sri Lanka, lagoon fishers' average catches declined by 62.5% since the advent of shrimp farming[12].
- Decreased catches of shrimp larvae have been associated with the conversion of mangroves to shrimp ponds in Ecuador[13].
- A year after shrimp farms began operating locally, Indian fishermen in Ramachandrapuram reported that catches had declined to one-tenth of previous sizes[14].
- Fishermen in Chokoria, Bangladesh reported 80% declines in catches since mangrove destruction and the creation of dikes for shrimp farming[15].
- In 1997, it was reported that Burma's mangrove had decreased by 271,000 ha since 1983, leading to a decline in coastal fisheries production of 190,000 tonnes annually[16].
- In the Philippines, shrimp farming has been linked to declining stocks, and fish deaths and deformities due to the use of chemical inputs[17].
- In Campeche state, Mexico, annual mangrove declines of 200 ha from 1980-1990 caused yearly fisheries losses of US$140,000[18].

Marine resources may be further depleted by the collection of wild shrimp brood-stock and post-larvae ('seed') to supply shrimp farms, production of fishmeal and fish oil to feed farmed shrimp, pollution of coastal waters, introduction of non-native species, and the introduction of pathogens as a result of shrimp farming[20]. For example, viruses introduced with non-native shrimp species have been linked to the 1993 crash of native shrimp crops in China[21].

Pollution from shrimp ponds can also affect the availability of resources and

'There is no life in the mangroves. Now, there are no baby fish. With no reproduction, what little is here is over.'

FISHERMAN IN CHAMPERICO, GUATEMALA[19]

ABOVE: *Millions of small-scale fisher-folk, like this Guatemalan, have had their lives and livelihoods impacted by shrimp farming activities on their coasts.*

Wild Shrimp By-catch

By-catch is also a feature of wild shrimp fisheries and is discussed in detail in EJF's companion report[24]. Trawlers catch up to 20 kg of non-target species for each 1 kg of shrimp. This by-catch is largely discarded and dies. Included in the by-catch are rare species like turtles and seahorses and species exploited for food by coastal communities.

BELOW: *Over 400 non-target species have been identified in tropical shrimp fisheries[24].*

'How sad it is to wake up and not to have enough food for the children and grandchildren.'

Brazilian crab collector in area of mass crab deaths associated with shrimp farm pollution[26]

has been implicated in declines of fish in the Philippines[17] and mass deaths of crabs in Brazil[22], for example.

Shrimp post-larvae – used to stock ponds – are small and are harvested with fine nets, which also collect many other species. This unwanted 'by-catch' is discarded and usually dies. The by-catch rates associated with shrimp fry collection are thought to be the highest of any fishery[23]. For every fry of the tiger shrimp, *Penaeus monodon*, collected in India, an estimated 160 fry of fish and other shrimps are lost[3]. At just three collection centres in West Bengal between 62 million and 2.6 billion by-catch fry are estimated to be removed from the ocean in the course of collecting shrimp fry each year[3].

Farming carnivorous species like shrimp intensively or semi-intensively can require protein inputs of over double the weight of the farmed species produced[3]. For shrimp, this feed comes primarily in the form of fishmeal and fish oil, meaning that additional pressure is placed on marine reserves and a valuable source of dietary protein is denied to coastal communities. In Thailand, nearly one million tonnes of fish are converted into animal feed annually, the majority being used to feed shrimp farmed for export[25].

ABOVE: *Shellfish on sale in Vietnam. There and elsewhere, shrimp farms block access to such resources and are implicated in declines in resource availability due to pollution and mangrove deforestation.*

Reduced access to resources

Shrimp farms often physically block traditional users' access to coastal resources and, in many places, what was once common land is now accessible solely by commercial interests. Thus, local communities' access to fishing sites, and mangrove forest resources (such as fuel wood, building materials, fruit, and traditional medicines) can be severely limited[20]. Additional problems arise when traditional users of the coastal zone, increasingly marginalised into degraded environments, feel compelled to trespass in order to fish or otherwise exploit resources.

'Women are the main losers when mangroves are converted into shrimp farms, because they lose access to a communal source of food and cash income.'

Professor Joan Martinez-Alier[9]

LEFT: *'Concheras' in Ecuador. These artisanal collectors of shellfish have found their livelihoods threatened by the arrival of shrimp farming operations.*

'Analysis of a mangrove system in Thailand revealed that conversion for aquaculture made sense in terms of short-term private benefits, but not once external costs were factored in. The substantial social benefits associated with the original mangrove cover – from timber, charcoal, non-timber forest products, offshore fisheries, and storm protection – fell to almost zero following conversion…The TEV [total economic value] of intact mangroves exceeded that of shrimp farming by about 70% (c. US$60,400 compared with US$16,700 per hectare).'
Economic analysis published in August 2002[27]

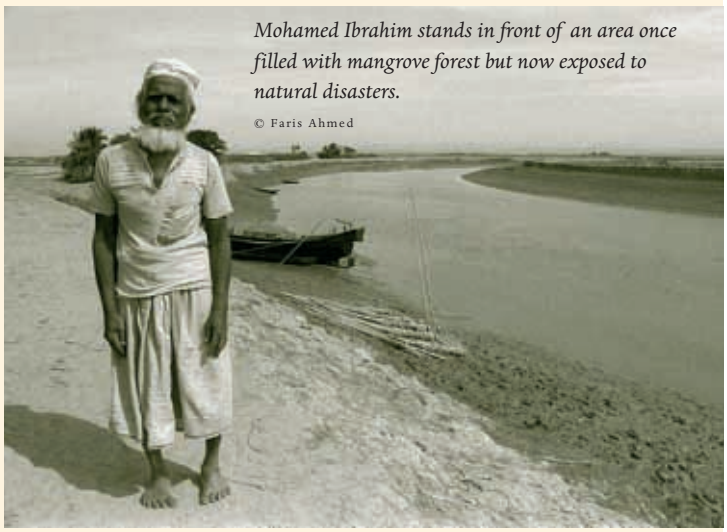
ABOVE LEFT: *Mangrove forest, Cambodia.*
© Williams / EJF

ABOVE RIGHT: *Mangrove forest degraded during shrimp farm development, Vietnam.*
© Shanahan / EJF

Increased coastal susceptibility

A further impact of mangrove loss is increased susceptibility of coastal communities to extreme environmental events such as cyclones, tidal waves and floods.

- In 1991, thousands died in Bangladesh when a tidal wave swept into an area whose mangroves had been converted into shrimp ponds[28]. In 1960, the same area had been hit by a wave of comparable magnitude but intact mangrove forest dissipated its force and no lives were lost[15].
- In 1999, when a 'super-cyclone' hit India, killing at least 10,000 people and making 7.5 million homeless, areas with intact mangrove forest were largely unaffected[29].
- In 2001, a major storm hit Ha Tinh, Vietnam. In areas with mangroves, the coastal flood defence dikes were safe, whilst in those without mangroves dikes eroded away[30]. In 1997, the biggest typhoon for 100 years hit the Mekong delta, with significantly less damage in mangrove areas[31].



Mohamed Ibrahim stands in front of an area once filled with mangrove forest but now exposed to natural disasters.
© Faris Ahmed

'There were cyclones, but not like there are now – the waves were usually stopped by the forest. After the 1960s, the deforestation increased, and so did the intensity of the cyclones.'

MOHAMED IBRAHIM, VILLAGE ELDER, BANGLADESH[1]

'You see this water everywhere, we cannot drink it – we cannot even touch it, because it's given us skin diseases from the salt and the chemicals in it. The wells are also poisoned. If we want drinking water, we have to go to another village to get it.'

SITALAKSHMI, RAMACHANDRAPURAM VILLAGE, INDIA[1]

Reduced access to potable water

Depletion, salinisation and chemical pollution of drinking water have been frequent results of the incursion of irresponsibly-sited and poorly-managed shrimp farms. The requirement of certain shrimp species for brackish water means that, over time, salts penetrate the water table, while water exchange practices associated with more intensive shrimp farms typically involve pumping water in from surrounding rivers or groundwater supplies (thus depleting fresh water resources) and then pumping out waste water from the ponds into canals, rivers and near-shore waters. This process can lead to contamination of groundwater supplies and rivers by pollutants (including pesticides, antibiotics and disinfectants) and saltwater[20].

Excess salt renders water unfit for consumption. In Sri Lanka, 74% of fisherfolk in shrimp farming areas no longer have ready access to drinking water[32], and in the Kalpitiya region, potable water can now only be found at depths of 100-200 feet[33]. When people have resorted to drinking rainwater, illnesses have resulted[34]. Skin rashes from polluted water are another common problem in such communities[17,35].

In many countries, women are traditional collectors of water. Contamination and depletion of wells compels them to walk for miles in search of water[28]. In parts of Sri Lanka and Bangladesh, women must now walk 5-6 km daily looking for fresh water and, rather than attend school, children in these communities must also help[36,37].

'Within a year [of shrimp industry arrival], our wells were full of salt and we had swarms of mosquitoes in our village.'

GOVINDA MA, NELLORE DISTRICT, ANDHRA PRADESH, INDIA[38]

The Link To Disease

In addition to affecting nutritional standards through reduced availability of coastal resources, and reduced dietary diversity resulting from degradation and reduction of agricultural land, shrimp aquaculture has been implicated in the promotion of other serious human diseases.

