

GOVERNMENT POLICIES ON AQUACULTURE

Jesus D. Valerio
Ministry of Natural Resources

INTRODUCTION

For the coming years, existing policies on aquaculture need not be drastically altered. Such move would be an affront to the wisdom and maturity of the political leadership that conceived them. As it is, the wellspring of this wisdom is impeccable: the basic longings of the Filipino people as expressed in our constitution and legal codes, as well as that which all mankind accept as fundamental tenets of equity.

However, altruistic policies are arrows that should end up precisely at their target. A policy passes through a series of transmutations: it must be interpreted by bureaucrats, refined by technocrats, and implemented by an organization or institution.

Thus, national policies are first translated into specific laws which in turn the Ministry of Natural Resources transforms into rules and regulations and then into operating procedures by the Bureau of Fisheries and Aquatic Resources, the Fishery Industry Development Council and the Philippine Fishery Development Authority. This circuitous path may lead to results not totally in agreement with the original intention of the policy.

To avert what may go wrong, an evaluation of the institution and men who allocate resources to carry out a policy is in order. By identifying their strengths and weaknesses, we may arrive at the right course towards the fulfillment of policy goals.

First, it is essential to assess the capability of an institution for policy study, formulation, and implementation so that we may understand better why policies succeed or fail. While policy formulation is a built-in item in the activities of all government ministries, it is often underplayed due to lack of funds and competent personnel. As a result, those given the titular job of policy planners must content themselves with inadequate, or at worst, hearsay data and information, in order to form semblances of policy studies.

A case in point is the dearth of production data on tiger prawn and other species. National statistics on brackishwater production does not qualify volume by species, making it difficult to ascertain actual performance of this commodity on a macro-level. Similarly, information on fry production both from the wild and hatcheries, as well as the number and distribution of production areas in the country is incomplete.

Hence, for policy studies to be based on rigid, qualitative analysis, and therefore be reliable, government must invest capital to get the right kind of data with the right precision and at the right time. It could entail great expenses in the case of studies on aquaculture.

To be sure, the MNR, would like to aspire for the acquisition of the logistics for real, authentic policy studies. This may be construed as an admission that the Ministry would like, but cannot at the moment, generate models as sophisticated as those turned out by institutions in affluent countries.

ECOSYSTEM MANAGEMENT

The Ministry believes that a more prudent approach is ecosystem management which seeks a balance between immediate gains and long-range benefits in the exploitation of our natural resources. A key MNR policy is the promotion of ecological stability through conservation. But conservation should not be interpreted as keeping and preserving things from using them. Rather, conservation is viewed by the Ministry as "an investment process in which some things are preserved for future consumption - neither good nor bad in itself, but must be evaluated by the resulting shift in the time streams of benefits and costs."

This approach opposes the proposition that maximum production is the only criterion of economic growth. Neither does it undervalue the role of technology but equates the soundness and viability of a technology with the effectiveness with which it can satisfy human needs. Lives Mumford gave a famous definition for this. A viable technology, he said, is one "which provides the right quality at the right time in the right place and in the right order for the right purpose."

Thus, a vital fishery development project which benefits countless number of people should not be abandoned just because it intrudes into the habitat of some rare fish species. Nor should absolute zero effluence be required of industrial plants, knowing that the waterways near them can safely tolerate certain levels of pollution.

As it is, the ecosystem management approach is already operative in the program thrusts of the Ministry. These thrusts subscribe to the following considerations:

First, that deliberate care should accompany the imposition of human technologies in natural systems. It does not de-emphasize the role of technology as a precursor of economic growth; but it equates the soundness and viability of a technology with the effectiveness with which it can satisfy human needs.

Second, human intervention in nature's processes cannot be avoided, but the risks from such intervention can be minimized. This consideration sustains the Ministry's contention that proper management of our natural resources depends on intelligent decisions formulated through conscientious choice of alternatives.

The social costs in the exploitation of our fishery resources are often neglected by policy makers. These costs are most inequitable when passed on to and paid for by the poor.

In the same vein, one predilection is to base policy solely on economic feasibility in total disregard of ecological impacts which could have serious consequences on the long-term sustainability of the resource. An example of this was the old practice of converting mangrove swamps into commercial fishponds.

