

Title:

IDRC-Supported Research and its Influence on Public Policy:
A Case Study Analysis of the Asian Fisheries Social Science Research Network
(AFSSRN)

Date:

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Name of IDRC Unit Who Commissioned the Evaluation:

Evaluation Unit

Name Of Evaluator:

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Project Number in The Assessment:

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1. TOMBSTONE DATA

1. Project Name:

1. Fisheries Social Science Network – Phase 1 (S.E. Asia)
2. Asian Fisheries Social Science Research Network Phase II
3. Asian Fisheries Social Science Research Network (AFSSRN) Phase III
4. Asian Fisheries Social Science Research Network: Phase IV

2. Project Number:

1. 3-P-82-0164
2. 3-P-84-0211
3. 3-P-87-0190
4. 3-P-93-8019

3. Dollar Value (in CAD):

1. \$268,000
2. \$600,000
3. \$520,000
4. \$355,000

4. Project Start Date:

1. 14 January 1983
2. 18 January 1985
3. 22 January 1988
4. 27 January 1994

5. Project Duration:

1. 2 years

2. 3 years
3. 3 years
4. 2 years
6. **Name of Recipient Institution:**
International Center for Living Aquatic Resources Management
7. **CAP/RAP Break:**
 1. \$25,000/\$243,000
 2. \$86,000/\$514,000
 3. \$50,000/\$470,000
 4. \$0/\$355,000
8. **Intent of Policy Influence:** The direct intent of policy influence of the project was capacity building of individuals, organizations and institutions in order to strengthen their ability to carry out their functions and achieve the desired results over time. The indirect intent of policy influence of the project was expanding policy capacities and broadening policy horizons. These two indirect intent of policy influence were carried out by the project through its small research grants program, through training on policy analysis, and through providing opportunities for networking/learning with colleagues.
9. **Type of Project Recipient:** International research center
10. **Type of Project Recipients:** regional research center, university, government department
11. **Type of use identified for the research:** Project primarily capacity building. Indirect policy uses of project include knowledge generation through small research grants program and enlightenment of policymakers from government fishery departments who were AFSSRN members through capacity building and networking.
12. **Policy area:** Policies for aquaculture development and management, fisheries development and management, coastal zone management, aquaculture and fisheries social science.

2. THE PROJECT: THE ASIAN FISHERIES SOCIAL SCIENCE RESEARCH NETWORK

2.1 The Context of the AFSSRN

At the time of the AFSSRN's inception, and today, serious problems abounded in the fisheries sector in Southeast Asia. Below is background on the fisheries sector in Southeast Asia in 1982 taken from a document of that time period and written by the first AFSSRN coordinator (Lockwood 1983). In reality, not much has changed today.

"Fishing and fish farming are time honored occupations in Asia and the Pacific and, as they provide the cheapest and most popular protein at most meals, they are also occupations of very considerable national importance. But importance has not resulted in material rewards for the majority of fish-producing households which number amongst the poorest of the region's rural poor.

The persistence of poverty in the small-scale fisheries sector of most Asian and Pacific countries is a serious social, economic and political problem and the general failure of many fisheries development programs over the years has frustrated fish producers, fisheries administrators and politicians alike. Boats have been motorized, gears modernized, aquaculture technologies improved, and loans and subsidies given out, and still poverty remains for the majority of small-scale producers.

It has become increasingly clear that technological improvements in small-scale capture fisheries without attention being given to other aspects of the sector have led to the overexploitation of the resource. The problem is a complex one requiring a multidisciplinary approach to planning and program design in which resource management becomes a major objective.

Aquaculture is widespread in large areas of Asia and is being developed rapidly in many areas where it is not a traditional activity. It is generally considered that in both old and new aquaculture areas there is high potential for development and this has attracted much government and private investment in various types of fish farming. However, the results have often fallen far short of expectations. Potential yields and incomes are not being realized by the vast majority of fish farmers. There is increasing need for social scientists to join with technologists in seeking explanations for lower yields and incomes and in designing investment and development programs that have greater chances of success.”

The following has been taken from the background section of the AFSSRN Phase I proposal which provides another contextual discussion of the fisheries sector in Southeast Asia in the early 1980's. Again, not much has changed today.

“In spite of the fisheries sector's importance, however, it faces serious environmental and socioeconomic problems that make traditional small-scale fishermen one of the poorest groups of most Southeast Asian nations. Throughout the region, the condition of renewable natural resources, including capture fisheries, is deteriorating due to their mismanagement. While a few isolated areas remain underexploited, in fisheries the open access nature of these common resources is leading to overfishing in many coastal and inland waters, and consequently to a perpetuation of poverty in fishing communities.