- In Bangladesh, cattle dung is traditionally used as fuel. Poor quality drinking water and a lack of food in shrimp farming areas has increased incidences of cattle illnesses, such as diarrhoea. Together with a rise in mortality, this has reduced availability of dung fuel, resulting in less frequent boiling of water, with associated increases in water-borne disease[39,40].
- In India, insect infestation and incidence of insect-borne disease are reported to have increased as a result of cattle moving nearer to human habitations after shrimp farms reduced their grazing area[35].
- In Indonesia, in 1999, the spread of malaria in south Sumatra was partly attributed to the presence of many abandoned shrimp ponds, which became breeding grounds for *Anopheles* mosquitoes[41].
- In Sri Lanka, villagers have reported increased prevalence of insect-borne disease in shrimp farming areas[42].
- In Bangladesh, following conversion of mangroves to shrimp ponds near Sonadia, local people reported 'unprecedented' attacks by mosquitoes and other insects[43].

BELOW LEFT: *Muisne, Ecuador. Across the globe, effluent from shrimp ponds has led to pollution and salinisation of drinking water and agricultural land.*
© Trent / EJF

BELOW RIGHT: *Girl carrying water, Bangladesh, where salination of wells has reduced availability of safe drinking water.*
© Williams / EJF

'As a medical doctor I am concerned about the deteriorating health of people in the villages near prawn farms. Malnutrition is more prevalent – particularly among women and children – because the increased salt in the soil means people cannot grow vegetables, keep animals for milk or harvest a good yield of rice or millet.'

DR DAISY DHARMARAJ, INDIA[44]

Reduced agricultural productivity

Salt water intrusion and chemical pollution associated with shrimp aquaculture can result in irreversible changes in the soil composition of the shrimp ponds and surrounding areas[45], and can reduce the productivity of agricultural land or render it infertile[35]. For this reason, shrimp farming areas of Bangladesh that previously produced food surpluses must now import rice from other regions[37] – for example, in Satkhira, rice production declined from 40,000 tonnes in 1976 to just 360 tonnes ten years later largely because of salt encroachment from shrimp pond canals crossing rice-fields[46]. In areas of shrimp-rice rotation in Bangladesh, it has been estimated that up to 99% of shrimp farmers leasing land miss the July deadline for drainage; this has led to rice yields in rotation areas being reduced by up to a third[39].

Excessive soil salinity is prohibitive to vegetable cultivation and can kill plants used for cattle fodder. This, combined with salinisation and pollution of ground and surface water supplies, can contribute to mortality of livestock[37], further reducing food security and opportunities for income generation for many rural farmers. Reduction in the diversity of agricultural products combined with reduced access to coastal resources can have serious implications for nutrition and health of rural communities. Cattle declines are particularly detrimental for children's nutrition, in terms of reduced availability of both milk and meat[37,40].

Degradation of agricultural land contributes to the further expansion of the shrimp farming industry. Poor landowners affected by salinisation often have little option but to sell their fields at deflated prices to aquaculture operators[35] or to turn to shrimp aquaculture themselves. Shrimp aquaculture commonly takes place in remote rural areas, where local farmers are often poorly-educated. Faced with land that has become too saline or polluted to be productive, these farmers sometimes abandon their land, unaware that they have any rights or recourse to legal action[35].

Whether forced by salinisation of their land or encouraged by their governments (in some cases through tax breaks and favourable loans) many farmers have ceased production of crops for the domestic market and, instead, farm shrimp for export. Thus, large areas of previously productive agricultural land are now being used to farm shrimp. For example, in Thailand, it has been estimated that nearly 50% of land used for shrimp production may have formerly been used as rice fields[47]. The result is a local reduction in the availability and diversity of agricultural produce.

As currently practised, intensive and semi-intensive shrimp farming is often unsustainable. Data from India, Indonesia and Vietnam, for example, show that productivity rapidly declines and risks of disease outbreaks increase after 5-10 years of operation in these systems[35,48,49]. In Sumatra, shrimp production declined from 10 tonnes / ha to 2-5 tonnes / ha over just four years[48]. The result is that shrimp farms are often abandoned. In Thailand, it has been estimated that over 20% of shrimp farms located in former mangroves are abandoned after 2-4 years[50], and it has been estimated that as many as 50% of ponds in the country are disused[51]. In 2001, it was reported that 70% of World Bank financed shrimp ponds in seven Indonesian provinces were abandoned[52]. Abandoned farms are difficult and expensive to convert back to agricultural lands because of high salinity and chemical pollution, and there remains considerable debate about the feasibility of restoring mangrove forests to their former diversity and ecological significance[4].

Case study: Vettapalem Mandal, India[53]

Here, 620 ha of rice fields were converted to shrimp ponds, with a further 344 ha lost to saltwater contamination. Previously, the land's annual production of 7.5 million kg of rice could feed 10,000 families (2 kg per family per day). Now, shrimp are produced and exported to industrialised nations.

Case study: Ca Mau Province, Vietnam[54]

There are over 200,000 ha of shrimp ponds in Ca Mau, with many constructed in what was agricultural land. According to Duong Tien Dung, Director of the province's Planning and Investment Department, in 2001, 125,000 ha of rice fields were converted and rice production fell by 460,000 tonnes.

ABOVE: *Rice on sale in Can Tho, Vietnam. Local production of this staple crop has fallen considerably following the conversion of agricultural land to shrimp ponds producing food almost entirely for export.*

'There are no winter crops anymore — they used to grow pulses, oil seeds, and vegetables. The collapse of cattle-raising has had serious economic and nutritional consequences.'

KHUSHI KABIR, NIJERA KORI, BANGLADESH[1]

LAND CONFLICT

'Shrimp farming has resulted in the displacement of whole communities.'

STEFAN BOHORQUEZ, COMITE ECOLOGICO DEL LITORAL, ECUADOR[1]

Central to the social impacts of shrimp aquaculture are issues related to land rights and acquisition. Often, a lack of formalised land rights has allowed large-scale displacement of communities from areas occupied and utilised for generations. In many cases, displacement occurs without compensation or provision of alternative land on which to live[2].

Shrimp farms are often developed in areas of mangrove forest, which local communities worldwide exploit for food, fuel, building materials and medicines. Being in the tidal zone, these mangroves are often classed as public land that, in shrimp-producing countries, may be granted as concessions by the state and converted into shrimp ponds, or converted illegally.

Similarly, farmers have been displaced from their agricultural lands to make way for aquaculture, either through invasion by gangs controlled by shrimp-farm owners or through cheap acquisition of their lands by the state or by entrepreneurs. In Indonesia, shrimp farms have been built following land seizures in which companies, supported by police and government agencies, provided inappropriate compensation or none at all[3].

Land seizures have occurred on a grand scale, affecting hundreds of thousands of poor inhabitants of coastal communities. In Bangladesh, an estimated 120,000 people have been driven from their farmland in the Satkhira region alone[4], either due to declines in food availability or under direct pressure from shrimp farming interests. In the Indian State of Andhra Pradesh, 48,000 people were displaced in just three years[5]. In Ecuador, thousands of marginalised ethnic minority families of African origin have been displaced from their coastal land in Esmeraldas Province[6]. Similarly, in Brazil, over 3000 families have been displaced from 6500 ha of coastal land[7]. Expulsion of families is a major problem. '*These populations are being submitted to an absolute silence. They have fear of speaking on the problem and suffering retaliation*' said Maria de Aquino of the Fortim Fishing Colony in northeastern Brazil[8].

In Burma, the military has seized land without compensation in order to construct shrimp farms[9]. It is reported that the junta confiscated all large and productive shrimp farms in Rakhine State between 1995 and 1998[10]. Nine such farms taken in 1998 were reportedly hired to the army in 2002 for 37.6 million kyat[11] (approximately US$60,000). An island used by at least 100 villages for the collection of fuel wood and fish was confiscated in 1997 by the military and hired out to the highest bidder after villagers were forced to build shrimp ponds there over a two-year period[11].

'If the mangroves disappear, we shall eat garbage in the outskirts of the city, we shall become prostitutes.'

ECUADORIAN *CONCHERA* (TRADITIONAL SHELLFISH COLLECTOR)[12]

Case Study: India

People in India have been reportedly evicted from their lands at gunpoint in order to allow shrimp investors to construct shrimp ponds[4]. In the 1980s, inhabitants of Jameelabad village were forced to move to make way for a rocket range[13]. In the government resettlement package, land was allocated for common use, such as livestock grazing. In spite of repeated complaints from the villagers to the authorities, shrimp farms later occupied this land[13].

Near Chinnamganpallem village, Nagendrababu & Co Private Limited is alleged to have occupied about 250 ha of agricultural land, 20% of which was government land[13]. The villagers were told that the government had allocated the land to the company and that they must leave[13].

In Pudukuppam, Prawnex Sea Foods International Ltd is reported to have occupied land including the village's traditional burial grounds[13]. Company guards tried to stop people walking along the beach, accusing them of coming to steal shrimp[13].

Case Study: Indonesia

Indonesian shrimp farms have been built following land seizures in which companies, supported by police and government agencies, provided either inappropriate compensation or none at all[14,15,16]. Such cases have been reported from Sumatra, Maluku, Papua, and Sulawesi[15].