The apparent rationale of the policy that allowed it was the acceleration of food production through aquaculture. As a result, during the last ten years or so, our virgin mangrove swamps have been drastically reduced from 400,000 hectares to about only 150,000 hectares today. This was mainly due to the conversion of mangrove areas into fishponds, and in some cases, saltbeds and housing subdivisions.

The mangrove area is breeding ground for many species of fish including shrimps and prawns. Thus, the conversion of mangrove swamps into fishponds could increase fish production in the short-term but could trigger the collapse of nearshore fisheries and cause the decline of the overall fish harvest. The MNR, it must be said, takes cognizance of the mangrove dilemma. Through P.D. 950, the Ministry requires every fishpond lessee to replant or reforest at least a 20-meter strip from the edge of a river bank.

The President, through a directive, pushed for the acceleration of aquaculture development by converting a large percentage of existing fishponds into prawn ponds. Similarly another Presidential Directive issued in 1983 is the establishment of more prawn hatcheries to meet local fry requirements. The directive set a target of P1 B for the next five years.

From this directive the Ministry of Natural Resources initiated the formulation of the Aquaculture Industry Development Program which will chart the general policy directions, targets and strategies for the industry.

However, it has come to our attention that prawn hatcheries are operating at only 50% capacity. Hence, the Integrated Fisheries Development Plan which is now being reviewed aims to promote the operationalization of existing hatcheries to full capacity.

To conserve local stock of spawners which are vital to hatchery operations the government has issued Fisheries Administrative Order (FAO) 143 which calls for the total ban on the export of all live stages of tiger prawn. However, reports of its violation continue to be received by the MNR. It should be noted that other prawn species, particularly at the fry stage, very closely resemble *P. monodon*, providing a venue for exporters to continue illegal trading operations by passing off *P. monodon* as other prawn species not covered by the ban. Prawn species such as *P. indicus* and *P. merguensis* which are gaining wide popularity as alternate culture species have to be protected to avert a possible scarcity.

The policy on the protection and conservation of our shrimps and prawns can be made more viable if additional safeguards are incorporated into the implementation mechanism. However, this would include the provision of more personnel and funds for the enforcement of the ban.

It is also the policy of the Ministry of Natural Resources to improve the country's foreign exchange position through export expansion. As an instrument of this policy, FAO 117 was promulgated. It stipulates the rules and regulations governing the operation of processing plants for fish and fishery and aquatic products, and prescribing as well as requiring standards, quality control and inspection of pro-

cessed fish and fishery and aquatic products. Similarly, rules and regulations governing the issuance of permits for the exportation of fish and fishery and aquatic products has been issued through FAO No. 147.

Fishery statistics reveal that Japan ranks as the major importer of Philippine shrimps and prawns accounting for over 95 per cent of our total export volume. Far behind is the United States (1.8%), Guam and Singapore (4%). This shows that while Japan provides a ready outlet for local prawns, the trade situation has virtually become a "buyers market" with Japan controlling pricing decisions. Hence, the AIDP is considering promoting the industry in Western Europe and the USA.

In order to promote integrated, socially-oriented prawn development programs, Executive Order 609 reduces the tariff duty on imported prawn feeds from 50% to 5%, the lowest *ad valorem* rates imposed on essential consumer items and inputs. Likewise, P.D. 1159, or the Agricultural Investment Incentives Act as amended by P.D. 1789, authorizes additional incentives for agricultural and fisheries activities.

Here then are some policy statements and instruments that may guide the shrimp and prawn industry. Some good spin-offs will likely result from them, but again, it must be emphasized that a policy is only as good as its implementation.

CREDIT AND FINANCING

Loan Exposure

Among the major credit institutions that have been actively providing credit to aquaculture projects are the Development Bank of the Philippines (DBP) through its regular lending program and the World Bank-financed IBRD Credit Lines, the Central Bank (CB) and the Philippine National Bank (PNB). Aside from their regular lending programs, DBP, CB and PNB are involved in the Biyayang Dagat Supervised Credit Program. Since the late 1940s, DBP has been extending aquaculture credit supporting such projects as salt and fingerling production, mussel and seaweed culture, as well as fishpond development, improvement and operation. To date, P80.5 million has been granted to aquaculture projects under its regular program. Under the DBP-IBRD Credit Lines, an aggregate amount of P173.9 million was released to inland fisheries under the first two Credit Lines. The present Third Credit Line has, thus far released P159 million to the sector.