Although there is great diversity in tropical fisheries in Southeast Asia and among the peoples that exploit them, certain general observations can be made regarding the causes of continuing low income and low standard of living in fishing communities. First, due to the common property nature of the resource, there is no incentive for any individual fisherman to limit his fishing effort, for what he fails to catch will only be caught by someone else. Second, traditional forms of regulating access and fishing rights have broken down since the early 1950's with the advent of highly mobile vessels, particularly trawlers, which use synthetic

gears. A third contributing factor to low fishing incomes is the recent increase in the cost of fuel and other inputs. Fourth, population growth in Southeast Asia has resulted in increased numbers of fishermen, due in great measure to the lack of alternative income opportunities in many rural areas. A fifth and final factor, is the relative lack of government financial resources and attention given to marketing infrastructure and organizations that facilitate the participation of small-scale fishermen in the expanding consumer markets for fish. Research on these factors related to the poverty of traditional fishermen is needed to help government officials design appropriate programs and policies.

The present status of aquaculture in the countries of Southeast Asia varies tremendously ranging from almost none in Malaysia (except for extensive cockle beds) to several hundred thousand hectares under production in Indonesia and the Philippines. Consequently, the development requirements for aquaculture also vary from country to country.

In contrast to capture fisheries where emphasis is on management to obtain maximum sustainable yields from a given resource, aquaculture is a husbandry activity where production increases can be achieved through technological improvements and intensified use of inputs. It is not uncommon to find a relatively small number of large enterprises that are very profitable in competition with a larger number of smaller enterprises that are only marginally so. Because of the apparent advantages of size and the corporate know-how of the larger private enterprises much of the current growth in aquacultural production is derived from a relatively small number of farms. Research is required on small-scale aquaculture systems to determine their viability and suitability for adoption by impoverished rural producers.

Aquaculture and capture fisheries are competitive in several senses. Their products compete in the market place for the consumer's food budget; they compete for mangrove swamp, shallow water lagoon, and freshwater resources; and they compete for government and private investment. These broader sectoral issues also warrant systematic research."

In the early 1980's when the idea for the AFSSRN was conceived, and throughout the AFSSRN's project life, the issue of overexploitation of fisheries and environmental degradation of coastal resources was a concern to the region's governments. Issues of food security, rural development, employment, foreign earnings, tourism, and the environment all put fisheries and coastal resource management higher on government agendas. Much of the scientific research work that was being undertaken on these issues was biological in nature, and most of the policy-makers were trained in biology. At the same time, there was growing recognition among some scientists and managers in the region that the real solution to these problems were social, economic, political and institutional in nature. There was also recognition of the need for a broader, multidisciplinary approach to addressing these issues (Smith 1979, Chua 1992).

The limited information available on the economics of capture fisheries and aquaculture in Southeast Asia was an indication of a serious shortage of social scientists engaged in fisheries research in the region. The dearth of social scientists working on fisheries and aquaculture issues in Asia was indeed a cause of serious concern. It was felt that many of the critical issues of traditional fisheries were of a politically sensitive nature and often could be best addressed by national researchers. Also, social scientists, particularly economists, had little professional interest in these areas. Their involvement in the problems of the sector has been mainly on a part-time or ad hoc basis. As a consequence, there was no systematic program of economic and policy research on the problems of fisheries and aquaculture being carried out either by government fisheries agencies, research centers, or universities. Government policy-makers were requesting more information from researchers in order to improve policy (Smith 1979). There was limited interaction between policy-makers and researchers, especially social scientists. The number of professionals involved in the effort was not nearly adequate to the task and the distribution within the region was uneven.

At the time of its inception, the Network sought to address and remove two serious constraints to social science research related to fisheries and aquaculture in Asia. These were: (1) the serious shortage of experienced social science professionals, and (2) the weak institutional support for long-term fisheries social science research. These constraints have resulted in a dependence on other countries outside the region for education, consultation and research in social sciences. The Network aimed to overcome these problems through a combination of formal and informal training, scholarships, research activities, information exchange, seminars, workshops, and staff exchange.

Continuity of effort, if fisheries social science is to be effective, was also identified as a pressing need in the region. This implied strong institutional support over the long-run. However, only high quality research and policy analysis on issues felt to be relevant by fisheries agencies will gain for the program and institution the national recognition necessary to sustain the Network program in the long-run. Network research projects, therefore, had to focus on such research. A continuous working contact and cooperation between researchers and fishery managers, government administrators and planners concerned with fisheries issues and policy should be maintained. This is to ensure that research and training activities of the Network program are geared toward national needs and that research results feed directly into the national planning and policy program.

The Network's overriding objective was to build national research capacity to address important social science issues in the development and management of fishery resources in the region. This has been carried out through two broad-based areas: (1) development of medium- to long-term programs of social science research and training on management and development issues of

national and regional importance related to fisheries and aquaculture economics; and (2) development of national programs of professional development in fisheries and aquaculture economics.

The Network had five phases from its origin in 1983 to its current status as a section of the Asian Fisheries Society, another initiative supported by IDRC. Each phase had its own theme, research focus, and educational and information activities. The growth of the Network membership and changes in coordination can also be traced to its phases. The coordination of the Network was provided by ICLARM, based in Manila, Philippines.

