



Agriculture and Fisheries Modernization Act and the Fisheries Code of 1998: Key areas of conflict and recommended courses of action

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SUMMARY of ISSUES and COURSES OF ACTION

Republic Act No. 8435, otherwise known as the Agriculture and Fisheries Modernization Act (AFMA) became effective as law on February 9, 1998, shortly ahead of Republic Act No. 8550, the Fisheries Code of 1998 (FC), which became effective on March 23, 1998. Though related in that both deal with the fisheries sector, these legislative initiatives proceeded largely independently of each other. The AFMA was more concerned with providing the appropriate budgetary and logistical requirements for the modernization of the country's entire agricultural base and encouraging a more rapid shift towards industrialization, while the FC was the product of a long-drawn lobby effort by concerned fisheries groups. Both laws were enacted at the end of term of the Ramos Administration, which had committed itself to several major legislative initiatives as part of its socio-economic and political program and are only now beginning to see implementation.

The Coastal Resource Management Project (CRMP) engaged the services of Atty. Jay L. Batongbacal to prepare this policy study, in response to the many informal inquiries made by local government units (LGU) within CRMP learning areas regarding the implications of both legislations on coastal management. CRMP is a 7-year technical assistance project of the Department of Environment and Natural Resources (DENR), funded by the United States Agency for International Development (USAID). This policy study presents the contextual premise by which the two laws operate and subsequently identifies possible areas of conflict arising from the subtle differences between the two. The intent of this study to highlight these areas of contradictions so that the concerned national government agencies can give appropriate attention to reviewing and revising the administrative rules and regulations that operationalize the laws.

Key areas of conflict and the corresponding courses of action are summarized below.

A. The Divergence of Principles

Key Issue

The AFMA essentially places priority on sustained increase in production, industrialization, and full employment. The FC, on the other hand, prioritizes management, conservation and protection of fishery and aquatic resources, optimal utilization of existing resources, and maintenance of ecological balance and the quality of the environment. Although both laws coincide in some general objectives such as achieving poverty alleviation, social equity, food security, rational use of resources, people empowerment, and sustainable development, the AFMA's distinct character is borne of its additional goal of seeking global competitiveness. These differences create a subtle tension between the two laws, which can have far-reaching impacts.

Recommended Intervention

To prevent this fundamental difference from resulting in disaster for the more vulnerable fisheries and aquatic resources, it necessary for the Department of Agriculture (DA) to

issue additional guidelines clarifying this potential conflict, and reiterate the policy thrusts of the FC for conservation, management, and protection of limited and stressed resources. The DA must recognize that the fisheries sector must be treated separately, or under a different framework, from the rest of agriculture instead of lumping fisheries with agriculture. The fisheries sector must be regarded with a different perspective that de-emphasizes the maximization of production, and orients the AFMA implementation towards conservation and protection.

B. Operational Complications

In addition to the divergent principles by which the AFMA and FC are separately founded, there are also clear operational conflicts that may arise from implementing the two laws, particularly when coastal resource management (CRM) is taken into context. These complications are anticipated to have an adverse impact in the overall, if not long-term sustainable management of coastal resources.

(i) Complicated Zones

Key Issue

The AFMA has created a new but very complicated system of zone-based management of agricultural and fisheries development that has serious implications on local CRM. The Strategic Agricultural and Fisheries Development Zones (SAFDZ) are special areas set aside for agricultural and agro-industrial development, where government resources and development efforts are to be concentrated to encourage the creation of geographically-distributed sites of agro-industrial development; the apparent hope being that the existence of the SAFDZ will result in benefits spilling over to adjacent areas. SAFDZs are to have their own integrated development plans consisting of production, processing, investment, marketing, human resources, and environmental protection components. However, the SAFDZ represents enormous potentials for clashes with the framework of decentralized and localized fisheries management not only under the FC, but also under the Local Government Code (LGC).

Recommended Intervention

If the AFMA is to be legally challenged in the future, one of the most likely issues from which this challenge will arise is the matter of LGU jurisdiction over municipal waters within a SAFDZ. A local CRM approach or project may actually be the catalyst for this issue. In anticipation of this probable conflict, the DA should therefore endeavor to include within the national Agriculture and Fisheries Modernization Plan (AFMP), provisions that will allow for the establishment of a national CRM strategy, perhaps in conjunction with DENR and BFAR. This exercise will provide the means by which local initiatives in CRM may be integrated into the formulation of the AFMP, identification of SAFDZ, and the implementation of the AFMA at an early stage.

(ii) Industrialization and Protecting the Environment

Key issue

The AFMA clearly makes industrialization as the main objective of modernization of the agricultural and fisheries sectors. The modernization of the fisheries sector would however, entail increases in the utilization of limited coastal space and more efficient extraction methods, and is therefore more likely to increase the rate of destruction of vital habitats and the exploitation of resources beyond sustainable levels. These objectives run counter to the stated objectives of the FC.

Recommended Intervention

The potential conflict arises from implementation of the SAFDZ system and principles which guide it. Remedial action will have to be in the following forms:

- The implementation of the SAFDZ system should not proceed without ensuring that a resource accounting system is tested and found to be a reliable gauge of the tradeoffs between industrialization and conservation. Research and development should place utmost priority on the establishment of such an accounting system.
- The LGUs should be given a much greater role in the identification and delineation of SAFDZs than the national or regional administrative agencies since LGUs are in a much better position to exercise reliable judgment if choices are to be made between rapid industrialization and precautionary conservation.
- The DA should flesh out precisely how it intends to incorporate the principles of environmental sustainability in the AFMP. It should be noted that even in the AFMA Implementing Rules and Regulation (IRR), there are still no guiding principles that will enlighten planners and decision-makers with respect to how they are to regard the environment in the context of the industrialization that the AFMA promotes. Perhaps this guidance can be found in Agenda 21, or any number of international documents on food security, fisheries, and environment. The DA must now turn to enacting provisions on how these are to be tempered by rules of similar legal stature that will allow the realization of its stated dedication to environmental sustainability.

(iii) Conflicts in Land Use Planning and Zoning

Key Issue

All cities and municipalities are required to prepare land use and zoning plans incorporating the SAFDZs. The incorporation of SAFDZs, however, may run counter to any existing land use and zoning plans that may have already been enacted by the cities or municipalities

pursuant to their general powers under the LGC. This may entail changes in the land use and zoning plans of the LGUs on the basis of national pressure on account of the creation of the SAFDZs, rather than local pressures arising from actual local needs.

Recommended Intervention

Since SAFDZs can include fishery areas, it is only logical to expect that the cities and municipalities should also prepare coastal water use and zoning plans. Otherwise, gaps within the SAFDZs are created if the LGU does not specify the classification or use of geographical areas; at the very least, there may be inconsistencies between the classification and use of areas of coastal land and the actual use of the adjacent coastal waters.

C. Planning Mechanisms

Key Issue

The DA is mandated to formulate and implement a medium and long-term comprehensive Agriculture and Fisheries Modernization Plan (AFMP). The national AFMP is to be an aggregation of local, regional, and subsectoral AFMPs, which are to incorporate integrated SAFDZ plans that consider in particular multi-area projects and programs that cross administrative and political boundaries. The initial difficulty that can be foreseen here is that plans that “cross” administrative and political boundaries require coordination and synchronization of various stages of local and national government planning, which may become impossible to manage on account of many possible differences in objectives, jurisdiction, powers, and perceptions.

With so many different LGUs, distinct powers, national agencies, special bodies, jurisdictions, and a multitude of laws and policies, it will be very difficult to conduct an efficient, effective, and consensus-based planning process. This makes traditional top-down planning and decision-making a preferable alternative; this in turn contravenes the principles of decentralization and local autonomy so essential to coastal resource management.

Recommended Intervention

It is imperative that the work of the various planning bodies that derive their mandates from separate laws such as the LGC and the FC, be harmonized. The DA is currently in the best position to initiate this harmonization because it is the agency that provides the impetus for the additional planning entailed by the implementation of the AFMA. Rather than create new overlapping and confusing mechanisms, it would be more prudent for the DA to make use of existing planning mechanisms.

D. Realigning Watershed Management

Key Issue

The AFMA advocates a policy of preventing further destruction of watersheds, rehabilitation of existing irrigation systems, and development of better irrigation systems. It requires the preservation of areas identified as watersheds, which are sources of water used for irrigation and consumption. In so doing, the DA is given the lead role in the preparation and implementation of programs and projects for protection, conservation, and rehabilitation of such watersheds, in collaboration with the DENR, and concerned LGUs, State Universities and Colleges (SUC), People's Organization (PO) and Non-Government Organization (NGO). To this end, the DA emphasizes strategies for erosion control, sediment transport, reservoir sedimentation, water yield enhancement, and development of cost-effective and socially acceptable watershed rehabilitation measures.

However, there appears to be no limitations as to the character, location, and extent of these watersheds. Though certain watersheds may be located deep within the large islands, in many cases the watersheds straddle the coastal areas, especially since the country is made up of islands. It is possible that these watersheds may be located along large coastal areas. The DA's watershed protection strategy may therefore impact upon existing CRM strategies where they happen to overlap.

Recommended Intervention

Watershed protection by the DA needs to be coordinated with CRM planning. Initially, this will require a review of current watershed protection programs and strategies, together with future plans; it will then be necessary to identify where these programs or plans may converge with CRM proposals and programs. In the case of coastal watersheds, it may be possible to make these two programs complement each other, especially in cases where the maintenance of the coastal environment requires management of the adjacent watershed.

