

fisheries

research findings for development policymakers and practitioners

Does aquaculture benefit poor people in the Philippines?

Aquaculture is expanding steadily around the world. Despite some negative environmental impacts, experts believe that aquaculture has the potential to resolve hunger and malnutrition in many countries.

Research from the University of Reading, in the UK, and Coopération Internationale en Recherche Agronomique pour le Développement, in France, examines aquaculture (fish farming) in five coastal communities in the Philippines. The researchers question whether aquaculture really reduces poverty and contributes to sustainable development in rural coastal areas.

There is little evidence that aquaculture contributes to the marginalisation of poor people – overall, aquaculture decreases inequality in communities

A review of the literature shows that aquaculture potentially benefits poor people in several ways. For example, it can generate both year round and seasonal employment. Aquaculture requires inputs, such as feed and stocks of seed fish, which have to be produced and transported. Increased fish production also generates a greater demand for processing and storage, meaning further jobs. Fish farmers and labourers spend these increased incomes on other goods and services, potentially spreading benefits beyond those directly involved in the sector.

There is evidence of these benefits in the areas studied, where 59 percent of the population fall beneath the poverty line. Aquaculture is an important activity, representing nearly one third of total income.

The researchers also considered whether aquaculture increases the income of



Workers in Massawa, a port on the Red Sea coast of Eritrea, catching shrimps at Seawater Farms Eritrea, the world's first commercial-scale integrated seawater farm.

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wealthier households more than it helps poorer households move out of poverty.

They found:

- Aquaculture provides a larger share of income for poorer people; poor households earn 54 percent of their income from aquaculture, compared to 25 percent for the remaining households.
- Of the people interviewed, 71 percent felt aquaculture is beneficial to poor and non-poor members of their community.
- Fish farms are mostly owned by a few individuals who usually live elsewhere. The farms are still a vital source of employment, however, with more than half of households involved in at least one activity related to aquaculture.
- For some tasks, labourers are paid in fish. This is particularly important for poorer households as fish are a crucial source of protein.
- There are clear barriers to poorer people benefiting more from aquaculture, including a lack of money and access to credit. However, some poorer people who began as labourers have been able to develop their own aquaculture farms over time.

There is little evidence that aquaculture contributes to the marginalisation of poor people. Overall, aquaculture decreases inequality in communities, especially compared to alternative sources of income. The researchers conclude:

- The key to benefiting poor people is how the income generated by aquaculture is distributed amongst households.
- Aquaculture in the Philippines currently creates a large demand for unskilled labour, which is crucial in a country where the primary cause of poverty is unemployment.

- If policymakers want to develop aquaculture in a way that has an impact on poverty, they should consider the effects of new policies and technologies on employment.

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'The Equity and Poverty Impacts of Aquaculture: Insights from the Philippines', *Development Policy Review* 25 (4), pages 495-516, by Xavier Irz, James R. Stevenson, Arnold Tanoy, Portia Villarante, Pierre Morissens, 2007

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Integrated lake management in Uganda

Ecosystems are complex and livelihoods are often dependent on them. An integrated approach to natural resource management reflects this complexity. However, this requires the right combination of management structures, policies and plans to ensure the participation and cooperation of all groups.

Integrated approaches are often characterised by links to broad development and management strategies, wide participation by concerned groups, and cooperation between sectors. Such approaches are often challenging to implement. The many different organisations and sectors involved each have a limited focus and different perspectives on the broad range of environment and natural resource (ENR) issues to consider.

The Government of Uganda has adopted an integrated approach to lake management, though this is largely founded on fisheries management. The

implementation was supported on two lakes – Lake Kyoga in central Uganda and Lake George in the southwest – by a DFID-funded project, Integrated Lake Management.

The government's main aim was to strengthen the collaboration of central and local government and the fisheries communities. This began with the formation of community-based Beach Management Units (BMUs). These send representatives to sub-district and district BMU Committees and on to committees of Lake Management Organisations (LMOs). LMOs are formed by local governments bordering the lake for coordinated and harmonised lake management planning and implementation.

To be successful, it is critical that policies, structures and plans are integrated at different management levels. The Ugandan experience shows:

- Integration across the ENR sector can be encouraged by adopting similar approaches and common principles. These include involving local people in management and forming a national working group for the sector.
- The new lake management structures (BMUs and LMOs) create links between the national and local governments and communities dependent on lakes.
- Planning by LMOs has included all

relevant groups and sectors. This coordination enables plans to feed into the local government development processes.

- Guidelines for integrated planning are essential for bringing sectoral plans and priorities together in a coordinated and coherent framework.

Integrated approaches should improve the effectiveness, coherence and harmonisation of policies and programmes, but require strong commitment and good understanding from everyone involved. Recommendations include:

- Policymakers (especially natural resource officials) must recognise the potential of effective ENR management to reduce poverty. This will strengthen the contribution to poverty reduction from the sector and increase financial and technical support within national poverty reduction strategies.
- Identifying policy priorities through participatory processes would strengthen the influence of the ENR sector within policy processes.

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'Managing Lakes in Uganda: Integration through Policies, Structures and Plans', *Water Policy* 9, pages 253-269, by Fiona Nunan, 2007

How do the different uses of coral reefs affect local people in the Philippines?

The use of resources such as coral reefs in marine protected areas often leads to conflict. Tourists and the tourism industry, conservation organisations and local communities all have different needs and interests.

Coral reefs are one of the most threatened ecosystems in the world: 58 percent of reefs worldwide are threatened by human activity. Resource use conflicts are common, due to competing environmental, social, economic and political interests.

Research in the Mabini and Tingloy areas of the Philippines shows that unequal power relations are one of the main causes of conflicts between different coral reef user groups. For example, local subsistence fisher people have little power. They also suffer most from tourism and conservation activities, which are commonly run by more powerful groups.

- Many disagreements between tourism organisations, the government, local communities and conservation organisations are about how to divide the funds generated from tourism.
- Specific groups of local people have negative perceptions of conservation activities, leading to low levels of local participation. Local participation is essential for conservation to succeed.
- Conflicts between conservation organisations and local communities are most common where conservation is seen as restricting access to resources, for

example fisher people being unable to fish in protected waters.

- Most tourism-related conflicts are due to disagreements over protected area management, resource ownership and user rights. They also relate to the lack of benefits for local people, as most tourism revenues are collected by business owners who are often from outside the local community.

Conflicts can be reduced if protected areas generate enough funds through tourist revenues for management and maintenance. Conflicts can be further reduced if tourism and conservation provide long term and fairly paid employment for local people.

For sustained successful conservation, all local groups must see the benefits of conservation and have a reason to become involved in conservation activities. The researcher suggests several policy lessons relating directly to Mabini and Tingloy. The wider implications, however, can be transferred to other areas.

- To avoid conflict, protected areas should pay for themselves through income generation or donor funding. Revenues generated from tourism have the potential to fund conservation efforts, for example diving fees.
- Conservation strategies can restrict local people's income generation and access to natural resources, so they should receive

compensation for any losses.

- For conservation efforts to succeed, it is important to demonstrate that conservation can benefit local communities.
- Protected area management and user rights must be clear, and conservation rules must be enforced equally and consistently to avoid inequalities and resentment amongst certain groups.
- As fisher people feel most disadvantaged by tourism and conservation, policymakers must identify strategies that increase their benefits and encourage their greater participation in conservation activities.

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'Resource Use Conflicts in Mabini and Tingloy, the Philippines', *Marine Policy* 31, pages 480-487, by Terhi Majanen, 2007

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