2.2 Phase I (1983-1986)

The Fisheries Social Science Research Network, as the Network was first called, was launched in 1983 as a project by the International Center for Living Aquatic Resources Management (ICLARM) and had both a research and training component. It was established with funding support from IDRC and the Ford Foundation. The Network's overall objective was to build research capacity in a network of institutions in Southeast Asia in order to address key social science research issues in capture fisheries and aquaculture. The objective was to be achieved through three mechanisms: (1) research program funding in fisheries economics institutions in the network; (2) training in fisheries economics for research staff of the network institutions; and (3) network support and coordination by ICLARM.

The Network's initial geographic focus was Southeast Asia and the disciplinary focus was economics. It was envisioned as a long-term professional and institutional development program in Asia aimed at building national research capacity to address important socioeconomic issues in the management and development of fishery resources of Asian countries.

The first three members of the Network were the University Pertanian Malaysia (Faculty of Economics and Agribusiness), Kasetsart University (Faculty of Economics and Business Administration) in Bangkok, and the University of the Philippines in the Visayas (College of Arts and Science). These three institutions were chosen since they were the leading economic programs in the region and using the following criteria:

1. interest and expertise in social science research on fisheries and aquaculture economics,
2. committed researchers or potential researchers available for further training,
3. potential for close collaboration with biological scientists, (preferably in the same institution, or if not, with government fisheries department),
4. potential for contributing to government policy-making, and
5. existing support or potential for attracting such support for fisheries social science research from national governments and international agencies.

It was proposed to add an Indonesian institution to the network in Phase II.

By 1985, the Network formally became an association of institutions even with only three members. Within each member institution, there was a voluntary association, or team, of individuals with professional interest in the socioeconomic aspects of fisheries and aquaculture. Each team appointed a leader who was responsible for coordinating the program of research and other professional development activities with the framework of the Network.

The Network's primary objective in research was to encourage and help affiliated institutions develop and/or strengthen their professional capacity to effectively plan and implement long-term programs of research on important national and regional issues on fisheries and aquaculture. The most important ways that the Network achieved these objectives were through: (1) funding and technical support for research projects undertaken by individuals and departments/faculties affiliated with the Network; (2) training of new researchers (mainly UPM programs and supervision of their M.Sc. thesis research; (3) preparation of research programs in each affiliated institution, i.e., statements of long-term research goals and the means (projects) of achieving them; and (4) the development of professional working relationships or linkages with agencies responsible for policy, management and development of marine fisheries and aquaculture research institutions and policymaking bodies.

The initial research activities of each of the member institutions reflected the current diversity of interests among the universities. Research focused on country research and pre-project research for M.Sc. thesis at UPM. There were three research projects funded under Phase 1 focusing on fish marketing, marine fisheries production, and aquaculture economics. Both UPM and KU developed close working linkages with government agencies responsible for fisheries and aquaculture policy, management and development, particularly in connection with their Network-assisted research projects. This was a priority of the Network and stated in the workplan to, "contribute to government policy-making". The UPM approach was highly successful and formed a model for the other teams. A high priority of the MAJUIKAN, the Malaysian fisheries development agency was the fish market system. This became the main thrust of the UPM team's 1983-1985 research. The MAJUIKAN provided data on prices and volume of fish and UPM conducted research on the structure and operation of the market to determine if changes could be made to benefit small-scale fishermen. By using this approach, the team was certain that it worked on a problem of high priority to fishery sector management and its findings were used in developing fishery policy.

The Network also assisted socioeconomic researchers in affiliated universities and research institutions develop and implement programs of research; provided grants for high priority projects, partly as a means of ensuring continuity in the research programs at the early stages of implementation; drew on experienced

scientists from ICLARM and other Network institutions for technical and professional inputs; organized special workshops to develop and evaluate appropriate methodologies for socioeconomic and multidisciplinary research on fisheries and aquaculture in Asia.

UPM offered a two-year M.Sc. on resource economics (fisheries specialization), the first of its kind in Asia, if not all of the tropics. It also offered a five-month course in fisheries and aquaculture economics and a short course for aquaculturists. With these activities, UPM has started to become the center for professional fisheries economics training in Southeast Asia. Other Network institutions sent young faculty to UPM for training.

During 1982-1983, IDRC and ICLARM assisted UPM in establishing a new post-graduate training program in fisheries and aquaculture economics leading to M.S. in Resource Economics with a specialization in fisheries and aquaculture. In addition, the program offered a one-semester non-degree course with the same subject matter for qualified economists who wished to add fisheries and aquaculture economics to their basic training. These two courses formed the backbone of the Network's training program. By the end of 1984, five lecturers from Network institutions had been awarded Network fellowships for the M.Sc. course and four had been for the non-degree course. Staff training was provided to the Faculty of Economics of Universitas Diponegoro of Semarang, Indonesia to help prepare its inclusion for Network membership in 1985.

The Network's first priority in Phase 1 was to break the vicious cycle whereby the lack of teachers meant minimal development of training programs and vice versa. This severely limited the quality and quantity of past socioeconomic research on fishery problems and the ability of the social sciences to exercise an effective voice on matters of fishery policy in Asia.

Special courses in economics for undergraduates in fisheries and marine sciences programs were introduced in the UPV in 1984 as a Network activity. KU introduced a new undergraduate course in aquaculture economics in 1985 and a post-graduate course in fisheries management in 1985. UPV introduced a new course in aquaculture economics in 1985. These courses were taught by staff members who studied at UPM on Network scholarships.