E. Choosing Infrastructure

Key Issue

Infrastructure usually either introduces changes in environmental conditions, by physically altering some aspect of the locality, or becomes the focal point of changes by drawing intensified human activity. An example falling under the first instance is reclamation, which alters the coastline and can be the source of various environmental impacts; in the second instance, the construction of a port within a formerly pristine bay is likely to begin the environmental deterioration of the bay. Infrastructures may have either immediate or cumulative effects on the environment in which they are located, and in most cases, it is only the immediate locality that feels the impact.

Recommended Intervention

It is important that infrastructure development be guided by local inputs and not completely left to national planners, who tend to focus only on the national impacts in disregard of local effects. Infrastructure development should be based more prominently on local inputs, in the same way as the planning and decision-making for industrialization

purposes. Since the LGC mandates LGUs to provide infrastructure as among their basic services, it would be proper to allow LGUs to guide the DA in identifying, selecting, and undertaking the appropriate and relevant infrastructure projects.

Where infrastructure affects coastal resources, it becomes even more important for the DA to pay closer attention to both the community's current needs and the requirements of maintaining their fragile coastal environments. Guidelines may be needed to ensure that infrastructure planning gives greater weight to the different needs and characteristics of the coastal environment. In this regard, the FC has required certain minimum standards for fisheries-related infrastructure; these should be adopted as part of the implementation of the AFMA.

F. Human Resource Development

Key Issue

The AFMA reiterates the declaration of policy for the State to promote industrialization and full employment, based on sound agriculture and fisheries development and agrarian reform, through industries that make full and efficient use of human and natural resources. With respect to human resources, the Commission on Higher Education (CHED) has been tasked with the establishment of a National Agriculture and Fisheries Education System (NAFES), while the Department of Education, Culture and Sports (DECS) is to establish an Agriculture and Fisheries Education Program (AFEP) especially designed for elementary and secondary levels. For vocational schools, a Post-Secondary Education Program is to be developed by Technical Education and Skills Development Authority (TESDA). The CHED and DA are to formulate an integrated human resource development plan in agriculture and fisheries, which shall serve as an instrument that will provide the over-all direction in setting priorities in curricular programs, enrolment, performance targets, and investment programs. But under the FC, the DA is to coordinate with the CHED, DECS, and TESDA to upgrade state fisheries schools and colleges that provide both formal and non-formal education. These include the formulation of standards to upgrade all schools so that those that do not meet standards shall be closed. However, the FC is more liberal in that it does not necessarily require affiliation with a national center of excellence for an institution to engage in the teaching of agriculture and fisheries courses. Such affiliation is, in effect, the minimum standard for operation of agriculture and fisheries educational institutions.

Recommended Intervention

With the responsibilities allotted by the AFMA, it would be possible to incorporate education for coastal resource management in the standard agriculture and fisheries curricula. The DA can initiate the development of formal and non-formal courses in coastal resource management, which has the potential of combining the best of two worlds, namely land management for agriculture, and management of inland and coastal fisheries. Both fields are, after all, sorely needed in the context of the archipelagic nature of the country. Courses in CRM may even become standardized core courses for agriculture and fisheries education.

G. Rationalizing Research and Development

Key Issue

In line with the stated policy of promoting science and technology in agriculture and fisheries, the DA is to collaborate with the Department of Science and Technology (DOST) in enhancing, supporting, and consolidating the existing National Research and Development System in Agriculture and Fisheries (NRDSAF). "Consolidation" has been defined by the AFMA as the unification in strategy, approach, and vision of the agriculture and fishery components of the ongoing National Agriculture Research and Extension Agenda (NAREA). But then again, the AFMA states that fisheries research and development is to be pursued separately from, though in close coordination with, that of agriculture. The fishery research subsystem is composed of the National Aquatic Resources Research and Development System (NARRDS) including the Philippine Council for Aquatic and Marine Research and Development (PCAMRD), selected units of the Department of Agriculture Research and Development System (DARDS), selected SUCs, the DENR, the private sector, and specialized agencies.

However, with respect to fisheries, there is a slight inconsistency between the AFMA and the creation under the FC of a National Fisheries Research and Development Institute (NFRDI). The NFRDI is the primary research arm of the Bureau of Fisheries and Aquatic Resources (BFAR), tasked with conducting fisheries research in development, management, conservation, and protection of fisheries and aquatic resources. With the AFMA and FC, there are at least four different bodies which may be involved in research, development, and extension in fisheries and aquatic resources, namely, the NARRDS and Council and Extension, Research and Development in Agriculture and Fisheries (CERDAF), and the NFRDI and BFAR. Each has an independent mandate to set policies and implement them with respect to the fisheries sector. There is therefore the possibility the CERDAF / NARRDS and the BFAR / NFRDI priorities and agendas for research, development, and extension may not coincide. Oddly enough, the BFAR is not even specifically mentioned as among the agencies forming part of the NARRDS; had it been so, there might be a basis for assuming that as part of the NARRDS the NFRDI, acting for BFAR, will be able to undertake its activities as part of the former.

Recommended Intervention

The ambiguity in this situation needs to be clarified. A decision must be made as to what role the NFRDI is to play in the implementation of the National Research and Development System in Agriculture and Fisheries (NRDSAF). If fisheries research is to be undertaken separately from agriculture, then it would probably be better for the BFAR / NFRDI to attain a kind of "autonomous" status from the CERDAF / NARRDS framework. This would be in line with the specialized characteristics of the fisheries sector that cannot be treated as mere incidental to agriculture, which is chiefly land-based. Resolution of this issue of having a lead institution is an important one, because all CRM efforts require some degree of research, development, and extension activities before, during, and throughout the CRM undertaking.

H. Reconsidering Extension Services

Key Issue

The AFMA makes it the State's policy to support the development of a national extension system that will help accelerate the transformation of Philippine agriculture and fisheries from a resource-based to a technology-based industry. The LGUs are responsible for

delivering direct agriculture and fisheries extension services to farmers, fisherfolk, and agribusiness entrepreneurs.

The DA provides extension services mainly through the Agricultural Training Institute (ATI) Training Centers. Under the FC, the DA is to develop cost-effective, practical, and efficient extension services on a sustained basis, in addition to those provided by state educational institutions, especially to municipal fisherfolk in undeveloped areas, called the National Fisheries Extension Program.

Recommended Intervention

These extension services are a possible future tool for ensuring the replication and continuity of CRM efforts in the long term. Since under the AFMA the existing training institutions of the DA are being tapped to develop training programs, it would be a worthwhile idea to formally include within the offerings of these training centers the essential skills and capacity-building activities needed for the conduct of CRM.

I. Finding Basic Needs

Key Issue

While LGUs have indeed been given authorization to engage in investment and marketing missions, a rapid shift towards industrialization may not be what they need. In fact, in many ongoing CRM initiatives, moves toward industrialization become focal points for concern because of the environmental costs that they usually entail. Since the AFMA requires LGUs to now identify industrial sites, CRM planning must now always contend with the additional problem of industrial siting.

In the case of CRM, the more basic question that needs to be answered is whether the idea of industrialization itself is appropriate for the community. Is it acceptable for basic needs to be satisfied only by wages in the context of an industrialized economy, or is it more feasible not to adopt industrialization and instead concentrate on ensuring that the current level of the local economy, however it may be set up, accomplishes the fundamental task of allowing all resources and benefits therefrom to be equitably shared by all the members of the community?

The "basic needs approach" appears to assume that in all cases the populace will accept industrialization as the key to a better life. This is not necessarily true. In using the "basic needs approach", the DA should emphasize development objectives that are appropriate and relevant for the specific needs of the local communities

Recommendation Intervention

In using the “basic needs approach,” the DA should emphasize development objectives that are relevant for the specific needs of the local communities.

J. Training of Workers

Key Issue

The TESDA is mandated to organize local committees that will advise on the scope, nature, and duration of training for the Basic Needs Program and Rural Industrialization and Industry Dispersal Program. As a nod to the role of coastal management, the AFMA also specifically provides that the DA and DENR shall organize the training of workers in CRM and sustainable fishing techniques. This is to be undertaken in coordination with CHED, TESDA, DECS, ATI and Philippine Fisheries Development Authority (PFDA), within the Basic Need Program (BNP) areas and SAFDZs. The problem is that the AFMA seems to assume that coastal resources management and sustainable fishing techniques are of the same category and are appropriate subjects for “workers.” There are two possible meanings of this term: (1) generally, persons who undertake particular tasks required of them, and (2) a class of persons who perform labor in exchange for wages or goods. That the term “workers” has these meanings is all the more highlighted by the fact that the TESDA is mainly a vocational skill training institution; it is not a school for managers or decision-makers.

Recommended Intervention

It would be useful for the DA to distinguish between (1) CRM training as part of an educational program to develop competent and professional coastal managers, and (2) CRM training as part of the implementation of CRM strategies or programs. Using this distinction in providing CRM training, TESDA will be concerned with two groups of people: (1) “managerial”-level people, such as LGU officials and government agency personnel, who will require re-orientation into the CRM approach, and (2) “implementors,” those members of the community affected who will be asked to undertake certain activities or take actions as part of the CRM plan. These will require different training designs and curricula, and in some cases may be beyond TESDA’s capabilities or scope as a vocational institution. Particularly for the first category, other educational institutions may be more appropriate venues. It would be helpful if TESDA were to define the scope of CRM-related training that it can provide, so that provisions can be made through the other aspects of the NAFES to fill in the gaps in CRM-education that will likely be identified thereafter.