Some of Indonesia's largest shrimp farms are in southern Sumatra, where many local people have been summarily evicted in order to allow pond construction. Before the Wachyuni Mandira company began farming shrimp there in 1997, its land belonged to local people and part was a conservation area. 2200 farmers were evicted with minimal compensation as the provincial government claimed ownership, stating that the farmers had no land rights. In 2000, the company, aided by the police and army, built channels through locals' land[14].

In August 2001, in Sumatra's Lampung Province, the Pertiwi Bahari company (a.k.a. Bratasena Farming) was accused of having occupied 347 ha of land without providing compensation six years earlier. Complaints to the company, local government and National Parliament at that time yielded no response[14].

ABOVE: *Shrimp farms in Ecuador. As it has expanded to cover vast coastal areas, shrimp farming has severely impacted the lives and livelihoods of local inhabitants worldwide.*

Case Study: Malaysia

Samak Aquaculture Company, a US$30 million joint venture investment by the Kedah state government and Saudi Arabian investors required locals in Kerpan to sell their land to the company. When 800 farmers refused to sell, the government responded by using the 1960 Land Acquisition Act to force them off the land, offering compensation of 18-24,000 ringgits (then US$4,736 to US$6,315) per acre (0.4 ha), an amount considered to have been insufficient to allow them to purchase similar land to farm elsewhere, or to compensate for present or future loss of the land[17,18,19]. The Consumers' Association of Penang (CAP) took the Samak Company's use of the Land Acquisition Act to the High Court, which ruled that the acquisition was against the public interest and therefore not a proper use of the Act. Shortly afterwards, the government re-gazetted the land for acquisition and appeals by the villagers and CAP were dismissed by the High Court. In January 1995, police arrested 33 peaceful protestors (10 women, who spent 3 days in jail, and 23 men who were jailed for a week). Eventually, heavy machinery moved in to tear up the paddy fields (during harvest season). Finally, after further legal battles, an out-of-court settlement was reached in 2002 that increased the villagers' compensation to US$12-13,000 per acre (0.4 ha)[18].

'We are the victims and we were arrested for defending our rights' Rice farmer dispossessed in Kedah, Malaysia[18]

Case Study: Ecuador

In Ecuador, there are reported to have been thousands of cases of land seizures, only 2% of which have been resolved through legal avenues[20]. Cases have involved use of force and of military personnel[20]. In total, tens of thousands of hectares of ancestral land have allegedly been seized[20].

BELOW: *Ecuadorian conchera.*

RIGHT: *On 29 April 2002, Abdur Rob Howladar and his 16-year old son were attacked with machetes by 7 or 8 people who had previously demanded money and two-thirds of his small shrimp farm[27]. The group have now occupied his land and he has received neither rent nor compensation. His assailants have been arrested and released on bail. They are now pressuring his family to drop the case.*

Case Study: Bangladesh

To date, thousands of Bangladeshi subsistence farmers have suffered from the invasion of their rice lands by aquaculture owners and by salinisation of their agricultural land[6,21,22]. Many farmers in Bangladesh are landless people who farm and graze livestock on *khas* (government-owned) land. There have been many reports of this *khas* land being used for shrimp farms illegally by influential members of society, sometimes in possession of false property deeds, and in some cases apparently with the support of local police or government officials[23]. Violence and intimidation towards small-scale shrimp farmers in order to appropriate their lands is also reported to be widespread[6].

In 1998, in Satkhira district, a High Court injunction prohibited the granting of leases for shrimp cultivation, thereby enabling 1200 families of fisher-folk to legally reside in nine contested water-bodies (*ghers*)[24]. On 24 April of that year, the district administrator, reportedly under pressure from local government leaders, contravened the injunction and issued leases. Police and 'musclemen' hired by the lease-holders later moved into the wetlands so as to remove the landless families[24]. The violence culminated on 27 July when police personnel opened fire, killing four including Zaheda Begum a leader of *Kisani Sabha* (Peasant Women's Association) and wounding 250[24].

In October 2000, Bangladesh's Daily Star newspaper reported that a senior police officer led a campaign of arson, bombing and violence allegedly to drive out residents of houses at Kaliganj-Lebukhali to make way for shrimp ponds – 60 villagers were injured and 350 families abandoned land leased from the government[6,25]. In May 2002, it was reported that 'miscreants' linked to a political leader captured 16 shrimp farms belonging to a local cooperative in Cox's Bazaar; the police allegedly arrested four of the cooperative members and not the interlopers[26].

Other tactics such as inundating rice plots with saline water to devalue land, filing false charges against small land-holders, and intimidation have all been used by shrimp farmers to force the handover of land[18,22]. Many of those forced to sell or abandon land are illiterate, and poorly equipped to find alternative employment.

Opposition to such shrimp farms by landless organisations has led to violent conflict, and false cases being filed. To date 53 cases, each involving around 30 people, have been filed by those involved in shrimp aquaculture in southwest Bangladesh against group members and staff of Nijera Kori, an organisation working to support the landless[23].

INTIMIDATION, VIOLENCE & MURDER

'When the shrimp farmers learned that I had made the reports [about illegal cutting of mangroves], I received telephoned threats, against me and my family.'

EDGAR MORA, PRESIDENT OF MACHALA SPECIAL MANAGEMENT ZONE, ECUADOR[1]

As some previous examples indicate, grassroots opposition to the shrimp industry has frequently been met with threats, intimidation and violence. This has been the reaction to spontaneous non-violent protest in a number of countries. Furthermore, the presence of armed guards at many shrimp ponds has increased tension between the competing interests of the industry and traditional users (e.g. in India[2], Honduras[3] and Bangladesh[4]). The extent of this problem varies widely between countries but certain 'hotspots' exist (see below) where activists, journalists, fisher-folk and villagers have been threatened, arrested on false charges, attacked, and subjected to police aggression. False arrests are a common means of intimidation, particularly in Bangladesh[4].

Against a background of threats and violence, tensions have escalated to the extent that protesters opposed to shrimp aquaculture or fisher-folk competing for access to coastal resources have been murdered in at least 11 countries (see map below).

ABOVE: *Murder for export. People have been killed in violence linked to the shrimp industry in at least eleven countries: Mexico, Guatemala, Honduras, Ecuador, Brazil, India, Bangladesh, Thailand, Vietnam, Indonesia and the Philippines.*

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Intimidation In India

'I was surrounded by angry thugs, and they said they would set fire to me.' Krishnammal (above), a 75-year old Indian woman who protested against shrimp farms[2]

In India, human rights abuses linked to the shrimp industry are alleged to be widespread.[7] Among the most commonly reported abuses are intimidation and violence, frequently targeted towards women. At Perunthottam, in 1994, houses were burnt down and women were beaten up by landowners and thugs linked to shrimp companies[8]. According to the villagers, police refused to register a case against the aggressors; instead they returned the following day and arrested 28 villagers. In Naiyakakuppam, Magna Foods and Proteins Ltd is reported to have persuaded a young mother to sell her house by threatening to bulldoze it if she did not[8]. After a number of buildings were burnt down by thugs alleged to be working for the company, attempts to claim more property were thwarted by villagers with legal documents proving land ownership[8].

Mr Chittibabu, an Indian journalist, was imprisoned for 10 months under the Terrorist and Disruptive Activities Act following his exposure of the inequities of the shrimp industry[9], and Indian police have been accused of torturing human rights workers in their custody on false charges following protests against shrimp farming[10]. Leaders of organisations representing fisher-folk have received threats as a result of their struggle against what has been termed the 'prawn-mafia' lobby, and in July 1998 one such threatened leader, Harekrishna Debnath of the National Fisherworkers' Forum, was attacked in his home by armed men[11].

In 1995, four social workers and an activist were invited to the Jaleswar Sub-District Police Office to discuss their opposition to shrimp farming in Orissa. They were arrested and held illegally for two days, forced to strip to their underwear and assaulted by police – one was denied medical attention for serious injuries received[12].

Also in 1995, in Kurru village, Orissa, protests led to riots in which two farmers were killed by the police[13]. In May 1999, when villagers in Sorana destroyed 11 illegal shrimp farms at Chilika Lake police raided their village, threw tear gas and began shooting, resulting in the deaths of four fisher-folk and injuries to a further thirteen[14].

'[In Andhra Pradesh, the women] were hassled by the armed guards patrolling the area day and night.' Dr Jacob Raj, PREPARE, India[2]

The Philippines

In the Philippines, Eliodoro de la Rosa, a 43-year-old fisherman and leader of a fishers' group, campaigned about the dangers of shrimp pond expansion to Manila Bay's productivity and stressed the need to protest the acts of pond owners – he was murdered on 22 January 1990, allegedly because of his campaigning activities[6].

Thailand

There are reports from Thailand of shrimp farmers boasting that the amount needed to silence a protesting rice farmer is equivalent to sales of only 20 kg of shrimp[15]. Employees of shrimp farms on Thailand's Phuket Island are reported to have intimidated a number of villagers protesting impacts of shrimp aquaculture on their livelihoods[16]. For example, Sirirpot Chichang, who campaigned against illegal shrimp farms, was crippled when 'thugs' associated with shrimp farms ran his car off the road[16].

