Economic Policies and the Sustainable Development of Coastal Resources in the Philippines

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Abstract

The link between environmental trends and economic policies is examined. The assessment of the past and present economic policies affecting the use of coastal resources in the Philippines showed that these policies have accelerated the rate of degradation of coastal resources. The current situation demands not only the reorientation of economic policies, but also other related actions to attain sustainable development of coastal resources.

Introduction

Economic policies and environmental trends are closely linked. Economic policies that enhance living standards can also improve the quality of the environment. However, the pursuit of development in some countries also harmed the environment (ADB 1990) and the negative effects of development on the environment are quite visible. These include pollution of air and water, loss of biodiversity, depletion of the ozone layer, accumulation of hazardous wastes and degradation of coastal resources. For development to be sustainable, these negative environmental consequences must be addressed. Environmental problems undermine the goals of development (World Bank 1992).

Against this backdrop, we identify (macroeconomic) policies that may have the greatest impact on coastal resources use. We also suggest (additional or complementary) policies that will be needed for sustainable utilization of these resources. The "sustainability test" of policies follows this criterion: Policies which promote intensified use of coastal resources are deemed unsustainable and conversely for national policies. In the absence of empirical studies we only evaluate the qualitative impacts of the economic policies.

Review of Past and Present Policies

The fisheries decree of 1975 states, quite erronously, that, "... the vast resources of the Philippines have remained largely untapped due to unnecessary constraints brought by existing laws and regulations and by failure to provide an integrated development program for the industry." Policies affecting coastal resources generally reflect the above notion. While there may have been areas or activities for further development during that time, coastal resources have generally been overexploited. Studies reveal that the pelagic and demersal fish stocks were biologically and economically overfished during that time and have worsened since then (Silvestre and Pauly 1989; Dalzell et al. 1987). Moreover, mangrove areas have progressively dwindled over the years. As of 1988, less than 150,000 ha remain of the 400,000 to 500,000 ha thought to have

Table 1. Matrix of past and present policies affecting the use of coastal resource.

Economic policies	Coastal activities affected	Environmental impacts
A. Applicable incentives from Board of Investments (Executive Order 226)	Preferred areas of investment which vary yearly. For 1989:	
- income-tax holidays - tax and duty exemption from imported capital	Capture fisheries (upgrading and modernization of vessels)	Increases fishing intensity/ and stock depletion.
- tax credits on imported capital, feeds for grow-out and raw materials	Fry production for sea bass, grouper, milkfish and spiny lobster	Decreases pressure on wild fry but may put pressure on culture environment.
	Seaweed production	Decreases pressure on wild stocks; widespread seaweed farming may disturb coral reef ecosystems.
B. Interest rate subsidies (through, e.g., Biyayang Dagat Program) and guarantee schemes	Activities financed such as pond construction and improvement, shrimp farming, among others	Encourages mangrove conversion into fishponds; encourages capital intensive production technologies; provides alternative employment to fishers which may reduce fishing pressure..
C. Tax exemption and drawback schemes for fuel (Executive Order 1047)	Fishing in international waters	Reduces fishing pressure on the country's EEZ.
D. Subsidy on diesel fuel	Nearshore and offshore fishing operations	Increases fishing pressure on offshore and nearshore stocks.
E. Subsidy on inorganic fertilizers	Fishpond aquaculture	Promotes intensive culture methods; possibly slows down mangrove conversion to ponds.
F. Reduced import duties on (used) fishing vessels, factory ships, etc. (Executive Order 364)	Commercial fishing operations (presumably on offshore fish stocks)	Increases fishing pressure on offshore stocks.

existed early in this century.

Selected macroeconomic policies likely to affect coastal resource use are reviewed (Table 1). Subsidies, incentives and lower tariff rates on inputs for capture fishing have worsened the already overexploited fish stocks in nearshore areas. However, the fuel drawback scheme for distant-water fishing and the shift from inefficient (second-hand) fishing vessels may have diverted fishing effort away from the country's territorial waters. Fry production (for some species such as sea bass, grouper, milkfish and spiny lobster) as a preferred investment activity, to the extent that technologies have been developed, might have decreased wild fry gathering. This has positive effects on wild stocks and eventually on the income of fishers.

The emphasis of early government programs and policies for aquaculture presumed the availability of areas for expansion. Concessionary interest rates for loans covering pond construction, partly funded by a US$23.6 million loan from the International Bank for Reconstruction and Development (the "World Bank") several decades ago hastened the rate of "fishpondification" of wetlands (Siddal et al. 1985). At that time, this emphasis prevented the development of intensive production methods; fishponds (primarily for milkfish) have been generally underutilized (Chong et al. 1982). Subsequent policies however, have sought increases in aquaculture production by encouraging intensive production technologies. Subsidies and tax credits for capital, fuel, feed and fertilizer were the policy instruments used. There was a massive cutting of mangroves in the early 1970s (in the absence of a log-export ban) due to high Japanese demand for mangrove-sourced timber (Benagen and Cabahug 1991).