K. Providing Incentives

Key Issue

The AFMA provides for fiscal incentives for enterprises engaged in agriculture and fisheries, which for 5 years from the effectivity of the law, shall be exempt from tariff and duties for agriculture and fisheries inputs, equipment, and machinery, including fishing equipment and parts thereof. A word of caution is appropriate here, as the grant of fiscal incentives for fishing equipment and gear, thereby making them cheaper and more accessible, would run counter to the policy of conservation and protection in the long run, since cheaper fishing equipment will lead to a more active fisheries sector, which becomes more efficient in production of catch, which then translates to faster extraction of the already limited fishery and aquatic resources.

Recommended Intervention

In selecting goods and services that will be subject to fiscal incentives, the DA must exercise caution that it is not actually accelerating the pace of development of fishing gears and extraction of fishery resources. Through BFAR, the DA should still take care in regulating the entry and use of fishing gears that will only contribute to the faster degradation of fishery resources.

L. A Question of Funding

Key Issue

There are significant fiscal allocations that may be the source of funding for various activities related to CRM, from both the AFMA and the FC.

Recommended Intervention

CRM projects may benefit from the AFMA and FC by funding projects or activities that come within the pertinent funding windows. The LGUs should also participate in these projects or activities.

1.0 INTRODUCTION

Republic Act No. 8435, otherwise known as the Agriculture and Fisheries Modernization Act (hereafter referred to as "AFMA") became effective as law on February 9, 1998, a little over a month ahead of Republic Act No. 8550, the Fisheries Code of 1998 (hereafter referred to as "FC"), which became effective on March 23, 1998. Though related in that both deal with the fisheries sector, these legislative initiatives proceeded largely independently of each other. The AFMA was more concerned with providing the appropriate budgetary and logistical requirements for modernization of the country's entire agricultural base and encouraging a more rapid shift towards industrialization, while the FC was the product of a long-drawn lobby effort by concerned fisheries groups. Both laws were enacted at the end of the term of the Ramos Administration, which had committed itself to several major legislative initiatives as part of its socio-economic and political program and are only now beginning to see implementation.

As can be expected from independently moving legislative initiatives, the potential for inconsistency and conflict between the resulting legislations is rather large. Both bills were drafted and deliberated upon without the benefit of having one or the other already firmly established in law. Thus it may be assumed that the AFMA's fisheries policy framework was still Presidential Decree No. 704, the former fisheries code, which placed the highest priority on the maximum utilization and exploitation of the country's fisheries resources. The new FC, on the other hand, was enacted without the benefit of anticipating the fiscal and administrative prescriptions provided by the AFMA, which relied on the fisheries sector being completely subsumed under the agriculture sector, with its attendant lower place in the priorities of the government.

What could possibly complicate the issues between the AFMA and the FC is the role of local government units (LGU) in the management of aquatic resources as provided for under the Republic Act 7160, or the 1991 Local Government Code (LGC). In the context of local governance, particularly in exercising functions for an effective coastal resource management, there are concerns expressed as to the implications of the two acts. Generally, there is a growing appeal for the two laws especially among local executives, thus the increasing interest to understand the nuances of both legislations. The FC has been perceived to bolster the LGUs authority for managing and protecting the fishery resources within their respective jurisdictions, while the AFMA is anticipated to provide the necessary financial and technical resources for improving their productivity. How these opportunities can be tapped and accessed are the core matters that many LGUs are interested to know.

The Coastal Resource Management Project (CRMP) engaged the services of Atty. Jay L. Batongbacal² to prepare this policy study in response to the many informal inquiries made by LGUs within CRMP learning areas as to the implications of both legislations in coastal zone management. CRMP is a 7-year technical assistance project of the Department of Environment and Natural Resources (DENR), funded by the United States Agency for International Development (USAID). This policy study presents the contextual premise by

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which the two laws operate and subsequently identifies possible areas of conflict arising from the subtle differences between the two. It is the intent of this study to highlight these areas of contradictions so that appropriate attention can be given in reviewing and revising the administrative rules and regulations that operationalize the laws.

2.0 A DIVERGENCE OF PRINCIPLES

The AFMA essentially places priority on sustained increase in production, industrialization, and full employment.³ On the other hand, the FC prioritizes management, conservation, protection of fishery and aquatic resources, optimal utilization of existing resources, and maintenance of ecological balance and the quality of the environment.⁴ Although both laws coincide with respect to some general objectives such as achieving poverty alleviation, social equity, food security, rational use of resources, people empowerment, and sustainable development, the AFMA's distinct character is borne of its additional goal of seeking global competitiveness. These differences create a subtle tension between the two laws, which can have far-reaching impacts.

The AFMA, in one sense, looks outward and is dedicated towards making the agricultural and fisheries sector key to the Philippines' becoming a player in the global economy. Thus its overall framework is inclined towards the optimum production of goods, driven by a market-oriented approach within a highly competitive economic environment. The use of resources is to be guided by the principles of maximum efficiency and optimal use, as production must be able to respond to the demands of the global market. The benefits of the people in the sector are to be measurable in terms of increased income and wealth, delivery of goods and services, and expanding productivity.⁵

The FC, however, is more inward-looking, as it is more concerned with providing food security for the Philippine population, through the careful husbanding of its resources acknowledged to be limited and under stress. Limitation of the access to, and benefits of, resource-utilization are key principles,⁶ while rational and sustainable development implies a higher value placed upon the conservation and maintenance of dwindling resources and the environment rather than increasing production. The FC is oriented towards improving and rationalizing the domestic market, and places less priority on the export of goods. At the outset, the constitutional reservation of marine resources for the exclusive use and benefit of the Filipino people⁷ places the Philippines out of stride with the trend towards globalization. The benefits of the country are to be measured in terms of the distribution of benefits from limited resources and the long-term sustainability of such resources for the local, not the foreign, market.⁸

At a more basic level, it is apparent that the core policy foundations of the two laws are rather contradictory, and this presents a potential source of conflict in their actual

³ See Sec 2. Unless otherwise indicated, citations of Sections ("Sec") refer to the Rep. Act No. 8435, The Agriculture and Fisheries Modernization Act (AFMA), while citations of Rules ("Rule") refer to the DA Administrative Order No. 6 dated July 10, 1998, the Implementing Rules and Regulations of the AFMA.

⁴ See Rep. Act No. 8550, The Fisheries Code of 1998 (hereafter, "FC"), Sec 2

⁵ AFMA, *supra*.

⁶ FC Sec 2(b) and (d)

⁷ 1987 Constitution, Art. XII, Sec 2; Art XIII, Sec 7

⁸ FC, *supra*.

implementation. While the AFMA is geared towards expanding production and maximizing utilization, the FC is actually intended towards moderation and limitation of use at a level less than maximum.⁹ Industrialization, another fundamental objective of the AFMA, has historically been in conflict with the idea of environmental conservation and protection that the FC highlights. The market-oriented approach of the AFMA, which is intended to encourage the sector to shift to increased and more profitable production in response to market demand, is not necessarily attuned with the management-oriented approach of the FC that seeks to encourage more equitable distribution of existing production, regardless of market forces, and perhaps even regardless of level of technology.¹⁰ The respective frameworks for measurement of benefits are likewise not in tune, with the AFMA apparently emphasizing the actual increase in income and wealth, but the FC placing weight on more equitable and efficient distribution of existing, limited production.

The AFMA is concerned with modernization to achieve industrialization, the FC is concerned with management to achieve food security. It is clear that the AFMA is still basically production-oriented and therefore provides an impetus for increasing production and exploitation towards the theoretical maximum, while the FC has already shifted away from this and is presently more concerned with conservation of resources and management of current levels of exploitation. Normally, the easiest and most convenient way of resolving this inconsistency is to consider the special law (the FC) as having amended the general law (the AFMA). This is also reinforced by the fact that the FC was enacted after the AFMA and thus may be deemed to have introduced amendments to the latter. Unfortunately, the inconsistency is subtle and on the underlying policy level. Unless it is so glaring and irreconcilable, the implementation of both laws may proceed in earnest, no matter the consequences down the line. Until the issue is resolved by court litigation (which may or may not happen) the government or any of its agencies is fully justified in implementing the laws as they see fit.

From a broader perspective, the management of fragile coastal resources are much more dependent on the implementation of the FC than the AFMA. The key objective of the AFMA namely industrialization, represents a greater danger as these resources are already under stress. In order to prevent this fundamental difference from resulting in disaster for the more vulnerable fisheries and aquatic resources, it necessary for the Department of Agriculture (DA) to issue additional guidelines clarifying this potential conflict, and reiterating the policy thrusts of the FC for conservation, management, and protection of limited and stressed resources. The DA must recognize that the fisheries sector must be treated separately, or under a different framework, from the rest of agriculture. Instead of lumping fisheries with agriculture under the AFMA, the fisheries sector must be regarded with a different perspective that de-emphasizes the maximization of production, and orients the AFMA implementation towards conservation and protection. This may be done either through separate issuances treating the FC specifically, or by supporting and strengthening implementation of the FC by the Bureau of Fisheries and Aquatic Resources

⁹ The inclination of the FC toward moderation may be gleaned, for example, from its policies of using MSY, the moratorium on fishpond conversion, the limitation of access to municipal waters, the use of fish sanctuaries, emphasis on environmental management, and the like. These approaches all tend to slow down the attainment of maximum production which is the key to expanded profits and utilization.

¹⁰ Historically, improvements in fisheries technologies have only led to a more rapid decline of the resource because it becomes easier to extract it. In the long run, a more efficient Philippine fishery has led to more poverty as the resource rapidly dwindled; a less efficient fishery, on the other hand, may allow the resource better chances to regenerate and therefore allow fisherfolk a more sustainable and beneficial catch-rate.

