

The tattered net of statistics

Data is often gender-blind, as in El Salvador, but there are several policy benefits in making women's roles more visible

From anecdotal evidence, casual observation and ethnographic studies, it is obvious that women are an indivisible part of the artisanal and industrial fishing economy. Yet researchers consistently underestimate the role women play in harvesting fish, in generating household and national income from fishing activities, and in providing labour to the fish processing industry that ultimately enables economies to earn much-needed foreign exchange.

This is lately because quantitative survey instruments fail to capture the gender diversity of the fishing economy, and systematically introduce biases that underestimate the role women play in the fishing economy. As a result, women's contributions remain unrecognized and policymakers fail to take account of women's roles in environmental and development planning.

A cursory examination of the official statistics for El Salvador reveals that very few women fish. The 1990 Fishing Census by the Ministry of Agriculture identifies a little over six per cent of all fishers in El Salvador and almost nine per cent in the department of La Union to be women. Yet, observing the daily activities of fishers and the pattern of household involvement in fish production and processing in El Salvador and much of Central America, this figure differs markedly.

In El Tamarindo, La Union, El Salvador, the economic and subsistence activities of the fishing households have gone on, largely unaffected by the turbulence of the civil war and the insecurities of the reconstruction period after the 1992 peace accords. Men and women continue to fish in exactly the same way as they have for hundreds of years, in wooden kayaks with

nets and paddles. The differences are that now some have motors and others have fibreglass boats.

While men fish in the open seas, the majority of female fishers confine their activities to the estuaries and shore line, catching a range of freshwater and marine fish, crustaceans and mollusc. A few women also fish in the open sea, accompanying other members of their families, to catch shrimp in the coastal waters of Usulutn, La Union and the Gulf of Fonseca.

Women are disproportionately involved in cleaning, eviscerating and processing the catch. They prepare and dry fish for sale in local and regional markets; they contribute to the value added of shrimp exports, deheading and packing the shrimp in ice; and they gather shellfish and crab in the estuaries, providing essential nutrients and proteins to supplement the family diet of corn and beans.

A quantitative survey of 110 mangrove households and 489 individuals was undertaken in 1993 and 1994 in El Tamarindo. The purpose of the survey was to document the nature and extent of the relationship men and women had with the resource base. To capture information about seasonal variation in fishing and agricultural activities, the survey was undertaken during both the wet and dry seasons.

Primary occupation

It revealed that 50 per cent of men in El Tamarindo fished as their primary occupation. A further three per cent were involved in fish processing and marketing. However, only one woman declared herself to be a fisher, and only six per cent stated that they were actively

involved in fish processing and marketing. The majority of female respondents defined their occupation to be 'housewife', and did not perceive their fishing activities to shape their occupational identity.

Yet, the household consumption and expenditure data revealed that almost 29 per cent of the women in El Tamarindo earned an income. At first glance, this appeared to be contradictory. How could we reconcile the women's economic activities with their stated occupations? In search of more data about how these women earned their income, we added a time allocation questionnaire to the survey. This consisted of detailed questions about how all members of the household spent their days, breaking down the array of household and market activities into their component tasks. Using the additional data, we were able to determine that almost 26 per cent of women fished either in the estuary or close to the shore line; approximately 60 per cent cleaned the fish and processed the catch; 33 per cent mended the nets, along with other household members; 42 per cent cleaned the boats and helped their husbands haul the catch in from the beach; and 17 per cent sold the produce in local markets, restaurants or bars.

If both men and women fish, and are equally visible in the fishing economy of

El Tamarindo, why then do the official statistics state that only nine per cent of all fishers in La Union are women? Perhaps the answer lies in the use of survey and census questionnaires that are too rigid in their definition of what constitutes a fisher, too inflexible in their precoded responses, and too gender-blind to seek out both male and female respondents.

The majority of survey instruments are precoded. The expected responses to the questions are laid out as a range of potential answers, so that the enumerator only has to check off the correct category. This offers very little flexibility and precious little time to delve deeper into the subtleties of the responses.

In most questionnaires, to qualify as a fisher, the respondent must: fish regularly for an extended period of time; concentrate his/her activities in the open sea; and demonstrate the possession of (or access to) fishing capital, such as a boat, nets, and a motor. Since the questionnaires are structured to capture this information, they may filter out those who fish sporadically, without capital and close to the shore line or in the estuaries. The individuals who are excluded in this fashion tend to be women.

Questionnaires faulty

Another reason why women are consistently not identified as fishers is because many questionnaires are directed

at a single household head, the principal breadwinner in the family. The survey usually requires the respondent to identify himself or herself as a household head and state an income that sustains the majority of the household expenditure.

Almost 80 per cent of women in El Tamarindo did not declare themselves to be household heads, although they were subsequently found to be significant decision-makers in the household and to contribute consistently by providing much-needed family income. Unless women are actively sought out as survey respondents, much of the information concerning their lives, their activities and their roles in the household economy will not be revealed.

Typically, surveys directed solely at the 'household head' fail to document or value the activities of other household members, regardless of their gender. This is particularly important for policymakers concerned with the extraction of fisheries resources, or conservationists who would like to harness the skills of all individuals whose livelihoods depend on their environment, to ensure its protection.

If there is any genuine concern about poverty and income inequality, it is also important to realize that a failure to understand the nature of each individual's contribution to household survival, and the constraints faced in generating income, may result in the inappropriate application of transfers or the wrong targeting of those facing economic scarcity. Where households depend on fragile ecosystems, poverty can prove an overriding constraint that limits all individuals' ability to change their resource use and adopt more sustainable practices.

