

fisheries

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Conflicting interests in coastal zones

Shrimp farms, agriculture and fishing

The shrimp industry has expanded greatly over the past 30 years, and it is becoming more intensive. This is because of the increasing demand for shrimps, combined with new farming technologies. This affects other users of coastal zones and has implications for coastal ecosystems.

Research from the University of Newcastle in the UK, the International Rice Research Institute and the International Water Management Institute reviews the social, economic and environmental impacts of shrimp farming in coastal zones.

The potential for high profits from shrimp farming means that many farmers and outside investors have converted rice fields and agricultural land to shrimp ponds. Shrimp farms are also developed on mangrove forests or salt marshes, using resources that were previously commonly owned.

Poor people tend to rely most on common resources, such as fish. They often lose access to these resources when shrimp farms expand, increasing the gap between rich and poor people in coastal areas. This can also cause conflict between shrimp farmers and users of common resources, such as mangrove wood. However, shrimp farming is often a vital source of income for coastal communities.

Intensive shrimp farming is often associated with 'boom-bust' cycles. Production shifts to new areas after a few good years, in response to declining performance. However, this approach leaves behind water sources

polluted with nutrient-rich waste and land degraded by salination (the accumulation of salt).

There have been several attempts to manage conflicts between coastal resource users and halt environmental damage:

- Governments have introduced regulations including, for example, limiting the amount of waste discharged, but these have been ineffective.
- Resource management organisations have developed voluntary codes of conduct and guidelines for 'best management' practice. However, these have no legal power and many small farmers cannot follow them.
- Some management schemes suggest conserving mangroves to act as shrimp habitats, or as natural filters for farm waste. There is little knowledge and experience of these systems, though.
- Integrated coastal zone management approaches consider all activities and impacts together. This identifies the most suitable areas for shrimp farming and other activities, such as agriculture.

The widely reported problems can be attributed in part to a 'gold-rush' mentality

associated with the early stages of a new industry. Institutional weaknesses have allowed unplanned and unregulated development, which leads to environmental stresses and adverse impacts on humans. However, it is possible for shrimp farming to coexist alongside agriculture and fishing. The researchers recommend:

- Policymakers should develop zones for different activities, with the involvement and agreement of local people to decide where each activity should take place. These should include buffer zones around homes to protect farmland from salination.
- Management policies should combine enforced regulations with economic incentives for good practice.
- Small farmers require help to comply with good practice, including training in 'best practice' methods.
- Many poor people rely on access to common resources. Planners should acknowledge their needs and consider the potential impact of shrimp farm development on common resources.
- Intensive shrimp farming causes the most environmental and social problems, so policymakers should encourage less intensive forms of shrimp farming.

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'Land and Water Management in Coastal Zones: Dealing with Agriculture-Aquaculture - Fishery Conflicts', by J. W. Gowing, T. P. Tuong and C. T. Hoanh, pages 1-13 in *Environment and Livelihoods in Tropical Coastal Zones*, CAB International: Wallingford, edited by C. T. Hoanh, T. P. Tuong, J. W. Gowing and B. Hardy, 2006



Quality control in a shrimp farm in Thailand, sorting the harvest by size.

Jeremy Horner/Panos Pictures

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Making fishing sustainable through trade and markets

Fish products provide trade opportunities, employment and nutrition in many countries. However, globally, poor management has led to the overexploitation of fish stocks.

Research from the International Centre for Trade and Sustainable Development, Geneva, and the High Seas Taskforce of the Organization for Economic Cooperation and Development, Paris, examines whether governments and the fishing industry can utilise the markets and trade policies to encourage more sustainable practices.

Seafood is one of the world's most widely traded commodities, but an estimated 75 percent of marine fish stocks are either fully exploited or overexploited. Governments and communities who rely on fishing for trade, income and nutrition face an uncertain future particularly in developing countries.

Current trade and marketplace measures used to promote sustainable fisheries management include border controls that allow countries or territories to regulate trade in these products.