(BFAR) (on the assumption that in doing so, BFAR is implementing the AFMA within the parameters of the FC).

3.0 OPERATIONAL COMPLICATIONS

More than the divergent principles by which the AFMA and FC are separately founded, there are also clear operational conflicts that may arise from implementing the two laws, particularly when coastal resource management (CRM) is taken into context. These complications are anticipated to have an adverse impact in the overall, if not long-term sustainable management of coastal resources. The specific elaboration of these issues are presented in the following discussions.

3.1 COMPLICATED ZONES

The AFMA has created a new but very complicated system of zone-based management of agricultural and fisheries development that has serious implications on local CRM. The Strategic Agricultural and Fisheries Development Zones (SAFDZ) are special areas set aside for agricultural and agro-industrial development,¹¹ where government resources and development efforts are to be concentrated to encourage the creation of geographically-distributed sites of agro-industrial development; the apparent hope being that the existence of the SAFDZ will result in benefits spilling-over to adjacent areas. SAFDZs are to have their own integrated development plans consisting of production, processing, investment, marketing, human resources, and environmental protection components.¹² However, the SAFDZ represent enormous potentials for clashes with the framework of decentralized and localized fisheries management not only under the FC, but also under the Local Government Code.

The AFMA establishes the Network of Protected Areas for Agricultural and Agro-Industrial Development (NPAAAD),¹³ which are to be managed through "the stewardship and utilization of the most productive agricultural and fishery land and resources for optimal production, processing, and marketing."¹⁴ The term "stewardship" is not defined, and there is no comparable policy¹⁵ from which we may glean its meaning; however, "stewardship" implies a relationship between two entities where one is essentially a caretaker for the benefit of another. It is clear, however, that the stewardship is one intended for optimal production, processing, and marketing of the goods produced out of the resources within those areas.

Within the NPAAAD, the DA designates SAFDZs, each of which will have its own integrated development plan prepared by the DA in coordination with various SAFDZ committees, departments, offices, LGUs, NGOs, and POs.¹⁶ These SAFDZs can be further subdivided into subzones, and these zones do not necessarily need to be consistent with administrative or political boundaries,¹⁷ as their management will be based on crop,

¹¹ Sec 5

¹² Ibid.

¹³ Sec 6

¹⁴ Ibid.

¹⁵ The closest to an existing policy is probably the use of stewardship contracts for forest management; but these are basically transactions between government and private entities over a limited parcel of land. This is difficult to compare with the SAFDZ as described in the AFMA.

¹⁶ Rule 6.9

¹⁷ Rule 6.1

livestock, fisheries, or agro-industry-essentially, based on production output. From the SAFDZs and subzones can be created Model Farms, which can be placed under special management by private, corporate entities.¹⁸

Under the FC however, the DA also exercises responsibility and jurisdiction in management, conservation, development, protection, utilization, and disposition of all fisheries and aquatic resources of the country other than municipal waters¹⁹ In the case of the latter, unless the areas have been placed under the jurisdiction of specialized agencies in accordance with special laws, jurisdiction and control resides in the city or municipality.²⁰ The LGUs are even authorized to grant demarcated fishery rights to fishery organizations or cooperatives for mariculture operations in specific areas identified by the DA-BFAR.²¹ And generally, fisherfolk and their organizations residing within the geographical jurisdiction of the barangays, municipalities, or cities are the entities allowed to lead, together with the LGUs, in the development of the fishery and aquatic resources in municipal waters and bays.²²

What these represent is a potential for areas, including municipal waters, to be removed from direct LGU management jurisdiction once placed under SAFDZs or Model Farm status. All fisheries areas under the FC²³ are included in the NPAAAD,²⁴ and therefore municipal waters and fishery resources may be placed within SAFDZs and Model Farms. Model Farms can include priority fishery and aquaculture areas.²⁵ This has serious implications on any LGU-led effort in CRM, as the current framework of CRM relies heavily on the direct and active exercise of LGU powers.

The possibility of resistance on the part of the LGUs is not remote. For one, the undefined concept of “stewardship” may be interpreted to mean the practical transfer of management jurisdiction from the LGU to another body which acts as the “steward.” Second, the actual jurisdiction of the LGU will be severely hampered by the system of NPAAADs, SAFDZs, and Model Farms, as management prerogatives will thereby be turned over either to the SAFDZ committees, or the corporate managers for Model Farms, as provided for by the AFMA.²⁶ Planning and management will no longer be primarily subject to the Local Development Plans of LGUs formulated under the LGC, but to the Agricultural and Fisheries Modernization Plans (AFMP) mandated by the AFMA.²⁷ Considering that the bodies mandated to create these different plans (the Local Development Councils and the SAFDZ Regional and National Committees, respectively) are of different compositions and have different mandates, it is not clear how these plans will be synchronized or combined, if at all.

¹⁸ Sec 7; Rule 7.1

¹⁹ DA Administrative Order No. 3, dated May 8, 1998, Implementing Rules and Regulations of the Fisheries Code of 1998 (hereafter, “FC IRR”), Rule 3.1

²⁰ FC Sec 16 - 17

²¹ FC Sec 22, FC IRR Rule 22.1

²² FC Sec 68

²³ And presumably, all municipal waters, demarcated fishery areas, aquaculture areas, etc.

²⁴ Rule 6.2.7

²⁵ Rule 7.1

²⁶ See Rule 6

²⁷ Ibid.

The NPAAAD, SAFDZs, and Model Farms also appear represent a contrast to the decentralized system of local development planning under the LGC. To a certain extent, there is a re-centralization of planning and development, at least as far as the SAFDZs are concerned, since the AFMA provides for the preparation of national and regional integrated development plans under the initiative of the DA; the LGUs are then relegated to a relatively secondary, and not the lead, role.²⁸ On one hand, from a national perspective this may be a logical approach to ensure consistency and compatibility of local area development; but on the other hand, it is inconsistent with the existing legal powers of the LGUs under the LGC. From the standpoint of CRM advocacy, the management system overlaid by the AFMA onto the local development planning process makes it even more difficult to ensure that the development and management of coastal areas and resources will be based on the imperatives of local community needs and objectives; the transfer of development management from LGUs to SAFDZ committees and Model Farms weakens the link between community members and aspirations and local managers and goals. With the NPAAAD guided largely by the DA, management of coastal agricultural and fisheries areas, corollarily many of the resources within the coastal zone, will once again be based on imperatives formulated from a national, or at very least a non-local, level.

If the AFMA is to be legally challenged in the future, one of the most likely issues from which this challenge will arise is this matter of LGU jurisdiction over municipal waters placed within a SAFDZ. And a local CRM approach or project may actually be the catalyst for this issue. In anticipation of this probable conflict, the DA should therefore endeavor to include within the national AFMP provisions, which will allow for the establishment of a national CRM strategy, perhaps in conjunction with DENR and BFAR. The point of this exercise is to provide the means by which local initiatives in coastal resource management may be integrated into the formulation of the AFMP, identification of SAFDZs, and the implementation of the AFMA at this early stage.

3.2 INDUSTRIALIZATION AND PROTECTING THE ENVIRONMENT

The AFMA clearly makes industrialization the main objective of modernization of the agricultural and fisheries sectors.²⁹ In its definition of terms, “modernization” under the law is defined as a process of making the sector “dynamic, technologically advanced and competitive,”³⁰ with the intent of transforming the agriculture and fisheries sector “from a resource-based to technology-based industry.”³¹ Historically, however, these have usually been at odds with the environment: industrialization entails costs in terms of modification of the environment (whether deliberate or not), while technology is inherently geared towards ever-greater efficiency and therefore commonly results in increases in production to the detriment of resources in the long-term. Modernization of the fisheries sector entails increases in the utilization rate of limited coastal space³² and more efficient extraction methods,³³ and is therefore more likely to increase the rate of destruction of vital habitats and the exploitation of resources beyond sustainable levels. These objectives run counter

²⁸ See Rule 6.3 – 6.11

²⁹ Sec 3.a, 3.h

³⁰ Id., Sec 4

³¹ Id., Sec 3.a

³² To accommodate fish canneries, fishports, distribution networks, fishing community settlements, etc.

³³ Improvements in fishing technology have always been made to ensure higher catch in less time and effort.

to the stated objectives of the FC.³⁴

The impact of the system of SAFDZs, with the avowed objective of industrialization, on the management of the environment is not clear. Offhand, there is likely to be an inherent inconsistency between the promotion of the creation of industrial centers under the AFMA and the establishment of fish sanctuaries and reserves by LGUs and the DA-BFAR,³⁵ especially where the locations converge or are adjacent to each other. The concept of reserves and sanctuaries implies non-modification of environment around the specific place so reserved, but industrialization in turn portends major alterations due to the increase in human economic activities.

Although the AFMA provides that the delineation of the SAFDZ should be based on sound resource accounting and places some limitations on how the SAFDZs should be used,³⁶ the absence of a widely-acceptable and reliable resource accounting methodology makes it difficult to anticipate how these provisions will be implemented. Resource accounting requires a process of valuation of resources; the values placed on leaving resource intact or using them directly reflects the priorities of the users. Since the overall priority of the AFMA and the DA is the optimal utilization of resources for the purposes of rapid industrialization, it can fairly be stated that all things being equal, the costs of maintenance of resources, as well as any particular environment, in their “undeveloped” state will never be comparable to the benefits of utilization. In fact, the AFMA sets the tone of the valuation of utilization over preservation, by imposing a penalty in the form of an idle land tax for agricultural inactivity.³⁷ Though this tax is meant to apply to “irrigated agricultural lands of seven hectares or larger,” it may be possible to classify under- or un-utilized fishpond areas, and other adjacent coastal lands, within this category. What this implies is that even if environmental conservation requires that an area should be allowed to “lay idle,” so to speak, the price to be paid for such will be higher on the land’s owner or lessor than if he were to allow its development for other uses regardless of the effect on the environment.