The Central Bank, on the other hand, has released a total of P183 million financing fishpond and fishpen projects under its four IBRD Credit Lines. It has also channelled around P47 million to fishpond projects under its supervised credit program. The CB is likewise involved in the Biyayang Dagat Program for which it has released P12 million to finance fishponds and other aquaculture activities.

The Philippine National Bank also finances aquaculture projects under its regular lending program where it has invested P92 million and the Biyayang Dagat through which P95,000 has so far been channelled to fund fishpond projects. The Land Bank, on one hand, has granted a total of P11.7

million to fishpond projects and oyster farming. The Aquaculture Credit Administration (ACA) was involved in aquaculture credit until 1975 when the program was suspended. A total of F3.3 million was released for municipal and inland fisheries.

A recent development in aquaculture credit is the active participation of foreign funding institutions such as the Asian Development Bank (ADB) and the International Finance Corporation (IFC). ADB specifically, is providing \$40 million to raise brackishwater fishpond production in selected regions of the country. This will entail provision of credit to operators for pond renovation/rehabilitation and operating expenditures to associations and private sector entities for construction of refrigerated fish carrier vessels. Establishment of fingerling banks and hatcheries are likewise covered by the loan. The project, which will be implemented over a six-year period has been set to be operationalized by this year, 1984. The IFC or the International Finance Corporation, a financing arm of the World Bank, is currently evaluating potential investment areas in Philippine aquaculture. Identified areas of major interest are prawn culture in fishponds and prawn hatcheries.

In terms of loan exposure by type of aquaculture project, fishpond construction and development received the highest share of financing. For DBP, this sub-sector accounted for 92% of total amount released compared to only 5% and 2% for bangus fingerling production and salt making. This situation is similarly reflected in the loan records of other credit channels where the fishpond sub-sector acquired the largest funding share.

There are no long-term lending programs specific to prawn farming. DBP solely finances the development/construction of project area regardless of the type of operation or the culture activity to be undertaken.

The Biyayang Dagat, until 1982, provided short-term financing for aquaculture projects specifically fishponds, fish cages, mussel and oyster farming. This was, however, temporarily suspended when the Program realigned its priorities and concentrated its credit assistance on small-scale capture fisheries. In contrast to other lending programs, Biyayang Dagat only provides production loans, i.e., for the purchase of fry, fertilizers, feeds, etc. Loan ceilings of P5,750 per hectare and P6,250.00 per hectare for bangus monoculture and bangus-sugpo polyculture respectively, were set by the program. Coverage of the loan, however, was for fishfarms not more than 10 hectares in size. A total of F9.7 million was released for fishpond projects benefiting some 577 borrowers throughout the country. On-going aquaculture projects are cage farming which has provided over P2 million to 512 borrowers throughout the country. On-going aquaculture projects are cage farming which has provided over F2 million to 512 borrowers, and oyster and mussel farming which have financed a total of 28 projects amounting to roughly P161,680.00.

A similar lending scheme that aims to upgrade the economic status of small fishermen and fishfarmers in the Kilusang Kabuhayan at Kaunlaran (KKK), a nationwide rural development program that provides financing to cottage and agricultural based industries. Covered under the Aquamarine component are fish culture, sea farming and fish capture. Fish culture in-

cludes the cultivation of *Tilapia* in floating fish cages in underutilized rivers, lakes, reservoirs, bays, or coves, and the polyculture of bangus, prawns and other species in brackishwater ponds along mangrove areas. Seafarming activities that could be financed are oyster and mussel culture as well as seaweed farming.

As of March 1983, *Tilapia* cage/communal hatcheries accounted for the biggest share (36%) in KKK credit for aquaculture. This is followed by mussel/oyster culture (28%), fishponds (23%) and fishpens (4%), respectively. Cognizant of the importance of seed production to sectoral expansion, KKK is actively involved in financing prawn and *Tilapia* hatcheries as well as milkfish nurseries. There is, likewise, a diversity of aquaculture activities, e.g., *Caulerpa*, carp, snail culture, being funded by KKK, consequently encouraging a more active participation of local entrepreneurs.

Incentives and Subsidies for the Prawn Industry

Agricultural and fisheries activities are two particular fields which the government backs up with the extension of additional incentives. The rationale behind this is their greater susceptibility to investment risks than any other business venture, such as the threats of weather and other environmental hazards.