On 30 January 2001, Jurin Ratchapol, 51, a leading activist against shrimp farm development, was shot dead whilst collecting nuts near his village, Paklok[16]. He had previously received death threats from workers at the Watchara shrimp farm. Subsequently, 19 illegal shrimp farms were discovered in the mangroves around Paklok, despite a ban on shrimp farming in protected forest areas. Phuket's Governor, Pongpayom Wasaphuti, commented: '*No one follows this law*'[16]. Later in 2001, a Watchara worker was charged with murder and Somsak Wongsawanont, Watchara's owner and a known associate of police and the judiciary, was charged with conspiracy to murder[16]. Four months before Ratchapol's death, Queen Sirikit had personally presented him with an award in recognition of his campaigning efforts. It is questionable whether or not arrests would have followed so quickly had the victim not had this high profile encounter.

BELOW: *Jurin Ratchapol, who was murdered for his efforts to protect Thailand's mangroves from shrimp farm development.*

© Wildlife Fund Thailand's Coastal Wetlands Policy And Conservation Awareness Project

'They were shooting at people like targets.'

GUATEMALAN WOMAN AT JUNE 2001 PROTEST IN CHAMPERICO[18]

ABOVE: *Protests against the shrimp industry in Champerico became violent following the death of a 14-year old, shot by police.*

ABOVE: *Finger on the trigger. The presence of heavily-armed guards adds to the palpable tension in shrimp farming areas.*

Guatemala

In May 2001, police in Champerico shot dead Maytin Castellanos, a 14-year old participant in fisher-folk's protests against the shrimp farming firm Camarones del Sur S.A. (Camarsa) and its subsidiary Pesca S.A. which they claimed had deforested mangroves, constructed a fence that blocked access to the coast and polluted waters[17]. The next month, Camarsa security guards killed another young protestor, Fernando Chiyoc Albizures, and injured eight more[18]. Company staff were arrested and jailed for a few days before being released without charge, and Camarsa eventually removed the fence and pledged to replant mangrove forests[19].

Honduras

Shrimp farms have blocked local people's access to the Gulf of Fonseca and numerous protests have resulted[3]. Community activists have been shot at[7] and the Goldman Prize-winning anti-shrimp campaigner Jorge Varela has had his life threatened on numerous occasions[20]. Associates of shrimp producers have been linked to the deaths of fishermen, twelve of whom (listed below) were violently murdered with guns or machetes[21]. Local environmental activists have protested each of these killings to relevant authorities but a culture of impunity persists and killers have not been brought to justice.

August 1990: Amilcar and Gabriel Martínez disappeared near the 'Granjas Marinas San Bernardo' shrimp farm. Amilcar was found dismembered two weeks later but Gabriel was never found.
8 October 1992: Gertrúdiz Fúnez Guevara was killed near the 'Granjas Marinas San Bernardo' shrimp farm. Guards from the farm were publicly blamed and the company arrived at a 'settlement' with her family.
29 October 1993: Manuel Molina Gómez & José Lázaro Aguilera died in El Pedregal estuary between 'Promasur' and 'Acuacultura Fonseca' shrimp farms. Each was found with four machete blows.
7 September 1994: Pastor de Jesús Carranza died at Playa Negra, Namasigüe, in a dispute over protection of coastal wetlands.
22 March 1997: Silvano Mejía was killed in a dispute over the defense of the Las Iguanas Wildlife Reserve. Four more defending the Reserve were wounded by those wanting to convert part of the reserve into a shrimp farm.
28 May 1997: Moisés Benítez was allegedly attacked by two or three guards from 'Acuacultura Fonseca' shrimp farm, and died a few hours later.
4 October 1997: Israel Ortiz Avila and Marin Seledonio Peralta were both murdered with an AK-47 assault rifle in an illegal shrimp farm in Las Iguanas Wildlife Reserve.
10 May 1998: Cristobal Almendarez Elena was found shot in the back and it is thought that the killers were guards from the shrimp company 'Sea Farm'.
4 November 2001: Rolando Castro Méndez was found shot dead in a creek near to the shrimp farm 'HONDUFARM'.

Brazil

Sebastian Marques de Souza, a 52-year old father of four, led community opposition to the expanding shrimp aquaculture industry in Piaui state, where shrimp farmers were buying, or appropriating, the lands within or surrounding mangrove forest zones in order to build shrimp ponds. In April 2002, he was murdered by two men alleged to be connected to the shrimp industry[23].

In December 2001, João Dantas Brito, an environmental investigator from the Brazilian Institute of Natural Resources and Environment, was murdered, shot in the head and back[24]. His death has been linked to his denunciation of illegal shrimp farms in the state of Rio Grande do Norte[25].

Indonesia

The Indonesian army has been accused of hunting down, beating and tortur-

ing small-scale shrimp farmers who had protested about their rights on the Wachyuni Mandira farm in Sumatra[26]. Some farmers were reportedly trapped on a farm for three weeks with their food supply cut off by farm officials[26]. In March 2000, during protests about working conditions at a shrimp farm operated by PT Dipasena Citra Darmaja (in Lampung Province), violence broke out and one farmer and two policemen were killed[27].

Mexico

In June 2000, two deaths resulted from conflicts between Yaqui people and a group of peasants (*ejidatarios*) who wanted to build a shrimp farm on Yaqui land in the state of Sonora[28].

Ecuador

In Ecuador, intimidation of coastal communities by shrimp farm guards is widely reported – fishermen, *concheras* (women collecting shellfish) and children have been threatened, shot at and have had dogs set on them[29]. Protests against illegal shrimp farms have been met with death threats and physical violence[29]. Líder Góngora, executive director of FUNDECOL, an organisation that has campaigned against shrimp farming for over ten years, was assaulted by individuals linked to the industry in October 2002[30].

A number of deaths and disappearances have occurred in suspicious circumstances linked to the shrimp industry. The most recent incident occurred in a region of Guayas province where poor coastal communities have suffered land seizures and intimidation since the advent of shrimp farming. On 11 August 2002, Carlos Alberto Rodriguez Escalante a 45-year old father of 9 was shot dead. His friend Walter Jordan Sanchez was beaten, then jailed with no access to lawyers for several days, and has since been charged with murder[31]. Carlos' body was found on a shrimp farm from which he was accused of trying to steal shrimp, yet locals who heard the fatal gunfire state that the shooting took place elsewhere[31].

Intimidation tactics are not directed solely at grassroots opposition to shrimp farms. An industry regulator in Ecuador has reported receiving threatening telephone calls claiming that attempts to enforce laws against illegal shrimp farms would put careers, families and lives at risk[7]. For protesting the expansion of the shrimp industry, it was suggested that Gina Chavez, an Ecuadorian lawyer, be prosecuted for treason[32].

LEFT: *Líder Góngora, executive director of advocacy group FUNDECOL, has struggled for over ten years against the shrimp industry in Ecuador. In October 2002, he was assaulted by figures linked to the shrimp industry.*

'The children were beaten up and in self-defense we tried to protect our children and ourselves. It cost us 20 injured women.'

Woman hospitalised with stab wounds received whilst defending land from 'musclemen' ordered to take it by force for conversion into shrimp ponds in 2000, Satkhira, Bangladesh[33]

Bangladesh

In Bangladesh, murder, kidnapping, bomb attacks, violent intimidation and rapes linked to the expansion of the shrimp industry have became regular occurrences[4,10]. Since 1980, over 150 people have been killed in violent clashes related to shrimp farming[33]. The true figure is unknown as deaths are not always reported to or by the police, but it is thought by non-governmental organisation, Nijera Kori, to be close to 200[34].

Frequently implicated in murder are Bangladesh's 'musclemen' – hired enforcers paid by shrimp farmers to protect their interests and further their ambitions. At demonstrations, clashes have occurred between landless protestors and police or musclemen[4]. Shrimp farm guards have caught and beaten to death innocent fry collectors and adolescents passing through the farms, suspecting them of coming to steal shrimp. Musclemen have attacked and killed poor villagers and seized their land for shrimp farming. Witnesses in legal cases linked to the industry have been murdered. Deaths have also resulted from rivalry between groups of shrimp farmers or musclemen. Innocent third parties have been victimised and killed in order to create a case in which opponents of shrimp farming can be accused of murder[34]. Torture is also reported as a form of intimidation – after being kidnapped and accused of stealing shrimp, Mowla Morhol had his fingers and legs broken by thugs employed by a shrimp farmer and later died of injuries sustained during his ordeal[33].

On 5 October 2002, the Nijera Kori sub-centre in (shrimp-free) Polder 22, Khulna district was attacked in the middle of the night by thugs reportedly hired by shrimp farmers – four staff required hospitalisation due to the severity of the beatings they received[35].

Sexual intimidation and rape

Women and young girls are targets of sexual harassment by shrimp farm guards in Bangladesh and there is an extremely high incidence of rape and other forms of sexual intimidation in shrimp farming areas there. In Katahali in Bagerhat district, 30 women were kidnapped in 1993 and 150 cases of rape were reported[33]. Whilst women in such areas live in a state of perpetual fear and helplessness, the perpetrators of such sexual abuse are rarely brought to justice.

'Our young girls are afraid. They do not dare to go for washing and bathing near the shrimp farms... the guards sometimes taunt after them... some of them have been raped.'

Bangladeshi woman[33]

7 November 1990[2,7,37]

Karunamoi Sardar led protests against the encroachment of shrimp farms in Bangladesh's Khulna Delta. In 1990, she peacefully demonstrated against the takeover of fields by a local industrialist who had arrived with 100 men. As the men attacked, with guns and home-made bombs, Karunamoi was at the front of the protest. She took the full impact of a bomb and died instantly. The remains of her body were spirited away by the aggressors and have never been laid to rest. A large number of villagers involved in the protest were arrested and held in custody for a short time after the incident. After twelve years of legal wranglings, the chief suspect, Wazed Ali Biswas, is expected to stand trial shortly. November 7th has become an international day of protest against the shrimp industry.