The AFMA’s position on the extent to which it will allow environmental sustainability to be a significant factor in its implementation is not really clear compared with the pointed endorsements of full-scale industrialization and globalization. The AFMA’s indicators of increasing global competitiveness and sustainability largely revolve around production increases and profits. The only concessions to environmental sustainability seem to be just in the “reduced use of agro-chemicals that are harmful to health and environment,”³⁸ and an endorsement of private initiatives for environment-related activities seems to be made through the provision of credit facilities for agribusiness activities that support soil and water conservation and ecology-enhancing activities.³⁹

Similarly, there is also a general, but incongruent statement that the formulation of an AFMP will be “consistent with principles of sustainable development and international

³⁴ FC Sec 2

³⁵ FC Sec 80 - 81

³⁶ Sec 9; Rule 9.1 - 9.6

³⁷ Sec 11

³⁸ Sec 15

³⁹ IRR Rule 23.2.8

competitiveness within the context of the WTO, as contained in Philippine Agenda 21 coordinated by NEDA."⁴⁰ The DA is also to monitor the effects of global climate changes, weather disturbances, and annual productivity cycles for planning purposes,⁴¹ but obviously, the act of monitoring these effects is only one limited aspect of environmental management. The AFMA further shifts the burden of environmental management from the DA and onto other departments, by requiring the DA to develop a Program Benefit Monitoring and Evaluation System,⁴² but having the other departments identify in their budget proposals the allocation intended for improvement of the environmental and other conditions affecting agriculture and fisheries.⁴³

It is in the area of research, development, and extension, that the protection of the environment has received some attention. In setting the directions for these endeavors, it is recognized that agriculture and fisheries research and development activities need to be multi-disciplinary,⁴⁴ and appropriate technology needs to be used to protect the environment, reduce the cost of production, improve product quality, and increase value-added for global competitiveness.⁴⁵ A Task Force is to be appointed to draft policy guidelines regarding the integration of sustainable agriculture in research, development, and extension, which will include generation, development and utilization of sustainable agriculture technologies for the protection or rehabilitation of the environment.⁴⁶ But research, development, and extension can only contribute so much to environmental management that is needed in real time; the benefits of such activities may, in the end, be too late.

Remedying the potential conflict requires the following actions:

- The implementation of the SAFDZ system should not proceed without ensuring that the resource accounting system is tested and found to be a reliable gauge of the trade-offs between industrialization and conservation. Research and development should therefore make the establishment of this resource accounting system the utmost priority, because upon it depends the successful implementation of the basic network of SAFDZs, which the AFMA relies upon.
- The LGUs should be given a much greater role in the identification and delineation of SAFDZs than the national or regional administrative agencies. This is because the LGUs in the field are in a much better position, specially in a crunch, to exercise reliable judgment if choices are to be made between rapid industrialization and precautionary conservation.
- The DA should flesh out precisely how it intends to incorporate the principles of environmental sustainability in the AFMP. It should be noted that even in the AFMA IRRs, there are still no guiding principles that will enlighten planners and decision-makers with respect to how they are to regard the environment in the context of the industrialization that the AFMA promotes. Perhaps this guidance can be found

⁴⁰ Rule 15.1

⁴¹ Rule 16

⁴² Sec 18

⁴³ Rule 18.5

⁴⁴ Sec 82

⁴⁵ Ibid.; Rule 82.5

⁴⁶ Rule 82.5

in Agenda 21, or any number of international documents on food security, fisheries, and environment. What matters is that, having already included in the AFMA IRRs the documentary basis for rapid industrialization, technological transformation, and maximizing production, the DA must now turn to enacting provisions on how these are to be tempered by rules of similar legal stature that will allow the realization of its stated dedication to environmental sustainability.

3.3 CONFLICTS IN LAND USE PLANNING AND ZONING

All cities and municipalities are required to prepare land use and zoning plans incorporating the SAFDZs.⁴⁷ The incorporation of SAFDZs, however, may run counter to any existing land use and zoning plans that may have already been enacted by the cities or municipalities pursuant to their general powers under the LGC.⁴⁸ This may entail changes in the land use and zoning plans of the LGUs on the basis of national pressure on account of the creation of the SAFDZs, rather than local pressures arising from actual local needs.

Since SAFDZs can include fishery areas, it is only logical to expect that the cities and municipalities should also prepare coastal water use and zoning plans. Otherwise, gaps within the SAFDZs are created wherein the LGU does not specify the classification or use of geographical areas although it may be necessary to do so. At the very least, there may be inconsistencies between the classification and use of areas of coastal land and the actual use of the adjacent coastal waters.

Again, at issue is the impetus for the delineation of SAFDZs. If SAFDZs are to be created without inputs from the local communities, the chances that there will be interminable conflicts between the LGUs and the DA are much greater. The LGUs should have a much more prominent role in identifying the SAFDZs. There should be more transparent and detailed mechanisms for assuring that SAFDZs do not become impositions from higher levels. The AFMA IRRs, in any case, recognize the importance and validity of participatory mechanisms in planning and decision-making; perhaps it is only by misfortunes that the SAFDZ-identification process is not that clear.⁴⁹ Considering that in preparation of land use plans under the LGC, the LGUs are supposed to have already considered industrial expansion possibilities,⁵⁰ it would be prudent for the DA to defer to the judgment of the LGU concerned in the identification of SAFDZ industrial areas. This will at least obviate the onset of conflicts early in the implementation of AFMA.

Land use planning and zoning exercises by the coastal LGUs, consistent with the AFMA, should not only be limited to their terrestrial components, but also extend to their coastal municipal waters. This is a necessity considering that fishery areas are to be covered within the NPAAAD and can be comprehended within SAFDZs. The SAFDZ concept might provide an opportunity for LGUs to supplement existing land use and zoning plans with

⁴⁷ Sec 10

⁴⁸ Rep. Act No. 7160, The Local Government Code of 1991 (hereafter, "LGC"), Sec 20 grants the city or municipality the power to reclassify agricultural lands and provide for the manner of their utilization or disposition (1) when the land ceases to be economically feasible and sound for agricultural purposes as determined by the DA, and (2) where the land shall have substantially greater economic value for residential, commercial, or industrial purposes, as determined by the sanggunian concerned. There are limitations as to the proportion of the total agricultural land area which can be reclassified, and the sanggunians are supposed to already consider the requirements for food production, human settlements, and industrial expansion.

⁴⁹ See Rule 6.11

⁵⁰ LGC Sec 20

coastal zone planning, if the LGUs have not yet done so. This means that in bringing their land use plans in line with AFMA, the LGUs may expand their classification schemes to

include classification of adjacent municipal waters, and thereafter place the land and water zones under the SAFDZ if necessary.

4.0 PLANNING MECHANISMS

The DA is mandated to formulate and implement a medium- and long-term comprehensive Agriculture and Fisheries Modernization Plan that has for its objectives food security, poverty alleviation and social equity, income enhancement and profitability especially for farmers and fisherfolk, global competitiveness, and sustainability.⁵¹ The national AFMP is to be an aggregation of local, regional, and subsectoral AFMPs,⁵² which are to incorporate integrated SAFDZ plans that consider in particular multi-area projects and programs that cross administrative and political boundaries.⁵³ The initial difficulty that can be foreseen here is that plans that “cross” administrative and political boundaries require coordination and synchronization of various stages of local and national government planning, which may become impossible to manage on account of many possible differences in objectives, jurisdiction, powers, and perceptions.

The role of the Fisheries and Aquatic Resources Management Council (FARMCs) and Local Development Councils (LDCs) in the planning processes for the AFMP is again not altogether clear. LDCs are provided for under the LGC, and have the responsibility for nearly all aspects of development planning for the LGU.⁵⁴ Under the FC, FARMCs are established at the national level and all municipalities and cities abutting municipal waters,⁵⁵ the NFARMC acts as an advisory and recommendatory body to the DA,⁵⁶ while Municipal and City FARMCs act as advisory bodies for the LGUs,⁵⁷ and Integrated FARMCs are created for bays, gulfs, lakes, and rivers, and dams bounded by two or more municipalities or cities.⁵⁸ The FARMCs are allowed to provide direct inputs to local development plans with respect to their respective LGUs fisheries and aquatic resources. These inputs can be channeled into the LDCs due to the congruence of many of the members of the FARMC and the LDC, as well as the duty of the former to submit their fisheries and aquatic resource development plans to the latter.⁵⁹

But with respect to the AFMP contemplated by the AFMA, no definite mechanisms are specified as to how the local development plans may be integrated into the local, regional, or national AFMPs. At most, what is provided is that all LDCs of all provinces and municipalities shall include as a regular member the Chairman or representative of the Local Agriculture and Fisheries Council,⁶⁰ and in municipalities where at least 5 percent of households derive their incomes from fishery or aquaculture, the LDC shall also include

⁵¹ Sec 13

⁵² Rule 13.6

⁵³ Rule 13.7

⁵⁴ LGC Sec 106 – 109.

⁵⁵ FC Sec 69

⁵⁶ FC Sec 70

⁵⁷ FC Sec 73

⁵⁸ FC Sec 76

⁵⁹ FC Sec 74, 77

⁶⁰ Rule 90.7

representation from the local FARMC as mandated by the FC.⁶¹ However, these provisions for representation are contained in the implementing rules for extension services. Unless development planning is considered as an extension service, it is doubtful whether this can provide an adequate venue for inputs into the formulation of the AFMPs.