The training component of Network activities was crucial to the overall objectives of building research capacity. There existed no stock of trained fisheries or aquaculture economists and it was necessary to train those who will lead the research teams and set up teaching programs in their own universities.

2.3 Phase II (1985-1988)

The IDRC, the Ford Foundation and ICLARM continued funding the Network's second phase for a three year period. With increased level of funding, the

Network was able to expand to eight member institutions, to continue funding research projects, and to develop a program of workshops and short-term training courses to support research and training activities of its member institutions.

The overall objective for Phase II was to support an expanded network of institutions in Southeast Asia that will address key issues affecting the development of capture fisheries and aquaculture. The specific objectives are:

1. to increase knowledge about aquacultural technology, fish marketing and resource management,
2. to promote interaction among Asian researchers working on these problems, and
3. to provide information useful in the design of effective fisheries policies.

During Phase I it became evident that the size and the scope of the program needed for teaching and research had been underestimated. As such, it was proposed to add a number of new institutions. Six new teams were formed during Phase II. There were: (1) Universitas Diponegoro (Faculty of Economics), Indonesia; (2) Center for Agro-Economic Research (CAER), Indonesia; (3) Department of Fisheries (Fisheries Economics Section), Thailand; (4) Southeast Asian Fisheries Development Center-Aquaculture, Philippines; (5) University of the Philippines at Los Banos, Philippines; and (6) Prince of Songkla University, (Coastal Resources Institute), Thailand.

In Phase II, research activities fell within three program areas: (1) marine fisheries management; (2) coastal aquaculture systems and enterprise management; and (3) farming systems. Each institution, however, had defined its program somewhat differently to suit national needs and the special skills and interests of the team. Most of the research projects in Phase II dealt with the economics of aquaculture, marketing, and small-scale fisheries management and socioeconomics of households.

Network experience in Phase I provided a foundation for the effective integration of inputs from a number of disciplines in a single research effort. This is somewhat more difficult, given the nature of the production process and fisheries property rights, or lack thereof, than research with similar objectives in agriculture or other land-based systems.

The research experience of the past five years of the Network also laid the foundation for a change in the scope of Network activities. The problems of managing fisheries have not been addressed. Since marine fisheries provide most of the animal protein of the Network member countries and many of the fish resources are either overfished or nearly so, the need to manage them is becoming increasingly clear to the countries of the region. In this context, research on the economics and social consequences of fisheries management, particularly in the fishing villages and households, is essential to provide

decision-makers with information on the implications of alternative management strategies and methods. Little of the research activities involved the active collaboration between social scientists and scientists from other natural science disciplines, although there were cases where biologists have provided important advice and counsel to Network researchers.

Phase II training activities played an important role in further enhancing Network members' research skills. The UPM program for M.Sc. Fisheries Economics continued to be the single most important program for this purpose. By 1987, eight Network members have graduated from the program. UPM has become the core training institution for the Network.

The Network also sponsored several short-term training courses which proved very useful to members in enhancing their research capacity. Two workshops and three training courses were conducted under Phase II. Topics dealt with include aquaculture economics research methods, aquaculture production course for social scientists, microcomputer applications to fisheries social science research, fisheries and aquaculture economics, and marketing. Several non-social scientists participated in the training courses.

Although member institutions strongly support the professional development of their members, they have no clear policy delineating the nature of the skills that they seek to advance. Some of the advanced studies that were taken were only of marginal value in dealing with important and researchable issues. The full impact of the Network's advanced education and training of its members under Phase II had yet to be felt.

The Network gained significant headway in achieving its objectives. Member institutions made firm commitments to fisheries social science research. Professional development took place rapidly and network teams were far stronger than they were under Phase I. While providing information for policy was an objective of Phase II, there was little actual research on policy analysis in Phase II. Most of the research was on the economic analysis of capture fisheries and aquaculture but wasn't policy relevant research. Interviews with Network members and a review of AFSSRN reports indicate that the reason for the lack of emphasis on research on policy analysis was that it was felt that there still a need in Phase II to develop the basic applied research and social science research skills of Network members. The Network coordinator reportedly felt that it was premature to focus on policy analysis over basic social science capability building.

At this time, institutional organization and support was strong and commitment to fisheries social science research was starting to firm up. Professional development of members was strengthening. However, the networking function of the Network was not fully developed. While workshops and training courses brought members together, there was relatively little interaction among them.

It was also during this phase that the social science research capabilities of member institutions were strengthened. Thus, this provided more and more information from its research that was useful to decision-makers both in government and industry. The Network strongly promoted collaboration of social scientists from diverse disciplines. This collaboration became increasingly important as the Network gave more attention to fisheries resource management issues in the succeeding phase.

2.4 Phase III (1988-1994)

IDRC continued funding the Network for another three-year phase. This was later extended to three project extensions lasting for two more years.