As women are not recognized as fishers, they do not have access to the financial and physical resources and extension services they need to improve their productivity and increase their incomes. Moreover, their ability to undertake resource conservation, to fish sustainably, or switch the focus of their fishing activities may be severely limited by their lack of fishing capital. Women's lack of access to fishing capital, credit and extension services is thrown into sharp

contrast when we compare their experience with that of male fishers.

According to the survey, the majority of men in El Tamarindo earned more than women, although the women worked longer hours and undertook both market and household activities. On average, men earned US\$ 72.29 and women US\$ 29.19 a week. Men were disproportionately able to offer fishing capital (boats, nets and motors) as collateral and, therefore, had better access to credit. This enabled them to overcome cash shortages and make investments in upgrading technologies, or switching to different modes of extraction and different fisheries.

Approximately 70 per cent of those individuals who had obtained formal credit from a bank or agency had secured the loan by offering the boat and motor as collateral. The majority of these loans were used to purchase new equipment and to upgrade or repair the boats, nets and motors that they already owned. The recipients of such loans were all men.

Only one woman, a household head whose husband had left her and who fished with her sons, declared the boat and all the fishing capital to be hers. The majority of the remaining women who fished, or collected molluscs and crustaceans in the estuary, used tackle and capital that they did not own, which were loaned to them temporarily by male family members.

Due to their inability to access credit with which to purchase fishing capital and improve productivity, the women's incomes are substantially lower than those of men. This is because they are dependent on a particular set of coastal resources that have a lower market value. Furthermore, without fishing capital, they are unable to switch to offshore fisheries that yield higher returns and can be fished more sustainably.

Limited access

The majority of women who fished did so in the estuary or close to the shoreline. The women were confined to a resource base by their limited access to capital and by the time constraints they faced balancing their productive activities with their household

tasks. They fished for resources that were increasingly scarce, or contaminated from pesticide run-off and siltation.

The establishment of shrimp farms and salt ponds in the mangroves had encroached upon their fisheries and destroyed many of the breeding grounds for molluscs and crustaceans. Increasingly, the resource base on which they depended was being threatened, and more women were competing for limited resources. As a result, the resources were being depleted too rapidly and extracted unsustainably.

Since women are less visible as fishers, they are also less likely to receive extension services that furnish them with the required knowledge and inputs to change cultural practices and extraction patterns. None of the women who fished in El Tamarindo had ever received a visit from the fishing service of the agricultural ministry, or been invited to a local meeting to discuss fisheries resources. While the number of visits by fisheries extension agents of the Ministry of Fishing was extremely low for all fishers, many of the male fishers had met with the local representative and regularly registered their catch with the fisheries census monitor.

Without access to such knowledge and information, combined with their lack of fishing capital, the women of El

Tamarindo were unable to switch to different fisheries and to halt their unsustainable extraction of estuarine resources.

This invisibility of women means that their rights are more likely to go unrecognized. Local legal, economic and political institutions determine the allocation of common property and the use to which that property may be put. In societies where women depend disproportionately on the commons, such institutions determine the nature and scale of women's production activities and their degree of environmental dependence.

In El Tamarindo, the consensus was that estuary fishing had become unsustainable and was threatening offshore fisheries by depleting breeding grounds and undermining a source of nutrients for marine fish. Recognizing local opinion and the Ministry of Agriculture's concerns, the community leaders imposed an informal ban on estuary fishing.

Poor institutions

Consequently, women's access rights were not preserved and a vital source of household protein lost, while women's income-earning activities were displaced. Although the institutions that allocate access rights may not be appropriately structured to enable women to conserve the commons, they may not be immutable.

In several villages in Mozambique's Inhaca Island, for example, women who traditionally fished the estuarine resources of one large mangrove ecosystem institutionalized the customary allocation of resource rights. Women began by limiting the number of fishers in the inter-tidal zone. Each inter-tidal area was delimited and assigned to an individual village or group of houses in such a way as to ensure that the number of fishers was in proportion to the size of the resource base.

By pressuring the community institutions that guaranteed resource rights, the women were able to secure their individual economic needs by clearly designating and enforcing property relations. The women carefully defined who had access to particular inter-tidal areas, prevented encroachments by outsiders and limited fishing for particular species to specific periods. In this way, they were able to gain the full benefits of conservation efforts, while continuing to meet their subsistence requirements.

In noting the contributions women make to the fishing economy, the evidence from El Tamarindo is not isolated. Yet, on the whole, the body of knowledge on women's fishing activities remains extremely small. Without a doubt, the role that women play as fishers supports households and generates income in many developing countries. In Pangasinan and Bataan in the Philippines, women generate, respectively, almost 34 per cent and 25 per cent of total household income from their primary fishing activity in the estuaries and lagoons. Cumulatively, they dedicate a little over 10 months of the year to these activities.

However, such examples of the careful documentation and quantification of women's economic activities in the fishing sector are rare. As a result, policymakers have little information about women's roles and contributions. Conservation and development policies may, therefore, be inappropriately designed.

As the data from El Tamarindo shows, the effective revision of survey instruments to include the full range of activities that women perform in the fishing economy is

a prerequisite to enabling social and political institutions to respond appropriately and ensure the sustainable use of fisheries resources. Researchers should judiciously use qualitative and quantitative methods to gather information about fishing populations. In this way, policymakers can be better informed about the needs of women fishers and be better able to channel resources to support changes in resource use and extraction.

Fishing data need not be gender-blind. By overcoming the systematic exclusion of women from statistical surveys and reports, women may become more visible and their activities more prominent. Furthermore, attempts to change resource use, generate alternative income-earning opportunities for fishers and relieve resource dependency will become more focused and more targeted once they are informed by rigorous qualitative and quantitative data that describe the multiplicity of women's roles in the fishing economy. 3

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