With so many different LGUs, distinct powers, national agencies, special bodies, jurisdictions, and a multitude of laws and policies, it will be very difficult to conduct an efficient, effective, and consensus-based planning process. This makes traditional top-down planning and decision-making a preferable alternative, which in turn contravenes the principles of decentralization and local autonomy so essential to coastal resource management.

It is interesting to note the statement in AFMA that says that it is only “where necessary and appropriate, separate but synchronized and coordinated Fisheries Sector development plans shall be formulated with collaboration of BFAR.”⁶² This seems to imply that fisheries sector development still is accorded a secondary status when compared with land-based agriculture. This is reinforced by the development indicators prescribed by the AFMA, namely, increased income and profit of small farmers and fisherfolk; availability of rice and other staple foods at affordable prices; reduction of rural poverty and income inequality; reduction of incidence of malnutrition; reduction of rural unemployment and underemployment; and improvement in land tenure.⁶³

The AFMA does give due regard to participatory modes of planning and decision-making, and thus, among the DA’s special concerns is capability building of farmers and LGUs in the formulation of local AFMPs.⁶⁴ This covers participatory planning and capability building activities, including technical advisory services.⁶⁵ This may provide an entry point for the FARMCs and LDCs. The DA should consider issuing guidelines on the formulation of AFMPs through the FARMCs and LDCs, rather than relying on the general exhortations of the AFMA IRRs. The LDCs have the advantage of being a mechanism already in use by the LGUs, while the FARMCs, if existing, have the special attention of the fisheries and aquatic resources sector. Channeling DA resources towards strengthening the LDC and FARMC processes may be the most efficient means of engaging the formulation of local AFMPs.

Regardless, it is imperative that the work of the various planning bodies, deriving their mandates from separate laws such as the LGC and the FC, be harmonized. The DA is currently in the best position to initiate this harmonization because it is the agency that provides the impetus for the additional planning entailed by the implementation of the AFMA. Rather than create new overlapping and confusing mechanisms, it would be more prudent for the DA to make use of existing planning mechanisms.

5.0 REALIGNING WATERSHED MANAGEMENT

⁶¹ Rule 90.7.2

⁶² Rule 13.6

⁶³ Sec 14

⁶⁴ Rule 17.1 - 17.2

⁶⁵ Rule 17.1 - 17.2

The AFMA propounds a policy of preventing further destruction of watersheds, rehabilitation of existing irrigation systems, and development of better irrigation systems.⁶⁶ It requires the preservation of areas identified as watersheds, which are sources of water used for irrigation and consumption.⁶⁷ In so doing, the DA is given the lead role in the preparation and implementation of programs and projects for protection, conservation, and rehabilitation of such watersheds, in collaboration with the DENR,⁶⁸ and concerned LGUs, SUCs, POs and NGOs.⁶⁹

To this end, the DA emphasizes strategies for erosion control, sediment transport, reservoir sedimentation, water yield enhancement and development of cost-effective and socially acceptable watershed rehabilitation measures.⁷⁰

However, there appears to be no limitations as to the character, location and extent of these watersheds. Though certain watersheds may be located deep within the large islands, in many cases the watersheds straddle the coastal areas, specially since the country is made up of islands. It is possible that these watersheds may be located along large coastal areas. The DA's watershed protection strategy may therefore impact upon existing CRM strategies where they happen to overlap.

Watershed protection by the DA needs to be coordinated with CRM planning. Initially, this will require a review of current watershed protection programs strategies, together with future plans. It will then be necessary to identify where these programs or plans may converge with CRM proposals and programs. In the case of coastal watersheds, it may be possible to make these two programs complement each other, especially in cases where the maintenance of the coastal environment requires management of the adjacent watershed.

6.0 CHOOSING INFRASTRUCTURE

Infrastructure is essential to ensuring the integration of local agriculture and fisheries activities into the national economy. The AFMA gives the DA the mandate to formulate the agriculture and fishery infrastructure plan and monitor its implementation. This national plan is to be consolidated based on submissions from all various units of the DA and its partner LGUs.⁷¹ With respect to fisheries and aquatic resources, this is more or less consistent with the mandate under the FC for the DA to formulate a comprehensive plan for post-harvest and ancillary industries, with defined priorities,⁷² but through the Philippine Fisheries Development Authority (PFDA).⁷³ The AFMA, however, clearly states that the prioritization of government resources for rural infrastructure shall be based on the agro-industrial potential of an area, the socio-economic contributions of investments thereto, the absence of public investments in the same, and the presence of agrarian reform

⁶⁶ Sec 26

⁶⁷ Sec 12

⁶⁸ Rule 12.2

⁶⁹ Sec 27, Rule 26.1

⁷⁰ Rule 27.4

⁷¹ Rule 46.1

⁷² FC Sec 58, 59

⁷³ FC IRR Rule 59.1

beneficiaries and small farmers and fisherfolk.⁷⁴ The integrated development plans for SAFDZs are also required to include prioritized agricultural and fishery infrastructure and support services, including funding requirements.⁷⁵

Other departments of government are required to coordinate with the DA to determine, among others, the priority fishports, seaports, and airports and facilitate the installation of bulk-handling and storage facilities, and other post-harvest facilities needed in order to enhance the marketing of agriculture and fisheries products.⁷⁶ The DA is also to collaborate with other agencies in continuously assessing the quality and efficiency of policies and regulations governing shipping, arrastre, ports infrastructure and services, stevedoring, charges and tariffs, safety and related matters.⁷⁷

Infrastructure usually either introduces changes in environmental conditions, by physically altering some aspect of the locality, or becomes the focal point of changes by drawing intensified human activity. An example falling under the first instance is reclamation, which alters the coastline and can be the source of various environmental impacts; in the second instance, the construction of a port within a formerly pristine bay is likely to begin the environmental deterioration of the bay. Infrastructures may have either immediate or cumulative effects on the environment in which they are located, and in most cases, it is only the immediate locality that feels the impact.

It is important that infrastructure development be guided by local inputs and not completely left to national planners, who tend to focus only on the national impacts in disregard of local effects. Infrastructure development should be based more prominently on local inputs, in the same way as the planning and decision-making for industrialization purposes. Since the LGC mandates LGUs to provide infrastructure as among their basic services,⁷⁸ it would be proper to allow LGUs to guide the DA in identifying, selecting, and undertaking the appropriate and relevant infrastructure projects.

Where infrastructure affects coastal resources, it becomes even more important for the DA to pay closer attention to both the community's current needs and the requirements of maintaining their fragile coastal environments. Guidelines may be needed to ensure that infrastructure planning gives much greater weight to the different needs and characteristics of the coastal environment. In this regard, the FC has required certain minimum standards for fisheries-related infrastructure; these should be adopted as part of the AFMA implementation.

7.0 HUMAN RESOURCE DEVELOPMENT

The AFMA reiterates the declaration of policy for the State to promote industrialization and full employment, based on sound agriculture and fisheries development and agrarian reform, through industries that make full and efficient use of human and natural

⁷⁴ Sec 47

⁷⁵ Rule 47.3

⁷⁶ Sec 51

⁷⁷ Rule 51.3

⁷⁸ LGC Sec 17

resources.⁷⁹ With respect to human resources, the Commission on Higher Education (CHED) has been tasked with the establishment of a National Agriculture and Fisheries Education System (NAFES),⁸⁰ and the Department of Education, Culture and Sports (DECS) is to establish an Agriculture and Fisheries Education Program specially designed for elementary and secondary levels.⁸¹ For vocational schools, a Post-Secondary Education Program is to be developed by Technical Education and Skills Development Authority (TESDA).⁸²

The CHED and DA are to formulate an integrated human resource development plan in agriculture and fisheries, which shall serve as an instrument that will provide the overall direction in setting priorities in curricular programs, enrolment, performance targets, and investment programs.⁸³ One important aspect of this policy is the establishment of a network of national centers of excellence in agriculture and fisheries,⁸⁴ which are essentially educational institutions with special status in the field, based on acknowledged capabilities and expertise. Such centers play an important role in the educational system for agriculture and fisheries because from 1999 onwards, no educational institution should offer agriculture and fisheries courses unless it is associated with a national center of excellence.⁸⁵

But under the FC, the DA is to coordinate with the CHED, DECS, and TESDA to upgrade state fisheries schools and colleges that provide both formal and non-formal education. These include the formulation of standards to upgrade all schools so that those that do not meet standards shall be closed.⁸⁶ However, the FC is also more liberal in that it does not necessarily require affiliation with a national center of excellence for an institution to engage in the teaching of agriculture and fisheries courses. Such affiliation is, in effect, the minimum standard for operation of agriculture and fisheries educational institutions.

With the responsibility allotted by the AFMA, it would be possible to incorporate education for coastal resource management in the standard agriculture and fisheries curricula. The DA can initiate the development of formal and non-formal courses in coastal resource management, which has the potential of combining the best of two worlds, namely land management for agriculture, and management of inland and coastal fisheries. Both fields are, after all, sorely needed in the context of the archipelagic nature of the country. Courses in CRM may even become standardized core courses for agriculture and fisheries education.