BELOW: *In 2002, 18-year old Sirajul Islam Liton was killed in a conflict over the family's shrimp farm in Bangladesh.*[4]

PROFIT & LOSS

'Shrimp aquaculture has created a massive unemployment situation in the region [South-west Bangladesh].*'*

Ashraf-ul-Alam Tutu, Coastal Development Partnership, Bangladesh[1]

Shrimp farming has been widely promoted by development agencies and International Financial Institutions, such as the World Bank and Asian Development Bank, as a means of reducing poverty, creating employment, and generating revenue. Indeed, global data suggest that 1.2-1.5 million full-time equivalent jobs are created directly by shrimp aquaculture[2]. Furthermore, shrimp crops can be highly profitable – earning 30 times the profit of rice farming in Thailand, for example[3]. However, it appears that the economic benefits of shrimp farming do not always reach the communities most affected by the industry.

In Muisne, Ecuador, despite 30 years of shrimp farming, there remains a lack of potable water, sewer service, and garbage collection, and malnutrition and disease are widespread[4]. Profits tend to accrue to investors from outside the area rather than local workers – 75% of shrimp farm investors in coastal Khulna and Satkhira (Bangladesh) were from outside the area[5]. It has been estimated that only 5% of those who have lost their occupations because of the arrival of the shrimp industry there are engaged as employees on shrimp farms[6]. Unemployment is high and wages have fallen as a consequence[6].

Elsewhere, major investors are often from foreign countries, and commonly seek to repatriate cash or other benefits. For example, the Thai firm Charoen Pokphand owns shrimp operations in Indonesia[7] where, in 2001, the British Embassy's web page was promoting shrimp farming as a business opportunity with huge potential for UK companies[8].

Shrimp farming is capital rather than labour intensive, and studies in India and the Philippines suggest a significant proportion of local employment generated by shrimp aquaculture is temporary, mainly during initial facility development. Subsequently, shrimp farming provides a small number of well-paid jobs for technical experts from outside the community and low-wage jobs for the unskilled local workers[9]. It has been reported that between 1987-1995, the Honduran shrimp industry employed less than one person per hectare, of which only 30% were in permanent employment[10].

In fact, as discussed in the previous sections, the establishment of farms has frequently forced people away from their land and livelihoods. In India, it has been reported that shrimp farms employ only two or three workers per hectare, compared to the 35 workers per hectare in rice fields[11]. Statistics from Ecuador are more stark – whilst a single hectare of mangrove forest provides food and livelihood for ten families, a shrimp farm of 110 ha employs just six people during preparation and a further five during the season[4]. In Sri Lanka's Puttalam District, nearly 20,000 lagoon fishers have moved to urban areas in search of work following the impact of shrimp farming on their traditional livelihoods[12]. Similarly, in Ecuador and Bangladesh, the advent of shrimp farming has led to unemployment and migration to the cities[4,13]. In addition to job losses, shrimp farming has promoted a shift from individual entrepreneurship and ownership to wage employment, a trend resulting in fewer owners and more labourers.

Shrimp farming persists because these impacts are displaced towards the poor and powerless whereas the benefits tend to accrue to a powerful minority.

Indebtedness & economic loss

Due to the high potential short-term economic benefits of shrimp farming, many small-scale farmers have been encouraged to switch from agriculture to aquaculture. However, many of these farmers lack the knowledge or technical skill to manage shrimp farms in a sustainable manner, and loss of production and income associated with shrimp disease outbreaks is a major cause for concern. Poor farming practices, poor management, increasing contamination of water supplies, lack of sufficient experience or knowledge of appropriate health management measures, lack of financial and technical assistance for small-scale developments, and possibly agro-industrial development in nearby areas, have contributed to the failure of a very high number of shrimp farms[14,15].

The very high levels of risk associated with the industry have led to increased socio-economic disparity within communities, with many small-scale farmers entering poverty spirals. In 1997, it was reported that two-thirds of Thai shrimp farms, which are mostly owned by small-scale farmers, had suffered disease outbreaks with financial losses averaging US$6629 per hectare[16]. In parts of Vietnam, where shrimp farming is also largely conducted by small-scale farmers, there are regions where 80% of shrimp farmers are losing money[17]. The majority of Vietnamese shrimp farmers borrow money to set up or intensify their ponds. Should harvests fail, having already invested in pond construction and perceiving a lack of alternatives, many feel compelled to borrow more money in order to cover their loan repayments. This has resulted in many taking informal loans, some with interest rates as high as 10-20% per month[17,18,19]. In India, as in Vietnam, small-scale shrimp farmers also become deeply obligated to feed and supply companies, which advance them materials on credit. When debt payments cannot be met, many shrimp farmers have no option but to sell or abandon their land.[19]

Poor management practices also contribute to abandonment of land as farm productivity declines, due to disease and pollution. In Thailand, a production crash is estimated to have led to 45,000 ha of shrimp farms being abandoned in 1990[21]. Consequently around 90% of shrimp farmers lost their businesses resulting in an estimated US$200 million in annual losses[22]. In the Koh Kong Province of Cambodia, shrimp farms were found to be unprofitable on narrow financial analyses alone, with an average loss of US$1,103/ha[23,24].

'Disaster struck one day. My farm was hit by a deadly virus that killed all the shrimps in three days. I was wiped out with nothing left but millions of baht of debt owed to shrimp feed suppliers.'

Thai ex-shrimp farmer, Satapol Polprapas, left US$163,000 in debt[25]

ABOVE: *House in Muisne, Ecuador. Hundreds of millions of dollars worth of shrimp have been farmed in Muisne Canton, yet there is little evidence of benefits for local communities.*

© Shanahan / EJF

OPPOSITE: *Small-scale shrimp farms in Vietnam, where the risky nature of shrimp farming has promoted landlessness and debt.*

© Thornton / EJF

BELOW LEFT: *Abandoned shrimp pond, Thailand.*

© Williams / EJF

'At the shrimp villages that I have visited, these small creatures make only strangers rich, whereas local people have earned little. In this manner they will sooner or later become tenants on their own plots of land.'

Vietnamese journalist, Nguyen Van Tuan[20]

Case Study: Indonesia

Indonesia's 'Nucleus Estate Smallholder's Scheme' has drawn particular criticism. Smallholders under the scheme complained about working conditions to their government and the National Commission for Human Rights but got little response. In 1998, demonstrations led to riots and the army surrounded the protestors' farm, trapping the smallholders inside, foodless, for a number of days[26]. Afterwards, 600 farmers were made to sign resignation letters, and 40 were arrested (16 were sentenced to jail terms of between 6 months and 5 years)[26].

The police are alleged to have put a price on the head of Endang Suparmono who led campaigns for higher wages and information on the status of their loans[27]. On 8 February 1999, Suparmono was himself arrested on false charges of stealing shrimp and engaging in violence, the real culprit later being identified as a shrimp farm employee[27].

The National Commission for Human Rights later upheld claims that farm contracts were unfair[23]. It was also discovered that the project's environmental impact assessment was incomplete and that the company was therefore operating illegally. Other reports support the farmers' claims that they were treated like slaves under complete control of the company[58].

Indonesia's Nucleus Estate Smallholders' Scheme[26,28]

- Adopted through the Decree of the Agriculture Minister No. 334/1986 and supported by a US$38 million Asian Development Bank loan, directed to five private companies.
- Companies convert land (often mangrove forests) into shrimp ponds and establish loan agreements with smallholders. They in turn buy inputs for farming and one or a few ponds from the company, selling their harvests back to the company.
- Theoretically, smallholders are expected to pay back their debt to the company within 7-8 years and become independent owners of a small home and pond.
- However, companies set all conditions and prices, and maintain accounts. Smallholders become trapped in a vicious cycle of poverty and debt.
- Companies control smallholders' social lives: they can leave the 'shrimp estate' only for a few days per year and only for reasons approved by the company. Penalties exist for late returns.
- When shrimp harvests fail the burden falls on smallholders, exacerbating their debt.
- Smallholders live in a state of total dependency, subjected to unfair and shady company practices and conditions of semi-slavery.
- The scheme also discriminates against women. In large-scale shrimp farms only adult, educated men can hope to get a job. In case of their death or inability to work, women must leave the estate, leaving behind all assets that they had been paying for by credit instalment.

ABOVE: *Shrimp processing factory, Ecuador. Such units usually employ women, who often have to stand for long shifts. In some countries, workers' health and labour rights have been seriously compromised in such factories.*

Labour conditions

Women are the preferred employees of shrimp processing factories. For these workers, conditions are often less than ideal. Among the numerous abuses reported from these factories are physical violence and sexual assault, confinement, unsanitary conditions, illegal working hours and illegally low wages.

Occupational Exposure To Chemicals[14,33]

Shrimp farmers and processors face occupational exposure to potentially harmful chemicals, including antibiotics, pesticides, and disinfectants. Many fail to wear protective clothing when handling these chemicals. Contact dermatitis may follow exposure to some antibiotics and there are cases of aplastic anaemia caused by occupational exposure to the antibiotic chloramphenicol. As well as being capable of inducing acute toxicity, many pesticides are linked to chronic effects including cancer and neurological disorders[34].