Under PD 1159 otherwise known as the Agricultural Investments Incentives Act, the proposed fishery activities include:

- (1) Fish and Marine Products - covers all legitimate methods of catching fish in marine waters including processing of fish or marine products, provided it is integrated with fish-capture operations.
- (2) Aquaculture - refers to culturing of all culturable aquatic species in freshwater, brackishwater or marine waters.

Registration under PD 1159 offers more incentives and benefits to fisheries and agricultural enterprises than that under Investment Incentives Act of the Export Incentives Act. These incentives include: Accelerated depreciation of breeding stock; Additional production from taxable income of 25% of research and development expenses and 25% management training expenses of Philippine nationals, provided deduction shall not exceed 10% of taxable income within 7 years from date of registrations; Tax exemption on breeding stocks, fish plants and genetic materials imported within 7 years from date of registration; additional deduction from taxable income of 30% of freight and transportation expenses within 7 years from date of registration of enterprises established in a preferred geographical area for fishery/agricultural development where transport facilities are deficient and such freight and transportation expenses are incurred in the course of transporting registered products from the enterprises' project area to the nearest economic marketing center as determined by BOI.

The following are qualified to register under PD 1159:

- (a) Individuals, partnerships and domestic corporations whose out-

standing voting capital stock is 60% owned by Philippine nationals, cooperatives, and other entities organized and existing under Philippine laws.

- (b) Existing BOI-registered enterprises, NACIDA-registered firms, and cooperatives registered under PD 175, the last two being subject to BOI approval.
- (c) All domestic corporations and partnerships required under General Order No. 47 to undertake corporate farming.
- (d) Registered fishery and agricultural enterprises, individuals and non-fishery and non-agricultural enterprises are qualified to invest in other registered fishery/agricultural enterprises exempting them from the 15% of capital-investment limitation prescribed under the Corporation Law when such investments are made in other registered fishery/agricultural enterprises.

Additionally, the tariff duty imposed on imported prawn feeds was reduced from 50% to 5% per Executive Order No. 609 issued on August 30, 1980. The 5% duty is considered the lowest *ad valorem* rates imposed on essential consumer items and inputs. Although several local companies have ventured into the formulation and marketing of feed preparation (e.g. Vitarich Corporation, Robina Farms, SMC), feeds imported from Taiwan, Hongkong and the United States are still being utilized by local farmers who claim that these are more efficient and in the long run, more economical. The reduced duty also covers the importation of brine shrimp eggs (*Artemia salina*), a live feed integral to prawn hatchery operations.

Aquaculture equipment used for chemical and physical analysis, are charged 10% *ad valorem* rate of duty, the lowest imposed on finished equipment or machinery. Covered by the Tariff and Customs Code of 1978, these instruments such as refractometer, spectrometer, etc. are regularly imported from Japan and the United States.

The lifting of the 4% export duty on exported shrimps and prawns as implemented by Customs Tariff Circular No. 21-79 can be considered a significant assistance to the industry. This move is expected to make the prices of Philippine shrimp more competitive in the international market.

DBP LOAN RELEASES BY TYPE OF PROJECTS, 1983

Fisheries Credit I		P119,736,400
Marine	49,656,700	
Inland	70,079,700	
Fisheries Credit II		176,223,400
Marine	62,395,700	
Inland	113,827,700	
Third Livestock Fisheries		181,306,200
Fishponds	159,298,600	
Deep-Sea	18,857,800	
Salt Bed	760,700	
Ice Plant	1,529,100	
Lambaklad	360,000	
Shipway	500,000	
<u>DBP Regular Financing Program</u> ^{1/}		310,419,031
Fishpond/salt bed	71,630,943.04	
Foreshore	184,703,494.03	
Seaweeds (Eucheuma culture)	45,183,389.47	
Other marine (mussel/oyster)	8,807,459.09	
Supervised Credit Program		2,760,200
Biyayang Dagat Program		
Medium term (Fish capture)	2,760,200.00	
	TOTAL	P790,445.231