8.0 RATIONALIZING RESEARCH AND DEVELOPMENT

⁷⁹ Sec 65

⁸⁰ Sec 66; the objectives of the NAFES are (1) to establish and maintain complete and integrated system of agriculture and fisheries education relevant to needs of economy, community, and society; (2) modernize and rationalize agriculture and fisheries education at all levels; (3) unify, coordinate and improve the system of implementation of academic programs geared toward achieving agriculture and fisheries development in the country; (4) upgrade the quality and ensure sustainability, and promote global competitiveness at all levels of agriculture and fisheries education.

⁸¹ Sec 67

⁸² Sec 68

⁸³ Sec 72

⁸⁴ Sec 69

⁸⁵ Rule 70.2.4

⁸⁶ FC Sec 116

In line with the stated policy of promoting science and technology in agriculture and fisheries,⁸⁷ the DA is to collaborate with the Department of Science and Technology (DOST) in enhancing, supporting, and consolidating the existing National Research and Development System in Agriculture and Fisheries (NRDSAF).⁸⁸ “Consolidation” has been defined by the AFMA as the unification in strategy, approach and vision, of the agriculture and fishery components of the ongoing National Agriculture Research and Extension Agenda (NAREA).⁸⁹ But then again, the AFMA states that fisheries research and development is to be pursued separately from, though in close coordination with, that of agriculture.⁹⁰ The fishery research subsystem is composed of the National Aquatic Resources Research and Development System (NARRDS) including the Philippine Council for Aquatic and Marine Research and Development (PCAMRD), selected units of the Department of Agriculture Research and Development System (DARDS), selected State Universities and Colleges (SUCs), the DENR, the private sector, and specialized agencies.⁹¹

Pursuant to the AFMA, the DA recommends the establishment of a Council on Extension, Research and Development in Agriculture and Fisheries (CERDAF),⁹² which among others will set policies in agriculture and fishery national research, development, and extension.⁹³ The Philippine Council for Agriculture Forestry and Natural Resources Research and Development (PCARRD) and PCMARD are to coordinate with CERDAF in developing methodologies and systems for effective research, development, and extension planning in agriculture and fisheries.⁹⁴

However, with respect to fisheries, there is a slight inconsistency between the AFMA and the creation under the FC of a National Fisheries Research and Development Institute (NFRDI). The NFRDI is the primary research arm of the BFAR, tasked with conducting fisheries research in development, management, conservation, and protection of fisheries and aquatic resources.⁹⁵ The NFRDI has the functions of establishing a national infrastructure unit complete with technologically advanced features and modern scientific equipment; providing venues for intensive training and development of human resources in the field of fisheries; being the repository for all fisheries researches and scientific information; providing intensive training and development of human resources in the field of fisheries for the maximum utilization of available technology; hastening the realization of economic potential of the fisheries sector by maximizing developmental research efforts; and formally establishing, strengthening, and expanding the network of fisheries-researching communities.⁹⁶

With the AFMA and FC, there are at least four different bodies that may be involved in research, development, and extension in fisheries and aquatic resources, namely, the NARRDS and CERDAF, and the NFRDI and BFAR. Each has an independent mandate to set policies and implement them with respect to the fisheries sector. There is therefore the

⁸⁷ Sec 80

⁸⁸ Sec 81

⁸⁹ Sec 81.2.3

⁹⁰ Sec 81

⁹¹ Rule 81.5

⁹² Rule 81.2

⁹³ Rule 81.8.4

⁹⁴ Rule 81.9.2

⁹⁵ FC Sec 82

⁹⁶ FC Sec 85

possibility the CERDAF / NARRDS and the BFAR / NFRDI priorities and agendas for research, development, and extension may not coincide. Oddly enough, the BFAR is not even specifically mentioned as among the agencies forming part of the NARRDS; had it been so, then there might be a basis for assuming that as part of the NARRDS the NFRDI, acting for BFAR, will be able to undertake its activities as part of the former.

The ambiguity in this situation needs to be clarified. A decision must be made as to what role the NFRDI is play in the implementation of the NRDSAF. If fisheries research is to be undertaken separately from agriculture, then it would probably be better for the BFAR / NFRDI to attain a kind of “autonomous” status from the CERDAF / NARRDS framework. This would be in line with the specialized characteristics of the fisheries sector that cannot be treated as mere incidental to agriculture, which is chiefly land-based. Resolution of this issue of having a lead institution is an important one, because all CRM efforts require some degree of research, development, and extension activities before, during, and throughout the CRM undertaking.

9.0 RECONSIDERING EXTENSION SERVICES

The AFMA makes it the State’s policy to support the development of a national extension⁹⁷ system that will help accelerate the transformation of Philippine agriculture and fisheries from a resource-based to a technology-based industry.⁹⁸ The LGUs are responsible for delivering direct agriculture and fisheries extension services to farmers, fisherfolk, and agribusiness entrepreneurs.⁹⁹ Participation of farmers and fisherfolk cooperatives, associations, and others in the private sector in training and extension services is encouraged, particularly in community organizing, use of participatory approaches, popularization of training, regenerative agricultural technologies, and agribusiness and management skills.¹⁰⁰

The DA provides extension services mainly through the Agricultural Training Institute (ATI) Training Centers, which shall design and implement programs that are consistent and functionally integrated with the regional agriculture and fisheries development strategy and program as formulated under the lead of the Office of the DA Regional Director.¹⁰¹ The ATI Training Centers are to provide national leadership in the planning, design and monitoring and evaluation of training programs.¹⁰²

This structure may be relied upon to implement the FC provisions on fisheries extension services. Under the FC, the DA is to develop cost-effective practical and efficient extension services on a sustained basis, in addition to those provided by state educational institutions, especially to municipal fisherfolk in undeveloped areas, utilizing practicable and indigenous resources and government agencies available, and based upon a system of self-

⁹⁷ Under Sec 89, “extension services” includes training services, farm or business advisory services, demonstration services, information and communication support services through tri-media.

⁹⁸ Sec 86

⁹⁹ Sec 90; Rule 90.1

¹⁰⁰ Sec 91

¹⁰¹ Rule 92.1

¹⁰² Rule 92.2.1

reliance and self-help.¹⁰³ This is to be called the National Fisheries Extension Program.¹⁰⁴ These extension services are a possible future tool for ensuring the replication and continuity of CRM efforts in the long term. Since under the AFMA the existing training institutions of the DA are being tapped to develop training programs, it would be a worthwhile idea to formally include within the offerings of these training centers the essential skills and capacity-building activities needed for the conduct of CRM.

10.0 FINDING BASIC NEEDS

The AFMA adopts a “basic needs approach to development,” which involves the identification, production, and marketing of wage goods and services for consumption of rural communities.¹⁰⁵ Pursuant to this, a Basic Needs Program is to be instituted, which is said to be a community-based program under the AFMP and SAFDZ approach, focused at meeting the basic needs of rural households and assisting workers, subsistence farmers and fisherfolk in adjusting to changing economic and employment conditions as the agricultural and fisheries modernization program proceeds.¹⁰⁶

The Basic Needs Program is intended to complement the Rural Industrialization and Industry Dispersal Programs which shall be based on the interplay of market forces.¹⁰⁷ The LGUs are to play a prominent role in taking advantage of these market forces, as they are authorized to undertake investment and marketing missions, and in making their land use plans, the LGUs, in consultation with the appropriate government agencies concerned, are to identify areas for industrial parks.¹⁰⁸ Private sector enterprises located within BNP areas within the SAFDZs may receive from the DA and LGUs special assistance and investment incentives for their start-up and establishment, including targeted extension of technology, skills training programs, financing programs, among others.¹⁰⁹

The “basic needs approach” appears to be intended to soften the expected socio-economic impact upon the people of the transformation from agrarian to industrial economy. Normally, such a transformation will entail a shift from commodity-based mode of exchange (namely goods in exchange for goods) to one based on money (namely currency in exchange for goods). The loss to the community in terms of open access to cheap (and perhaps free) food and shelter that is made available by an agrarian economy, needs be compensated by the increase in availability of jobs and real wages since industrialization will take its toll on the resource base.¹¹⁰

While LGUs have indeed been given authorization to engage in investment and marketing missions, a rapid shift towards industrialization may not be what they need. In fact, in many ongoing CRM initiatives, moves toward industrialization become focal points for concern because of the environmental costs that they usually entail.¹¹¹ Since the AFMA

¹⁰³ FC Sec 120

¹⁰⁴ FC IRR Rule 120.1

¹⁰⁵ Sec 4

¹⁰⁶ Rule 98.1

¹⁰⁷ Sec 100

¹⁰⁸ Sec 101

¹⁰⁹ Rule 101.1

¹¹⁰ The immediate impact is the diminution of available land for cultivation, as farmlands are turned into factory sites. Access to resources such as water and fishery grounds may be hampered, or the resources themselves may soon be unable to support an increase in the number of users.

¹¹¹ A good example would be the proposal to put up a major cement plant in Bolinao, Pangasinan, which was opposed by the Bolinao community.

requires LGUs to now identify industrial sites, CRM planning must now always contend with the additional problem of industrial siting.

In the case of CRM, the more basic question that needs to be answered is whether the idea of industrialization itself is appropriate for the community. Is it acceptable for basic needs to be satisfied only by wages in the context of an industrialized economy, or is it more feasible not to adopt industrialization and instead concentrate on ensuring that the current level of the local economy, however it may be set up, accomplishes the

fundamental task of allowing all resources and benefits therefrom to be equitably shared by all the members of the community?