Case Study: Thailand

Some shrimp processing factories in Thailand are reported to largely employ women, who stand all day and must ask permission to visit the toilet[29]. There are no unions, overtime is compulsory, all hiring is casual and there are no employment guarantees[29]. It has been alleged that, in southern Thailand, there are factories where Burmese workers are housed in locked-in conditions – unable to leave the premises 24 hours a day[30] - where average wages are half the legal minimum and where strike activity has been met with violence and harassment[29]. Shifts for Burmese workers can be as long as 20 hours in the high season[31]. The Monland Restoration Council reported that in November 2001, two Burmese migrant workers (Nai Myo Win, a 37-year old man, and Mi Tin Shwe, a 46-year old woman) were beaten to death in front of co-workers at the Wat Jed shrimp processing factory, apparently having been accused of stealing prawns[32].

Case Study: Ecuador

In Muisne and Cojimíes, former *concheras* (collectors of shellfish) accept temporary employment during the harvesting and packaging of shrimp. In mid-2000, their wages stood at US$2 for eight hours with 20 cents for each hour extra. The Ecuadorian NGO, FUNDECOL, reported *concheras* working for 18 hours daily, standing up, and exposed to very low temperatures and disinfectant chemicals, including chlorine[4].

Case Study: India

Many female workers in Indian shrimp-peeling factories are reportedly held virtually captive by the owners, sleeping above the processing units where the inhalation of fish odours and ammonia refrigerants is unavoidable[35]. A health report on these women found that they had skin problems and backache from standing for prolonged periods, and urinary tract infections were linked to inadequate toilet facilities[36]. Handling ice-cold food for long hours has also been linked to arthritis[35]. In 2000, it was reported that, in many processing units, half of the workers' monthly US$30 salary was deducted to pay for their daily meal of thin gruel[35]. Many of these workers are migrants from the southern state of Kerala. The Centre for Education and Communication reported in 1997 that such migrant women are often used as sex workers and that on-site abortions were not uncommon[37]. A report published in 2002 stated that the female workforce in such factories is not allowed to form unions and is denied compensation for occupational hazards[38].

'The company made us sign a paper and we don't know what was written on it. They call us in the morning at 3.30 or 4.00 a.m. and we have to work until 8.00 or 9.00 p.m.' — Anonymous letter from worker in an Indian seafood processing plant to Bharatiya Mahila Federation activists[39]

'Whether we have cuts on our hands and feet, we have to carry on de-heading. If not, they will get employees from other places.'

BANGLADESHI CHILD LABOURER[43]

ABOVE: *Child labour in an Indian shrimp peeling factory.*

Child labour

In a number of countries, including Ecuador, Sri Lanka, India and Bangladesh, child labour has been reported within the shrimp industry. Reduced coastal and agricultural productivity has been implicated in the increasing numbers of children having to help find food or become wage-earners. Many of these children work as cheap labour, collecting shrimp fry from the sea for shrimp farms, working in shrimp processing (such as de-heading) depots, or working on the farms themselves[40,41,42]. A 1998 study in Bangladesh for Save the Children (UK) reported that almost 40% of children within the study area who had undertaken income-generating work classified work within the shrimp industry as their main occupation - more children work in the shrimp industry than in any other[43]. Only 40% of Bangladeshi children working in the shrimp industry attend school for at least 4 days a week, compared with 90% of non-working children[43].

Shrimp fry collection involves long periods (up to 13-14 hours a day) in and around the water, and many children thus employed suffer from skin and respiratory diseases and other medical complaints[40,43]. In Bangladesh, wages for this work are as low as US$0.45 - 1.10 per day[43]. In India and Bangladesh, children collecting shrimp larvae around the Sundarbans mangrove forests are also at risk of being attacked by sharks, crocodiles and tigers[43,44,45].

Child labourers in shrimp processing (de-heading) depots in Bangladesh are most likely to work the un-flexible hours that prevent them from attending school[43]. They often work for 9 hours without a break in extremely unsanitary conditions, and are frequently cheated of their pay (US$0.87 per day). Cuts to hands and feet are common and can become badly infected, abscessed and swollen[43]. Sexual abuse, including rape, is also reportedly common. For unmarried girls, the very fact they work in the industry can mean their reputations and marriage prospects are tarnished, regardless of whether or not they engage in sexual activity[43].

In the mid-1990s the US Department of Labor reported Thai children, some of whom were beaten, working to pay off parents' debts in shrimp peeling sheds and some returning home missing fingers[46]. The children shelling shrimp worked for 15 hours or longer, mostly squatting on the floor or sitting on a small bench[47]. In 2002, it was reported that 200,000 children ranging from 3-12 years of age were working 12 hour overnight shifts in Indian shrimp processing units, earning just Rs2-3 per kg (US$0.04-0.06), equating to US$0.20-0.40 per night[48,49].

International Labour Organisation and US Department of Labor documents report allegations of child labour in the shrimp industry in a number of other countries including: Burma, Indonesia, Cambodia, and Peru[46,50,51].


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Intensifying the Prawn Breeding in Myanmar

Burma's Shrimp Slaves

The United States Department of Labor's 1998 *Report on Labor Practices in Burma*[52] described forced labour, often for commercial ventures including shrimp farming, to benefit military officers. The report states that '*As many as 13,000 Karens* [an ethnic minority] *were reportedly forced in 1995 to work without pay on a large rubber plantation, and in the construction of a dike for shrimp farming operations*'. In the 2000 update to this report, it was reported that almost every day, especially during the rainy season, the Na Sa Ka (border police) collected men and children and forced them to work on black tiger shrimp farms[53]. A 1998 International Labour Organisation (ILO) report includes testimonies of minority villagers who had been forced to work without payment on shrimp farms, some since they were children; one witness reported being beaten with a wooden stick on at least six occasions when he took a rest whilst another said he knew of villagers who had been tortured for refusing to work[54]. In October 2000, following ILO sanctions, the Burmese Ministry of Home Affairs ordered military and administrative units to cease conscription of forced labour yet, in May 2001, it was reported that the practice had not entirely stopped[55]. In December 2001, it was reported that the border police in Maungdaw town near the Bangladesh border would swoop on Muslim minority youths and force them to work without pay in military-owned shrimp farms[56]. In January 2002 it was reported that villagers from all Rakhine State must go for 'voluntary service', working for the military on shrimp farms[57].

LAW & DISORDER

'They acquired the land illegally, they constructed the ponds illegally, most of them are illegally owned, and practically all are operating unlawfully.'

Shri Banke Behary Das, India[1]

Many of the social problems discussed in the preceding pages exist as a result of widespread corruption, weak governance and failure to enforce legislation. The shrimp industry has become particularly powerful in certain countries and has formed tight associations with figures within governments, police, military and judiciary. Indeed, politicians and other power-brokers are even directly involved as investors or farm owners. As an Indian newspaper reported, *'[i]n their rush to garner profits, the governments have also become party to violations of national land and environmental laws'*[2]. Such corruption was apparent in Tanzania in the early 1990s when shrimp farms were planned in the Rufiji Delta. Following an investigation, the Minister of Lands was dismissed for corruption having *'attempted to insert himself into the venture by allocating the land reserved for construction of the prawn* [shrimp] *farm to a business partner'*[3]. In Vietnam, prime shrimp farming land is reported to have been allocated to army and police units, and provincial and district committee offices[4]. Similarly, influential members of the Honduran military and the ruling Nationalist Party were reported to be large investors in the shrimp industry[5]. Indeed, the Honduran President is reported to be a shareholder of Granjas Marinas San Bernardo, one of the country's largest shrimp farming companies[6]. CODDEFFAGOLF, a Honduran non-governmental organisation, recently claimed that Honduran laws and international treaties were broken by, amongst others, Natural Resources and Environment Ministers in the granting of shrimp farm licences allowing the El Faro company to operate in protected areas[7]. In Burma, it is reported that senior military figures are involved in commercial shrimp cultivation (using forced labour) and that the army has taken possession of certain shrimp farms, beating any civilians who try to take the shrimps[8]. In August 2002, a Bangladeshi politician, Alamgir Farid, was linked to the illegal destruction of mangrove forests for shrimp farm development[9].

'Influential mafia are invading [Thailand's] mangroves. Why have the forests vanished? Because of the bank notes that blind senior officials.'

Thai Senator, Harn Leenanond[10]

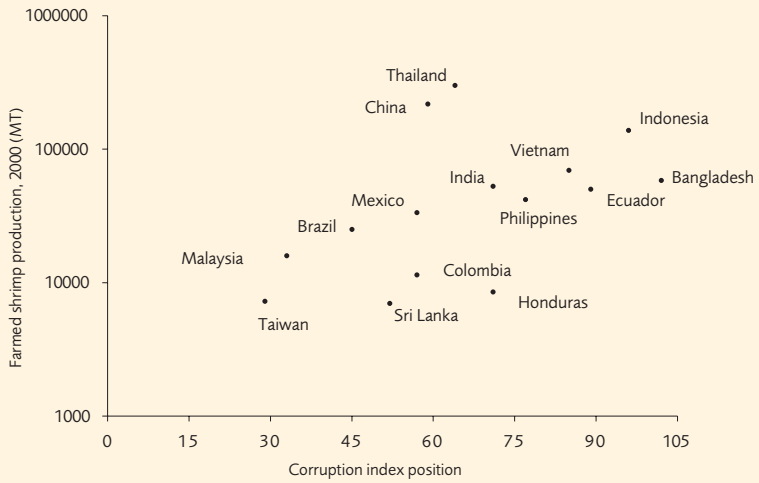

FIGURE 1: *Positions in Transparency International's Corruption Perceptions Index[24] (2002) for the 15 top producers of farmed shrimp in 2000[25]. The higher the corruption index position, the more corrupt.*

Shrimp farming's potential to make investors substantial profits over the short term and the location of shrimp farms in countries characterised by corruption and weak governance (as shown in this illustration) has led to a highly unsustainable, destructive industry.