Research, training and educational activities under Phase III focused on the social science aspects of management of fisheries and aquaculture resources. The general objective of Phase III was to develop social sciences research capacity as a partner with the fisheries, biological and engineering sciences in the planning and decision-making processes for aquatic systems management in Asia. Its specific objectives included advancing the professional capacities of the members; support its members in the conduct of research in the social sciences that will generate results of value for the formulation of development policies and management strategies in support of capture fisheries and aquaculture; educational programs; member linkages; and dissemination of results. In Phase III there was a great emphasis being put on generating results of value for the formulation of development policies and management strategies. This, as reported in the Phase III project proposal, was that, "The social scientists who have become concerned with fisheries issues relatively recently are now at the point where they can begin to address important issues of fisheries management policy and strategy (p.2, section 2.1.1.1 Capture Fisheries).

In its third phase, the Network was composed of 14 teams with 80 researchers at universities, research centers, and national government agencies in Indonesia, Malaysia, Thailand and the Philippines. Under Phase III, one institution was dropped (The Center for Agro-Economic Research in Indonesia) and six institutions joined the Network. These are: (1) Central Research Institute for Fisheries, Indonesia; (2) Research Institute for Marine Fisheries, Indonesia; (3) University of Malaya (Faculty of Economics and Administration), Malaysia; (4) Central Luzon State University (Freshwater Aquaculture Center), Philippines; (5) Bureau of Fisheries and Aquatic Resources, Philippines; and (6) Research Group for Agro-Ecosystems, Indonesia. It was decided to expand network institution membership in the four target countries but not to expand the number of countries. This was a deliberate choice on the part of ICLARM, the team members and IDRC as with a finite budget and capacity building needs still large in the four existing countries, it was felt that expansion into new countries would

just dissipate existing resources. Member institution expansion increased the capacity within the four countries to conduct social science research.

Network research fell under three major program areas: (1) capture fisheries systems and their management; (2) aquaculture systems and enterprise management; and (3) market systems analysis. Network activities concentrated on research, training and education, and publications. The research attempted to balance the first two areas and also contribute to an appreciation of the dynamics of the management processes whether they relate to the operation of small integrated fish farms or to management of the nearshore fisheries resources. The Network received a total of 28 proposals under Phase III, of which 18 were funded and completed.

The seeming lack of results in generating more research in the capture fisheries field over the past five years understate the progress that has been made in addressing the need for work on capture fisheries. While the Network has produced a few studies bearing on conditions in fishing communities, research in this area may be considered to be underrepresented in the Network program. One reason for this may be that few researchers from social science areas outside economics have been recruited to the Network teams.

A review of the research projects of the Network in the past phases shows a preponderance of topics in marketing, aquaculture and fish farming systems. Little work was done on the micro- and macro-aspects of fishery policy considering the importance of small-scale coastal fisheries to Southeast Asia and the critical role enlightened policy may play in addressing serious overfishing problems in many areas of the region. The Network review further stated that, "It bears emphasizing that highest priority needs to be given to coastal fisheries management and fishery policy in the Network's research program" (Lampe, MacCormac and Copes 1987). It should be noted that there was some policy research undertaken by the Network in these early Phases, such as the work undertaken by UPM and the Malaysian Fisheries Development Agency described previously. However, the focus of Network activities was on basic social science capability building and applied research, such as economic analysis; a necessary precursor to conducting policy analysis.

In a Network report it was stated that, "In order to strengthen Network research and public advocacy in fishery and resource management policy, it is recommended that Network teams forge close links and engage in collaboration and/or coordination with non-Network institutions and individual professionals who are undertaking policy research and public advocacy in fisheries, aquatic resource management, economic policy and local administration" (Pomeroy and Trinidad-Juan 1996).

The professional development of the Network depended on the advanced formal education of its members. During 1987 and 1988, the AFSSRN and Prof.

Parzival Copes, Director, Institute of Fisheries Analysis, Simon Fraser University in Vancouver, explored possibilities of a collaborative research and training program in the area of capture fisheries. A detailed proposal was developed and submitted to IDRC for funding. IDRC approved the proposal with a six year budget which began in 1990. The collaborative agreement supported three types of activities: (1) degree training of Network members at the M.A. and PhD levels in fisheries economics at SFU; (2) short-term visits by SFU faculty to Network member institutions; and (3) "sabbatical" type visits of Network members to SFU. There were two M.A. and four PhD scholarships availed of by Network members.

The Network members who availed of the UPM Masters Program returned to their respective institutions and have contributed greatly to the Network, their own institutions, their country and the region.

During Phase III there were six short-term training courses conducted on fisheries management, aquaculture management, bioeconomic analysis, and socioeconomic analysis for capture and culture fisheries. Seminars and workshops included economic valuation, social anthropology, economics of fisheries management, and priority-setting for fisheries socioeconomic research. An important component of Phase III was the introduction of a national networking program, which was intended to establish effective links between Network members and other national fisheries policy, research and extension organizations. In 1992, Network members in Indonesia established the Indonesian Fisheries Social Science Network to network and train scientists in that country on fisheries and aquaculture social science issues. An annual meeting and training is conducted and this Network continues today. It links academic and research center social scientists with government fishery managers to assist in research and policy.