^{1/}1980 data

**LOAN EXPOSURES OF PNB, LB AND ACA * BY
TYPE OF FISHERY PROJECTS**

PNB			
	Fishponds	P	92,277,000.00
	Deep sea fishing		85,266,000.00
	Pearl fishing, etc.		11,622,000.00
	Supervised credit program		
	Biyayang Dagat		6,783,749.00
	Medium-term (fish capture)	6,688,749.00	
	Short-term (fishpond)	95,000.00	
		TOTAL	<u>195,948,749.00</u>
LB			
	Fishponds		11,615,118.70
	Oyster farming		<u>60,532.00</u>
		TOTAL	<u>11,675,650.70</u>
ACA			
	Municipal/inland		<u>3,305,404.41</u>
		TOTAL	<u>P 3,305,404.41</u>

*PNB — Philippine National Bank
 LB — Land Bank
 ACA — Agricultural Credit Administration

**CENTRAL BANK LOAN RELEASES FOR FISHERIES
BY TYPE OF PROJECT
June 1981**

	Marine (Deep-Sea)	Aquaculture (Fishpond/Fishpens)	Total (P)
CB-IBRD CREDIT LINES			
CB-IBRD I ^{1/}	—	—	—
CB-IBRD II	1,844,478.78	7,287,416.05	9,131,894.83
CB-IBRD III	4,163,000.00	13,281,000.00	17,444,000.00
CB-IBRD IV	15,848,000.00	162,757,000.00	178,605,000.00
			<hr/> 205,180,894.83
SUPERVISED CREDIT PROGRAM			
CB-DRBSLA Under the IAF-PVTA (Fishpond)			12,413,689.00
CB-DRBSLA Under the IAF-NEDA (Fishpond)			31,325,710.00
CB-DRBSLA-SFSCF Fund-NFAC (Fishpond)			2,919,813.00
SFSCF DAP-FIRM (Fishing boat)			650,000.00
Biyayang Dagat Program			90,357,108.00
Medium-term (fish capture)	78,217,232.00		
Short-term (fishponds)	10,459,016.00		
Other (Aquaculture Activities)	1,680,860.00		
			<hr/> 137,666,320.50
		TOTAL	<hr/> 342,847,215.33

^{1/} A total of P1.3 million was released under this credit line for poultry, livestock and fish culture.

**KKK LOAN RELEASES BY TYPE OF FISHERY PROJECT,
March 1983**

I. AQUACULTURE		
Sugpo/Tilapia culture		40,000.00
Tilapia cage/fish cage/communal hatcheries		9,287,538.15
Fishpen (bangus)		981,094.60
Snail culture		100,000.00
Carp/tilapia culture		533,761.00
Mussel/oyster culture		7,154,812.00
Fishponds		5,903,861.08
Bangus fingerling production		18,000.00
Communal backyard fishpond		726,966.00
Seaweed culture		529,886.00
Lato (Caulerpa) culture		146,808.00
Shrimp culture		32,097.50
Prawn hatchery		100,000.00
	TOTAL	P25,554,824.33
 II. CAPTURE		
Fishing gear		90,628,462.35
Seashell diving		79,000.00
Sea cucumber gathering		35,000.00
Bangus fry gathering		876,841.00
Net construction		10,000.00
Crab fry gathering		241,897.08
Boat making		798,430.00
	TOTAL	P92,669,630.43
 III. PROCESSING/MARKETING (141,153,505.85)		
Fish processing		16,778,548.09
Bagoong making		774,818.00
Salt making		245,707.00
Ice plant/cold storage		905,950.00
Marketing		4,224,028.00
	TOTAL	P22,929,051.09

Additional Incentives to Agricultural Producers under PD No. 1789

All registered enterprises engaged in agricultural production and related services, whether pioneer or non-pioneer shall be granted the following incentives in addition to those provided for registered enterprises.

<i>Incentive</i>	<i>Terms and Conditions of Availment</i>
1) Tax duty exemption on breeding stocks and genetic materials	<ul style="list-style-type: none">• Within seven years from date of registration.
2) Deduction of research and development programs and management training expenses	<ul style="list-style-type: none">• Should not exceed 25% of the research and development expenses and 25% of the management training expenses of Philippine nationals.• Deduction on both programs should not exceed 10% of taxable income.• Within a period of seven years from date of registration of the enterprise.
3) Deduction of freight and transportation expenses	<ul style="list-style-type: none">• Should not exceed 30% of freight and transportation expenses.• Within a period of five years from date of registration of commercial operation.• Projects must be located in a preferred area for agricultural development and where transport facilities are deficient.