Domestic law enforcement

In shrimp farming countries there is a widespread lack of enforcement of legislation prohibiting illegal expansion of the shrimp industry. In Mexico, the Federation of Fishing Cooperatives of Southern Sinaloa complained that shrimp farm construction would stop seven cooperatives from fishing in their granted areas[11]. Despite presenting their case to government agencies, including the *Delegación Federal de Pesca* (Federal Delegation of Fisheries), *Centro Regional de Investigaciones Pesqueras* (Regional Center for Fisheries Research) in Mazatlán, and the *Instituto Nacional de Ecología* (National Ecology Institute) in Culiacán, they received no support[11]. Conversely, the Federation claims that these agencies supported the private companies building shrimp farms[11]. In Colombia, it is alleged that environmental authorities assisted the construction of a shrimp farm's water channel expected to promote salinisation of agricultural lands[12].

Partial foreign ownership of shrimp farms in Honduras contravenes Article 107 of the country's constitution, but this law is widely flouted. Other legislation, protecting fishing rights or access to fishing grounds, and laws prohibiting pond construction within 50 metres of the high tide mark, are also ignored[13]. In 1996, the Honduran Government's one-year moratorium on shrimp farm expansion was not enforced, with 60 new farms established[13]. Protests resulted in the government extending the moratorium, pledging enforcement, and requiring environmental impact studies. Yet, in the six months after the new decree, shrimp farming continued to expand and no impact studies were conducted. In November 2002, Honduras' sole official representative at the Meeting of the Ramsar Convention on Wetlands was an employee of the country's largest shrimp farm – one accused of repeatedly breaching the Ramsar Convention[14].

In 1996, India's Supreme Court issued a landmark ruling against the industry, requiring that industrial shrimp aquaculture operations acting within the coastal regulation zone cease all operations, and that local farmers and workers adversely affected by the industry be compensated. The Supreme Court also ruled that no new shrimp aquaculture operations be permitted in this zone, or within 1000 metres of Pulicat Lake or Orissa's Chilika Lake (an internationally important wetland)[15,16,17,18]. However, whilst on paper this was an important legal victory, the ruling had little effect on shrimp industry practices[15,19]. Meanwhile, around Chilika Lake, 'mafias' remained undeterred and constructed shrimp farms, allegedly with the support of local politicians, in violation of this order[17].

Shrimp farmers acting illegally in Ecuador do so under little pressure from a weak enforcement system and an apparently disinterested judiciary. Five members of the environmental group FUNDECOL, and at least seven members of traditional mangrove user associations, were detained in Esmeraldas having attempted to meet the Port Captain to protest illegal expansion of shrimp ponds into areas the complainants had reforested with mangroves eight months earlier[20]. In this part of Ecuador, more than 50% of mangrove loss has occurred since a 1994 Presidential Decree banned such deforestation. The majority of shrimp farms in Muisne Canton are illegal and hundreds of reports have been filed, but fines are minimal and punishments are rare[21]. That many Ecuadorian shrimp farm owners or shareholders are active in local and national authorities, are ministers or senators, or are members of the military or judiciary, should be borne in mind when considering this degree of impunity.

In a number of shrimp-farming nations, perpetrators of acts of intimidation, violence or murder against protesters or fisher-folk have rarely been brought to justice. Conversely, many of those protesting abuses linked to the shrimp industry have been summarily arrested[13]. In Bangladesh, murder, rape and beatings administered by thugs associated with shrimp farms are reportedly common, but ignored by the police and judiciary. Local law enforcement agents are reportedly reluctant to admonish business people whose economic successes may put them in a favourable position with government officials. Many opponents of shrimp farming in Bangladesh have been imprisoned on false charges by the very law enforcers they expect to protect them. Fighting these cases is a lengthy and expensive process, with each case expected to take around four to five years to resolve. Many of the defendants have little money and are poorly educated, and the cases are widely seen as an instrument of oppression[23].

ABOVE: *The shrimp industry is portrayed as a greedy, dollar-hungry monster in this Ecuadorian protest mural, which reads 'This community was born of the mangroves. This community will defend their life'.*

'Illegal shrimp farms have only been given minimal fines, if that. Since shrimp farming is so lucrative, the fines do not stop the illegal cutting.'

YOLANDA KAKABADSE EX-ENVIRONMENT MINISTER, ECUADOR[22]

CONCLUSIONS & RECOMMENDATIONS

'Where shrimp aquaculture has expanded … many local people have seen their ways of life destroyed, their economic system undermined, their access to essential resources cut off. They have had no voice in what has been done to them. This is an invisible type of human rights violation that is unacceptable in a democratic system.'

David Barnhizer, Natural Resources Defense Council[1]

Shrimp farming has had direct and significant negative impacts on coastal communities. Although the export-driven industry brings much-needed foreign capital to under-developed producer nations, this revenue commonly fails to filter down to those most affected by the industry. Indeed, despite being promoted by international financial institutions as a means to alleviate poverty, shrimp aquaculture has frequently had the opposite effect. Whilst a small number of entrepreneurs and investors have become rich, for many, shrimp farming has led to a seriously degraded quality of life. In scores of cases, the industry has reduced employment, increased landlessness, decreased food security, affected health and education, and has been characterised by acts of intimidation, violence and murder.

Shrimp farming has failed to live up to its '*Blue Revolution*' promise of offering food for the hungry. Rather, the industry is almost entirely export-driven. Intensive shrimp farming not only results in a net loss of protein (due to fish-based inputs which are inefficiently-converted into shrimp protein) but is also associated with declines in the availability of marine and coastal species traditionally harvested by local communities for subsistence consumption or domestic trade.

Attempts to resolve or protest the socio-economic and environmental impacts of shrimp aquaculture frequently result in conflicts between the competing interests of commercial shrimp farm operators and the local communities they exist alongside or employ. The widespread lack of organisational and economic equality between the two groups means that whilst the latter often have no recourse to the law, the former often have little to fear from it. In the majority of reported cases, when tensions have flared or abuses have occurred, it is the rural poor, often with subsistence livelihoods, who suffer at the hands of commercial interests acting with apparent impunity.

The development of shrimp farming has been supported by large quantities of donor aid and loans from bilateral and multinational agencies. The way in which such funds have been used deserves greater scrutiny given the fact that shrimp farming has flourished in a number of countries that are characterised by corruption and poor human rights records. The social implications of shrimp aquaculture are just one component of a multi-dimensional problem that also includes serious environmental degradation and health concerns for consumers. There exists an urgent need for these issues to be addressed by the financial institutions, governments, retailers and consumers who, together, continue to encourage the expansion of this frequently destructive industry.

'Shrimp farmers in Thailand left behind an ecological desert. These farms are hardly useful for other economic activities. Outside investors are enriched, local people are pauperized. Development runs above their heads - very little trickles down to them.'

Irsse Csavis, United Nations aquaculture specialist[2]

ABOVE: *Grassroots protest in front of Ecuador's National Congress with heavy police presence. The sign reads 'The mangroves are not for sale'.*
© Clive Shirley / Greenpeace

General Recommendations

Shrimp farming in a number of countries is characterised by serious social impacts, which have tended to affect some of the poorest and most vulnerable communities. In light of the information presented in this report, all relevant parties should:

1. Acknowledge the existence of negative impacts – including human rights abuses – associated with the shrimp industry.
2. Recognise that, as currently practised, many intensive and semi-intensive shrimp farms are unsustainable; initial profits are unlikely to last, and conversion back to agricultural land or restoration of wetlands is likely to be a prohibitively expensive and lengthy process.
3. Acknowledge that shrimp farming can have negative impacts on food security, particularly in relation to the security of coastal and marine fish stocks, protection of agricultural land and other natural resources, especially mangrove forests.
4. Actively seek greatly improved communication and collaborative mechanisms – nationally and internationally – aimed at ameliorating the adverse impacts of shrimp farming.
5. Reiterate and abide commitments to implement the FAO Code of Conduct for Responsible Fisheries, (Article 9) urging responsible aquaculture development.
6. Ensure that any future development of aquaculture is economically viable, socially equitable and ecologically sustainable.
7. Promote integrated coastal management planning, including meaningful participation of all coastal user groups. Ensure that artisanal fisheries and dependent coastal communities are not affected adversely by aquaculture development or operations.
8. Ensure protection of mangroves, wetlands and other ecologically sensitive coastal areas, and encourage the rehabilitation of degraded aquaculture sites.
9. Require the use of less intensive and/or traditional shrimp aquaculture where these are better suited to local conditions.
10. Ensure that multilateral development banks, bilateral aid agencies, and other relevant national and international organisations or institutions do not fund or otherwise promote aquaculture development that is inconsistent with criteria to reduce environmental and social impacts.
11. Support appropriate trade-related initiatives to reduce and remove negative social and environmental impacts. Specifically these should include fully independent and transparent environmental certification, product labelling and Fairtrade schemes that maximise benefits accruing to local communities and protect social and human rights.