Following a mid-term review, the review team concluded that the Network has proven its worth to member institutions over the years. They reported that before the Network's establishment, there was no mechanism in the region to pull together economists and other social scientists to promote research and training in the social science aspects of fisheries and aquaculture. The Network has been able to mobilize a core of fishery economists for this purpose, which is its fundamental achievement. The Network also played a significant role in improving members' research skills, supporting their research endeavors, providing opportunities to interact with and learn from other fishery social science researchers in the region and expanding the professional pool of adequately trained researchers in fishery and aquaculture social science. The review team further concluded that although the impact of Network activities on fishery policy and aquaculture resource management has been modest, given the limited number of research studies completed under Network funding, it has helped members develop a growing capacity to address issues of fishery policy and fishery/aquatic resource management.

2.5 Phase IV (1995-1996)

Under Phase III, the team leaders and members became more active in establishing the future directions of the Network. At a team leaders' meeting, each team was asked to present its institutional and national research priorities for use in defining a strategic research agenda for Phase IV. The highest ranking research priorities were: (1) common property/community based management; (2) integrated agriculture-aquaculture systems; (3) policy analysis; and (4) tools and methods for analyzing capture fisheries, integrated coastal resource management, and aquaculture systems. These four research priorities became the themes for Phase IV. Thus, under Phase IV, policy analysis became a central theme for the first time in the Network history. The goal of the research was to develop policy relevant social science research applicable to fisheries and coastal resource management and aquaculture development. It was stated in Network documents that the research outputs in Phase IV of the Network members "will be utilized by government decision-makers to influence public policy and projects related to resource management in the fisheries sector to improve the quality of life of the ultimate beneficiaries".

The reason for the emphasis on policy analysis in Phase IV was that both the Network members and the Coordinator felt that members had the necessary social science skills base and maturity in conducting research to now focus more on policy relevant research over applied research. There were more trained social scientists in the region, many of them with advanced academic degrees, and with the skills, knowledge and position in their institution to undertake policy analysis. Most of the government agencies, for example, were now very supportive and had a better understanding of how to use the outputs generated by policy analysis.

IDRC continued supporting the fourth phase of the Network. The capability to do much-needed and relevant applied research on fisheries and aquaculture has been the result of the initial three phases of the Network. It was recognized that Network members are increasingly becoming key advisors to both central and local governments on a variety of issues as these relate to environmental, social and economic policies and directly influence policy. For example, as Mr. Pongpat of the Department of Fisheries in Thailand gained more skills and knowledge through his AFSSRN-funded research, he was promoted, resulting in his ability to access directly the Director and other high level policy-makers in the DOF and having greater influence on fisheries policies in Thailand. In addition, several of the UPM faculty in Malaysia, such as Dr. Mustapha, Dr. Kuperan, and Dr. Yew, were contracted by the Malaysian government to conduct policy studies on fisheries, such as a 1995 study in which they analyzed the impacts on small-scale fishers of a new port development near Malucca. Recommendations made in the study resulted in the government compensating the fishers.

It is recognized that skills of Network members and their biological and social science results and information go beyond research alone and into policies and programs for management and development activities related to sustainable fisheries resources and aquaculture systems. The Network recognized the following needs to continue into another phase: (1) to translate social science information into policy management and development programs for sustainable coastal fisheries resources and aquaculture systems; and (2) to continue the professional and institutional development process initiated in the other three phases to address the uneven capabilities and maturation of member institutions. It was only under Phase IV that policy analysis became a central theme for research and training.

Based on changing needs of the Network and recommendations from the Phase III external review team, the priorities and methods employed in Phase IV of the Network differed from those in previous phases. These changes are reflected in the ranking of objectives. Under Phase IV, higher priority will be given to networking and education and training. This shift is based on the requirement for asymmetrical treatment of Network members as they have reached different levels of research and professional competence and have unequal needs for assistance in various aspects of institutional development.

The emphasis on networking in Phase IV is to increase the understanding among Network members of the importance of exchange and collaboration in research. Its other purpose is to ensure that Network members continue to network even after formal sponsorship of the Network from IDRC stops. It is extremely important that the associations and relationships among members, fostered by the Network through IDRC support, should continue into the future.

Under Phase IV, the Network extended its membership into Vietnam. New institutional members from Vietnam were the Institute of Fisheries Economics and Planning of the Ministry of Fisheries and the Faculty of Aquaculture of Cantho University.

Trainings in the form of advanced degree programs, workshops, short courses and seminars continued to be a major focal point of the Network activities. A regional training course was held in January 1995 in the Philippines on Transforming Research into Policy. This course was conducted by a consultant, Dr. Rich Tobin, who had previously worked with ICLARM in the region. The course covered a variety of topics including working with policy-makers, preparing policy reports and briefs, orienting applied research to policy-makers, and policy analysis methods such as benefit-cost analysis. There were no other similar courses provided under the AFSSRN. There was no formal post-evaluation of the course to determine its impact. However, a discussion with Dr Jahara Yahaya of the University of Malaya found that she learned quite a lot from the course. The results of her project, Determinants of Women's Economic Participation in the Small-Scale Fisheries of Peninsular Malaysia, were reported

not only as a research report but translated into a short policy brief format that was distributed to policy makers in Malaysia. This resulted in a fisheries policy shift in Malaysia to include social and welfare-oriented programs to ensure that women participate more actively in income-earning activities and at the same time carry on household activities.