We illustrate in Fig. 1 the interrelationships between economic policies and the utilization of coastal resources following the "coastal cross-section" concept suggested by Pauly and Lightfoot (1992). The rate at which coastal resources are utilized is undoubtedly influenced by factors emanating from outside the immediate coastal resource environment, e.g., economic policies. If resources are already under extreme pressure, the wrong set of policies will exacerbate the situation. Causal directions may be ascertained with a greater degree of accuracy but what may be more interesting is quantifying the impacts of policies on the rate of resource degradation.

At this point, we digress on the direct cost of some of the economic policies. Data on the actual monetary value of the Board of Investments incentives are not disclosed. Fallon (1990) reported that tax credit for imported feeds alone was pegged at P10.18/kg of shrimp produced for export that year. With shrimp exports of over 25,000 t in 1990, total credits would amount to about 257 million pesos. Interest rate subsidies for priority activities may be represented by the difference between market rates and the concessionary rate of 9-12% per annum, depending on activity financed. Considering that the market rates have gone beyond 30% in the late 1970s and the early 1980s, and have now stabilized at around 22%, the subsidy is quite substantial in those years. For some activities, however, loans are charged rates closer to market interest rates representing lower subsidies.

What Needs to be Done

Policies with sound scientific basis are advocated especially for renewable resources to optimize sustained benefits. Policy design should follow from the status of development of coastal resources, hence a realignment of current policies may be necessary. Subsidies and incentives may be warranted where resources remain underutilized while for seriously depleted resources, conservation and protection measures may be necessary. For resources which are rationally exploited, policies should not run counter to this pattern. In all cases, the costs and benefits of policies should be carefully evaluated.

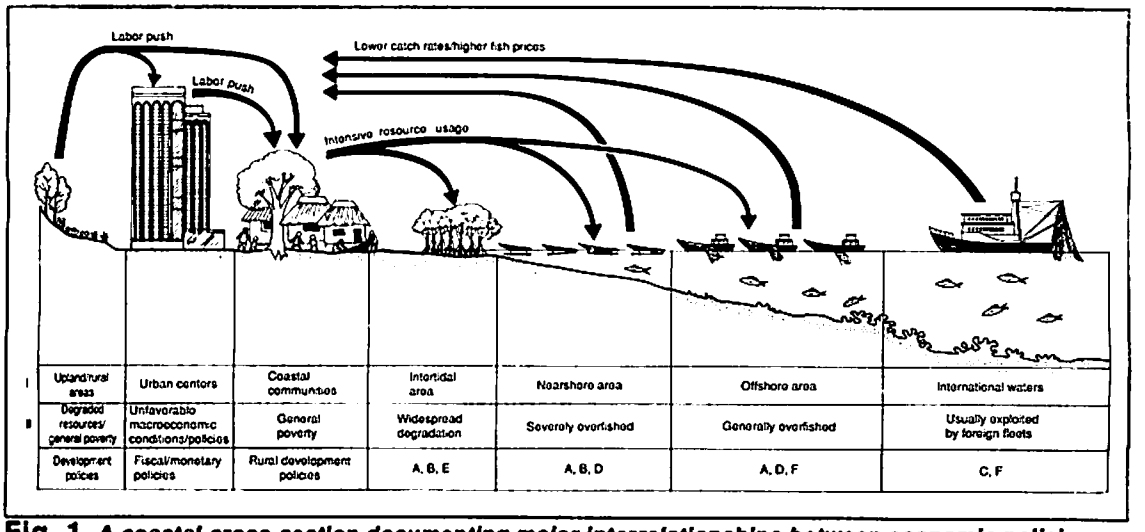

Fig. 1. ***A coastal cross-section documenting major interrelationships between economic policies and the utilization of coastal resources in the Philippines. (I-Defines segment; II-Current situation in specified segment; III-Key policy (Refer to Table 1))***

Economic policy reform may be insufficient for sustainable development of coastal resources. Poverty, which is most endemic to fishing communities and which pushes marginalized labor into the fishery, further increases the burden on coastal resources. This phenomenon, termed "Malthusian overfishing," (Pauly et al. 1989) should be addressed. Poverty alleviation measures, in the case of

the fisheries sector, may include investments in human capital (through skills diversification) and improvements in macroeconomic conditions. Nonetheless, poverty alleviation may not significantly improve the situation in coastal communities as long as coastal resources are open-access. From an economic perspective, open-access exploitation regardless of any resource enhancement or management gives the same result — the dissipation of resource rents. The short-run benefit from resource management and enhancement comes from slowing down the rate of rent dissipation although such may be insignificant if high population growth rates and worsening poverty push excess labor to the fishery. Thus, entry restriction should be instituted.

Community resource management may be an effective medium for transforming coastal resource exploitation away from open-access. The new Local Government Code is an important step towards this end. Community-based management schemes might effectively reduce the costs of exclusion and the enforcement of rules to achieve rational use of coastal resources. Resource pricing is another mechanism for imposing upon users the true value of resources which is not reflected under open-access exploitation. External cost could then be internalized within the decision process of resource users. While such moves are always unpopular, these may be made acceptable through a carefully designed implementation procedure.

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*ICLARM Contribution No. 882.

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Harris, Craig (Department of Sociology, 316 Berkey Hall, Michigan State University, East Lansing, MI 48824-1111, USA) is working on the social dimensions of the