The “basic needs approach” appears to assume that in all cases the populace will accept industrialization as the key to a better life. This is not necessarily true. In using the “basic needs approach”, the DA should emphasize development objectives that are appropriate and relevant for the specific needs of the local communities

11.0 TRAINING OF WORKERS

The TESDA is mandated to organize local committees that will advise on the scope, nature and duration of training for the Basic Needs Program and Rural Industrialization and Industry Dispersal Program.¹¹² As a nod to the role of coastal management, the AFMA also specifically provides that the DA and DENR shall organize the training of workers in coastal resources management and sustainable fishing techniques.¹¹³ This is to be undertaken in coordination with CHED, TESDA, DECS, ATI and PFDA, within the BNP areas and SAFDZs¹¹⁴

The problem is that the AFMA seems to assume that coastal resource management and sustainable fishing techniques are of the same category and are appropriate subjects for “workers.” There are two possible meanings of this term: (1) generally, persons who undertake particular tasks required of them, and (2) a class of persons who perform labor in exchange for wages or goods. That the term “workers” has these meanings is all the more highlighted by the fact that the TESDA is mainly a vocational skills training institution; it is not a school for managers or decision-makers.

It is rather odd to consider the provision of training in coastal resource management to “workers,” who are not likely to be managers in the sense of leaders in policy-making and program implementation.¹¹⁵ CRM as a management activity involves both theoretical knowledge and practical skills, as well as a multi- and inter-disciplinary foundations, that are needed by the coastal manager in order to provide effective guidance and governance of the coastal area or resource for which he or she is responsible. This kind of education should be taken up as part of the NAFES, not only as a short-term vocational training course.

¹¹² Sec 104

¹¹³ Sec 105

¹¹⁴ Rule 105.1

¹¹⁵ Of course, it may be argued that CB-CRM proceeds on the assumption that the members of the community are the managers. However, community-based CRM is not the only approach towards management of the coast. Besides, even within the community, there is a need for leaders, organizers, and planners who act as the catalysts for community action.

There seems to have been a slight misunderstanding as to the meaning of “coastal resource management,” as it is classified together with “sustainable fishing techniques,” as if it were merely another technique. It may be that the intention was to provide a venue for the teaching of practices in coastal resource use that are environmentally-friendly and ecologically-sustainable. If so, then the CRM training envisioned by the provision applies not to training in CRM as a possible approach to governance of coastal activities, but in the implementation of measures pursuant to a pre-conceived CRM plan or strategy. It refers to implementation, not to policy- or decision-making processes.

It would be useful, for the DA to distinguish between (1) CRM training as part of an educational program to develop competent and professional coastal managers; and (2) CRM training as part of the implementation of CRM strategies or programs. In the former, the process emphasizes the learning, consideration, planning, and implementation of approaches and strategies to respond to CRM issues from a policy- and decision-making perspective. This is more properly integrated into the NAFES, to become part of the standard knowledge of agriculturists and fisheries officers. On the other hand, the latter is more concerned with the dissemination of knowledge about resource-use practices and processes that will help in the achievement of the objectives of a given CRM plan or strategy.

Using this distinction in providing CRM training, therefore, TESDA will be concerned with two groups of people: (1) “managerial”-level people, such as LGU officials and government agency personnel, who will require re-orientation into the CRM approach, and (2) “implementors,” those members of the community affected who will be asked to undertake certain activities or take actions as part of the CRM plan. These will require different training designs and curricula, and in some cases may be beyond TESDA’s capabilities or scope as a vocational institution. Particularly for the first category, other educational institutions may be more appropriate venues. It would be helpful if TESDA were to define the scope of CRM-related training that it can provide, so that provisions can be made through the other aspects of the NAFES to fill in the gaps in CRM education that will likely be identified thereafter.

12.0 PROVIDING INCENTIVES

The AFMA provides for fiscal incentives for enterprises engaged in agriculture and fisheries, which for 5 years from the effectivity of the law, shall be exempt from tariff and duties for agriculture and fisheries inputs, equipment, and machinery; this includes fishing equipment and parts thereof.¹¹⁶ A word of caution is appropriate here, as the grant of fiscal incentives for fishing equipment and gear, thereby making them cheaper and more accessible, would run counter to the policy of conservation and protection in the long run, since cheaper fishing equipment will lead to a more active fisheries sector, which becomes more efficient in production of catch, which then translates to faster extraction of the already limited fishery and aquatic resources. In selecting goods and services that will be subject to fiscal incentives, the DA must exercise caution that it is not actually accelerating the pace of development of fishing gears and extraction of fishery resources. Through BFAR, the DA should still take care in regulating the entry and use of fishing gears that will

¹¹⁶ Sec 109

only contribute to the faster degradation of fishery resources.

13.0 A QUESTION OF FUNDING

Assuming that full funding is being provided by special appropriations and by the General Appropriations Act, there are significant fiscal allocations that can be the source of funding for various activities related to CRM.

In the first year of implementation of the AFMA, for example, out of the appropriation of P20 billion for its implementation (a) 10 percent is to be set aside for infrastructures including fishports, seaports, and airports, farm-to-market roads, rural energy, communications infrastructure, watershed rehabilitation, water supply system, research and technology infrastructure, public markets, and abattoirs; (b) 5 percent for capability-building of farmers and fisherfolk organizations and LGUs for the effective implementation of agriculture and fisheries programs at the local level; and (c) .25 percent for identification of SAFDZs.¹¹⁷ In addition, for 1999, revolving funds for mapping and preparation of SAFDZ integrated development plans¹¹⁸ are supposed to be initially set up.

The FC is also supposed to provide other possible sources of funds. There is a Municipal Fisheries Grant Fund of P100 million established to finance fishery projects of the LGUs primarily for the upliftment of the municipal fisherfolk.¹¹⁹ A Fishery Loan and Guarantee Fund of P100 million is to be made available for lending to qualified borrowers to finance the development of fishery industry under a program to be prescribed by the DA.¹²⁰ A Special Fisheries Science and Approfishtech Fund of P100 million is also to enable the DA to provide subsidy for full technical and financial support to the development of appropriate technology, both in fishery and ancillary industries, that are ecologically sound, local-source-based and labor intensive, based on the requirement and needs of the FARMCs.¹²¹

If fully funded, the AFMA and FC would justify a lot of expenditures that could comprise a good CRM plan, spanning preparatory activities to construction of infrastructure. Current CRM projects may be able to benefit from these, through projects or activities that come within the pertinent funding windows. Participation of the LGUs is vital in this area, since it deals with allocation of the local government's share from the national revenues, which largely also depends on local revenue collections.

14.0 CONCLUSION

The Chinese character for "crisis" is said to mean both "danger" and "opportunity." In much the same way, the AFMA represents a possible danger or opportunity to CRM on account of how it interacts with the current legal regime for fisheries and aquatic resources. The AFMA is a rather enormous attempt at micro-management of agriculture

¹¹⁷ Sec 111.3

¹¹⁸ Rule 111.7.4

¹¹⁹ FC Sec 109

¹²⁰ FC Sec 110

¹²¹ FC Sec 112

and fisheries, but fisheries have already acquired a management system of its own. It would be very easy to dismiss the possible conflicts between the AFMA and the FC as resolvable through the simple rules of a later law amending the prior law, and a special law prevailing over the general law. But certain complications arise from the fact that the implementing arm of the FC is a subordinate bureau of the implementor of the AFMA; that the fisheries sector is still considered a part of agriculture; that the implementing rules of the AFMA were issued after the implementing rules of the FC; and that in many cases, the overlaps between the AFMA and FC are so subtle as to require harmonization, because they cannot be viewed as outright amendments.

CRM, which places great reliance on both the FC and LGC, will find itself challenged by the AFMA and the system it provides. This paper has sought to point out the more general, more foreseeable conflicts between the two laws and provides some suggestions as to how the quandaries may begin to be settled. The opportunities for conflict are numerous, but so are the means by which they can be avoided. It is hoped that this policy study helps the undertaking of the latter.

LIST OF ABBREVIATIONS AND ACRONYMS

AFEP	Agriculture and Fisheries Education Program
AFMA	Agriculture and Fisheries Modernization Act
AFMP	Agriculture and Fisheries Modernization Plan
BNP	Basic Need Program
CERDAF	Council and Extension, Research and Development in Agriculture and Fisheries
CHED	Commission on Higher Education
CRM	Coastal Resource Management
CRMP	Coastal Resource Management Project (USAID)
DA	Department of Agriculture
DA-ATI	Department of Agriculture-Agricultural Training Institute
DA-BFAR	Department of Agriculture-Bureau of Fisheries and Aquatic Resources
DARDS	Department of Agriculture Research and Development System
DECS	Department of Education, Culture and Sports
DENR	Department of Environment and Natural Resources
DOST	Department of Science and Technology
FARMC	Fisheries and Aquatic Resources Management Council
FC	Fisheries Code
IRR	Implementing Rules and Regulation
LDC	Local Development Council
LGC	Local Government Code
LGU	Local Government Unit
NARRDS	National Aquatic Resources Research and Development System
NAFES	National Agriculture and Fisheries Education System
NAREA	National Agriculture Research and Extension Agenda
NEDA	National Economic and Development Authority
NFRDI	National Fisheries Research and Development Institute
NGO	Non-Government Organization
NPAAAD	Network of Protected Areas for Agricultural and Agro-Industrial

	Development
NRDSAF	National Research and Development System in Agriculture and Fisheries
PCARRD	Philippine Council for Agriculture Forestry and Natural Resources Research and Development
PCAMRD	Philippine Council for Aquatic and Marine Research and Development
PFDA	Philippine Fisheries Development Authority
PO	People's Organization
SAFDZ	Strategic Agricultural and Fisheries Development Zones
SUC	State Universities and Colleges
TESDA	Technical Education and Skills Development Authority
USAID	United States Agency for International Development
WTO	World Trade Organization