Trainings on Social Science Research Methods were held in Indonesia and Vietnam. The Network supported member institutions which conducted various social science research activities on the identified priority research themes for Phase IV. One member from the Philippines was supported for his PhD at SFU.

An effort was made to publish Network member research reports. Over 50 research reports were generated since 1983. A special publication series was developed and the reports distributed throughout the region. This dissemination effort was meant to highlight the work of Network members and to get that work to a wider audience, including policy makers. The coordinator also provided editorial assistance to members to get their research output into peer-reviewed scientific journal articles and other publications.

2.6 ICLARM's Role in the AFSSRN

ICLARM has played a unique and crucial role in the Network as coordinator and catalyst, provider of technical and information services, and backstopping and facilitation. Its non-governmental, international status and its own active research program in fisheries social science made it ideally suited for this role of assisting Network institutions develop their research capacity. The Network has been an active partner in research and training conducted by ICLARM programs. This interaction provides the interdisciplinary strength that any management research program requires and provides a model for the formulation of interdisciplinary project research teams within the partner institutions. The Network coordinator was an ICLARM staff member providing the leadership, management and planning that the Network required. The coordinator performs these functions in concert with representatives from IDRC, team leaders and members. During Lampey's time, the Network focused on introducing marine biologists to social science and basic fisheries biology to social scientists. Two or three workshops were conducted on these topics. During the time of Dr. Louise Fallon as coordinator, the focus was on integrated approaches to coastal zone management and socioeconomic profiling methods. During the time of Dr. Bob Pomeroy as coordinator the focus was on co-management, economic valuation, and policy analysis. The team's were exposed to a variety of ideas, concepts, and methods through the Network. The Network evolved from basic methods of fishery economics to policy analysis. This was needed as there needed to be a strong base in methods and concepts before you could evolve to doing policy analysis. The capacity building was from multidisciplinary analysis to policy analysis. Network members continue to be central to ICLARM's research efforts in the region being partners in many projects.

2.7 Beyond IDRC Support (1997-today)

The need to have the Network continue after funding from IDRC ended prompted members to work on its continued existence. ICLARM provided some funding for one annual training and team leader meeting. After meetings and consultation, the Network, which has existed since 1983, became a section of the Asian Fisheries Society. A constitution for the Network as a section of the Asian Fisheries Society was drawn up and approved at a team leaders meeting in Bali, Indonesia in March 1996. The Network continues today, supported by ICLARM. Network members meet on an irregular basis at regional meetings. There is an AFSSRN news section in NAGA, the ICLARM Quarterly publication. The NAGA reaches thousands of subscribers, including influential policy-makers in government fisheries agencies, around the world. The evaluator was told that there has not been an evaluation done by ICLARM on the use and impact of NAGA on its subscribers. While the impact of NAGA and the AFSSRN news section on policy-makers is not known, the evaluator knows from experience that on at least one occasion a policy-maker has read and referenced an article in NAGA by a Network member. In 1993, the evaluator met with the Director of the Bureau of Fisheries and Aquatic Resources of the Philippines. At that meeting, the Director made reference to a recent article which had appeared in NAGA by Dr. Giselle Samonte of SEAFDEC on oyster and mussel farming. The Director used the article as an example of useful information for developing alternative livelihoods for fishers in the Philippines.

2.8 A New Direction: Providing Information for Policy-making

Policy-makers throughout the region are now using socio-economic information to better inform themselves in the making of policy. This is in part a result of maturity in policy-making, but also the result of having more information and better skilled social scientists available within the country to provide this information, in part as result of the AFSSRN.

“Before the AFSSRN it was difficult to find economists working on fisheries issues in Thailand. We did not have good economic information on which to make decisions. We relied on biological information, but that only gave part of the information that we needed to make good policy. Now, in part as a result of the AFSSRN, we can ask the Fisheries Economics Division or Kasetsart University for an economic analysis. We now make more informed policy”. The above is a quote from Mr. Prayot Supavivat, a senior official in the Department of Fisheries in Thailand.

In Indonesia, Dr. Fuad Cholik says that socioeconomics was not given a very high priority at the Directorate General of Fisheries in the 1970's and 1980's. By the late 1980's and 1990's, Mr. Erwin Fauzi of the Ministry of Marine Affairs and Fisheries reports that this began to change as policy-makers in the Directorate

General of Fisheries were provided with socioeconomic studies that provided them with useful and timely information that they could use for policy.

On the other side, researchers are undertaking more policy relevant research. Dr. Victor Nikijuluw, of the Ministry of Marine Affairs and Fisheries in Indonesia states that, “Originally I would just do research for research’s sake. My audience was not the policy-maker. Now being in government I better understand the need for good research to inform my decision-making and I better understand why the AFSSRN was pushing, through training, the need for us to do policy relevant research. I request our researchers, both in government and in academe, to do research which I can use to support or not support decisions”. Mr. Ruben Sevilleja of Central Luzon State University in the Philippines states that, “Having found that policy-makers will listen to good research, we have reoriented some of our research away from being just applied to being policy relevant. The training course offered by the AFSSRN on translating research into policy helped us to learn how to do this”.