Shrimp importing countries

Developed nations, which import the vast majority of farmed shrimp are capable of exerting considerable influence over the manner in which this food is produced. The governments of shrimp importing countries should:

1. Develop trade-related instruments to promote concrete, global change in the manner in which shrimp are produced and traded.
2. Support third-party efforts to develop and monitor independent shrimp certification and labelling based on rigorous social and environmental criteria.
3. Redirect development aid to ensure the effective monitoring and reporting of shrimp production techniques in major producing countries.
4. Avoid channelling overseas development aid into projects that promote unregulated, unsustainable or inequitable expansion of shrimp farming.

Shrimp farming countries

Shrimp farming is frequently characterised by pronounced inequities between those who benefit from the industry and those whose livelihoods and rights are impacted. To redress such problems the governments of shrimp farming countries should:

1. Reiterate commitments to implement the FAO Code of Conduct for Responsible Fisheries (Article 9 urging responsible aquaculture development) by encouraging better practice and adoption of robust and effective national legislation, policies and codes of conduct for sustainable aquaculture.
2. Ensure the use of environmental and social impact assessments prior to aquaculture development, and the regular and continuous monitoring of developments.
3. Formulate and enforce legislation and policies relating to the protection of mangroves, wetlands and other ecologically sensitive areas of importance to coastal communities (including obligations under the Ramsar Convention on Wetlands).
4. Increase stakeholder consultation with regard to the shrimp industry; in particular, affected communities need to be given more opportunity for participation in management decisions.
5. Formulate (or clarify) and enforce property and land use rights (incorporating traditional user rights).
6. Establish an independent complaints procedure to resolve land rights conflicts.
7. Promote transparency in decision-making by releasing to the public plans for the development or expansion of shrimp farms.
8. Support independent monitoring and verification of practices in both shrimp farms and processing plants.
9. Recognise the full economic value of mangrove and wetland goods and services during land-use decisions.
10. Prohibit and penalise pollution (due to excessive discharge of wastes) and salinisation of freshwater supplies (including groundwater important for drinking or agriculture). Ensure effective monitoring and enforcement of these prohibitions.
11. Reduce the use of shrimp feed that compromises local food security.
12. Explore mechanisms (such as economic incentives or disincentives) to encourage better practice. Governments should withdraw subsidies and tax breaks used to encourage unsustainable industry expansion, and require environmental planning and performance bonds as preconditions to the approval of loans, credits and access to resources.
13. Register and require approval of all processing plants and develop legislation to improve labour conditions in line with International Labour Organisation (ILO) standards.
14. Promote greater 'trickle-down' of revenues gained from shrimp exports, so that communities located in shrimp farming areas receive far greater benefits.

ABOVE: *Previously a luxury, shrimp is becoming a more affordable food-stuff in industrialised nations. The true cost of shrimp is that paid by the rural poor in producer countries.*
© Trent / EJF

The shrimp aquaculture industry

Whilst the shrimp farming industry has made significant economic gains, many of the external costs associated with its activities have been borne by others, including many poor and vulnerable coastal communities. The global shrimp aquaculture industry including national and regional associations should:

1. Fully and publicly acknowledge its obligation and responsibility to use best practice, specifically ensuring environmental sustainability, economic viability and social equity.
2. Respect all national and international laws aimed at protecting the environment and human rights.
3. Encourage, support and abide by independently developed and monitored certification schemes aimed at ensuring social equity and environmental sustainability.
4. Give unrestricted access for third-party monitoring of all aspects of production and enhance transparency by allowing public access to resulting assessment and support initiatives to register and approve all producers, processors and exporters adhering to credible, third-party certification schemes.
5. Engage, as a priority, improved technical specifications for production to reduce and remove negative environmental and human health impacts, including:

   a) Improved pond design, water exchange and pollution control;

   b) Reduction and eventual elimination of prophylactic antibiotic and pesticide use. Pesticides listed by the World Health Organisation in class Ia, Ib and II should be immediately removed from use;

   c) Promote conversion to organic systems of shrimp production;

   d) Encourage diversification within shrimp production areas, engaging polyculture and rotation with agriculture.
6. Provide direct financial assistance for the reforestation of mangrove forests and for habitat protection. Shrimp farms sited in illegally-cleared mangrove areas should provide immediate funds for reforestation and compensate local communities for losses.
7. Ensure that existing farms are assessed to ensure full compliance with national land use policies, strategies and legislation.
8. Ensure that future developments are only undertaken following full consultation and support of local communites and within the context of national land use and management plans. Specific commitments to fully respect coastal communities' traditional access to natural resources are required.
9. Undertake specific commitments to safeguard the basic human rights of employees and improve labour conditions and pay and strive to source employees from the local community.
10. Assess the potential for using a percentage of profits generated by the industry to fund local community initiatives focused on education and health provision.

Shrimp importers, retailers and consumers

Ultimately, it is consumption of shrimp in industrialised countries that drives the production of farmed shrimp. Consumer pressure can result in rapid positive changes to production methods. Shrimp importers, retailers and consumers should:

1. Acknowledge the existence of widespread negative impacts, including serious human rights abuses and environmental problems associated with the shrimp industry.
2. Lend active support to the swift development and implementation of independent certification of shrimp products based on robust social and environmental criteria.

ABOVE: *Savitri, marking the spot where her husband was shot in India*[3].

BELOW: *The mother of Sirajul Islam Liton, a student killed in Bangladesh, February 2002.*

3. Refuse to buy, sell, distribute or eat shrimp products without certain knowledge that they have been produced without causing environmental destruction, social hardship or human rights abuses. Buy only products with recognised, credible environmental, Fairtrade and organic labels.
4. Support independent monitoring and investigation of shrimp production methods and their environmental, economic and social impact on communities.
5. Call upon international aid and development agencies and multi-lateral institutions to fund the effective monitoring and reporting of shrimp production techniques in major producing countries.

The international donor community

The rapid and poorly-regulated expansion of the shrimp farming industry has been supported financially by the international donor community, including bilateral agencies, the World Bank, International Finance Corporation, Asian Development Bank, Inter-American Development Bank and United Nations agencies. Having encouraged the industry's development, the onus is now on donors to apply financial leverage in the search for equitable solutions. The donor community should therefore:

1. Provide increased financial assistance directly tied to improved governance and regulation of the shrimp industry and natural resource management. Encourage improved environmental, social and land-use legislation and appropriate mechanisms for implementation and enforcement. Impose financial penalties for failure to reach agreed standards while promoting incentives for achieving them.
2. Employ substantially improved standards (relating to human rights and social equity, economic viability and environmental sustainability and security) in the design, distribution and monitoring of lending and aid packages.These conditionalities should be communicated to all stakeholders.
3. Provide financial assistance for mangrove forest conservation, restoration and replanting and for the protection of coastal livelihoods.
4. Provide financial support and technical assistance for the rehabilitation of abandoned shrimp ponds. This must be undertaken with the full participation of local communities and must prioritise their needs.
5. Support the development of independent, third-party certification, labelling and Fairtrade schemes.
6. Support further research into the value of wetlands and undertake cost-benefit analysis of shrimp aquaculture in relation to alternative land uses
7. Support awareness and education programmes aimed at increasing public understanding of the social and cultural value of wetlands.
8. Encourage best practice through the free exchange of technical information.
9. Redirect aid and development funds currently targeted to shrimp aquaculture towards maximising local poverty alleviation and long-term environmental and social benefits at local levels.
10. Facilitate an independent review of lending and aid to the shrimp sector. Priority within the review should be given to a cost-benefit analysis that takes full account of environmental, social and economic factors and the impacts on local communities.
11. Prioritise the full participation of all stakeholders in any development and subsequent monitoring of shrimp farming.

BELOW: *Illegal shrimp farms in Khanh Hoa, Vietnam.*
© Shanahan / EJF

'It is a brutal process by which the protein is extracted from the poor people and the land which is owned by the poor people and this extraction is to feed the bloated stomachs of the rich. This is certainly a violation of the right to life.'

Dr Jacob Raj, prepare, India[4]

ABOVE: *Shellfish collector and family, Las Manchas, Ecuador. Coastal communities, and women and children in particular, worldwide have been forced to endure a catalogue of privations and abuses following the arrival of shrimp farming to their areas. Benefits of this export-driven industry often fail to trickle down to these poor, vulnerable communities.*

The United Nations High Commission for Human Rights and the International Labour Organisation

Serious human rights abuses have epitomised the shrimp farming industry in a number of countries. The UNHCHR and ILO should therefore:

1. Conduct detailed investigations of the shrimp industry's impacts on human rights, especially regarding land rights issues, child labour and the use of forced labour and report on their findings.

Research institutions

We encourage governments to support and institutions to undertake research and disseminate information regarding:

1. The economic, social and cultural value of mangrove and wetland goods and services.
2. The ecological impacts of shrimp farming, including damage to mangroves and wetland habitats – satellite and GIS images should be used to monitor change over time and made publicly available.
3. Full cost-benefit analysis of the social, environmental and economic impacts of shrimp aquaculture and alternative land-uses.
4. The potential for large-scale habitat restoration of abandoned shrimp-ponds.
5. Alternative feeds that reduce the need for those based on fish products (such as those from oilseeds, microbial proteins etc.).

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