Governments, regional fisheries management organisations (RFMOs), the

fishing industry and non-governmental organisations (NGOs) promote sustainability in different ways:

- RFMOs have used catch documentation schemes, vessel monitoring systems and import bans. However, illegal fishing operators can get around these systems, for example by changing vessel names.
- NGOs have organised boycotts of specific seafood species and produced seafood guides for consumers. These have raised public awareness, but have little significant impact on trade.
- Organisations such as the Marine Stewardship Council (MSC) have promoted 'ecolabelling', which certifies responsible fisheries to help consumers choose between sustainable and unsustainable fish products. To date, the MSC has only certified a small fraction of total world seafood supply from capture fisheries.

While ecolabelling and the MSC programme have limitations, the fishing industry may prefer these options. Ecolabelling is an independent and transparent process that consults all groups. The seafood industry views ecolabelling as a way to guarantee that seafood is from sustainable sources.

However, developing countries have found it difficult to adjust to the measures outlined above. Representatives from these countries have concerns that their fisheries cannot meet MSC standards. Nevertheless, the report recommends:

- Developing countries should receive

support to implement voluntary ecolabelling standards within the guidelines set by the Food and Agricultural Organization.

- RFMOs should target government corruption. For example, independent certification could improve vessel monitoring.
- Applying catch documentation and tracing schemes to all main species, and publishing lists of vessels fishing illegally, should reduce illegal fishing and trade.
- International lists of groups involved in fishing, trading and marketing seafood should be colour-coded according to performance: those with sustainable practices would be given more benefits.
- Given its increasing importance, China should be encouraged to play an active role in international efforts towards sustainable fishing.

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Governing small-scale fisheries to support poor people

The governance of small-scale fisheries affects millions of people in developing countries. How can policymakers improve this governance?

Thousands of people work in the fisheries sector and fish is often the only affordable source of protein for many poor people. Fishing is also critical as a source of income, including for thousands of women who work in post-harvest activities (such as processing and trading fish). However, there is a growing recognition that the governance systems of inland fisheries have been weak and ineffective.

Research by the World Fish Center critically reviews the governance of small-scale fisheries in developing countries. Governance is a political issue, concerning how power is distributed between different people within society. This includes how people share decision-making and how this empowers themselves and others.

Since the early 1990s, many countries in Africa, Asia and South America have reformed the governance of their fisheries. Decentralisation and participatory democratisation are now seen as necessary to improve governance. These processes are often described as 'co-management', meaning fishing communities play a greater role in the management of the sector. Other

reforms include improvements in public accountability, environmental sustainability and empowering poor and vulnerable groups.

The research shows that:

- A comparison of 50 fisheries management case studies showed no correlation between the level of authority given to a community and the success of management practices.
- There is frequent confusion in the fisheries literature between 'management' and 'governance'. Management is the implementation of decisions and actions in accordance with rules. Governance is about sharing responsibility and power; setting policy agendas and objectives and the processes of implementing management actions.
- Participatory approaches can strengthen governance, but they will not provide reliable, high-quality and cost-effective management services. This can only happen if participation is democratic and policymakers are accountable to everyone who uses fisheries.

Current analysis of co-management considers the level of participation by fishing communities as the key factor in the success or failure of governance efforts. However, this neglects other crucial dimensions of governance. For example, many reviews of fisheries governance do not consider whether co-management has positive impacts on poverty alleviation.

The researchers conclude that:

- There is an urgent need to develop policy guidelines for new approaches to pro-poor governance in small-scale fisheries.
- The key factor affecting the performance of governance arrangements is the nature of the institutional constraints. These determine how much influence users can have over relevant agencies
- Downward accountability (the accountability of service providers to local populations) is a critical feature of social empowerment.

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Keywords: conflict, fishing communities, governance, non-governmental organisations, regional fisheries management organisation, shrimp, small-scale fisheries, trade