The above quotations from policy-makers and AFSSRN members begins to illustrate the influence on fisheries policy in the region of the AFSSRN activities. This policy influence will be discussed in more detail through a series of case studies below.

3. CASE STUDIES

A number of interviews were held with project participants and with those influenced by the project for the case study on the Asian Fisheries Social Science Research Network. The stories of the interviewees are presented below.

1. Mr. Pongpat Boonchuwong, Assistant Director, Fisheries Economics Division, Department of Fisheries (DoF), Thailand. Interview conducted on 4 June 2002 at his office in Bangkok.

In 1985, Pongpat was an economist under the Fisheries Economics Section of the Fishery Policy and Planning Division, of DoF. He is currently the Assistant Director of the Fisheries Economics Division. The AFSSRN has been helpful in advancing his work and career. Pongpat feels that the AFSSRN was important. Before joining the Network, fishery economics knowledge was limited at DoF and in Thailand. The staff were primarily trained as agricultural economists and few were trained or had real knowledge of fishery economics. Under the Network activities (training, research projects), staff of DoF improved their ability to do aquaculture and fishery economics. After learning more about fishery economics as a result of the AFSSRN, the former Director General of DoF felt that fishery economics should be promoted from a section to a division. The staff has expanded from 7 persons in 1985 to 13 professional staff today in the Fisheries Economic Division, showing the importance of fisheries economics in DoF.

Early in the Network, the focus was more on technical and methodological training, with little focus on policy. Now, when government implements a new policy, it requests the Fishery Economics Division to prepare a policy analysis on fishery economics and guidelines on the policy. For example, for the new National Fisheries Policy Plan for 2002-2006, the government asked the Fisheries Economics Division to prepare a situation analysis of the sector and develop guidelines for the plan. Another example is the recent evaluation of fishery subsidies in Thailand. For every project undertaken by DoF, such as the evaluation of fishery subsidies, the Fisheries Economics Division is asked to prepare an impact analysis, i.e., a closed season socioeconomic impact assessment.

In the last 10 years, the Fisheries Economics Division has become more important in DoF due in part to the impact on staff of training and capacity building of the Network. Staff now have more policy analysis skills to do their job in a more competent and professional manner. For example, Mrs. Kulapa Kwanmimng did her M.Sc. at UPM and graduated in 1990. Before her graduate education she was in the statistics division, but after her M.Sc. at UPM she now works in the Fisheries Economics Division on international trade. She conducts policy analysis on fisheries trade issues for the Ministry of Commerce and DoF. Another example is Mrs. Panipa Hanvivatanakit who attended many of the Network training courses. She retired from the Fisheries Economics Division and now works for the private sector as a manager of international marketing for Lampung Food Products Company. Here she has frequent contact with DoF on policy issues as a private sector representative for government policy.

A number of the research projects supported by the Network had policy implications. The projects on cost and earnings of demersal and pelagic fish in Thailand; the economics of *P. monodon* culture; traditional fishery and shrimp culture: options for coastal resource management; and the review of community-based coastal resource management (CBCRM) in Thailand all provided useful policy recommendations which were used by government. For example, the review of CBCRM in Thailand provided the first thorough analysis of CBCRM activities in the country and made recommendations on how the national government could support such activities. One recommendation was that small-scale fishers should be given preferential property rights to areas close to their community for fishing and to keep trawlers and other large fishing vessels out. These recommendations served, in part, as the foundation for the Department of Fisheries in the development of the fisheries rights program. This is a national program to provide local fishing communities with preferential rights to manage fishing activities in nearshore areas.

This was possible since in all projects the teams from DoF and Kasetsart University worked together and research project results went directly to policy makers at DoF. Another project that Pongpat conducted with Dr. Ruangrai Tokrisna of the Faculty of Economics and Business Administration of Kasetsart

University on a new dimension in applying economic concept for Thailand sea administrative management was submitted to Office of National Social and Economic Development Board in 1998 and addressed new policy for mangrove, fish and coral reef management in Thailand. It would probably not have been possible for the DoF and the Kasetsart University to work together if they were not brought together through the Network.

The audience for Pongpat's work and who is influenced is extremely high in the government of Thailand. The Fisheries Economics Division is part of a subcommittee on policy and research under DoF. The Fisheries Economics Division provides its output to two audiences. One is the private sector through the Fish Association of Thailand. The Division conducts studies for and to them on marine fisheries. The second audience is the Director General of DoF who then reports to the National Fish Development Board (of which the DG is secretary and the Deputy Prime Minister is chairman and which serves both government and the private sector), who report directly to the Prime Minister. Thus, Pongpat reports that, "research projects of the Division, including those supported by the Network, have policy influence on the highest level of government in Thailand."

Pongpat strongly stated that the Network helped staff better understand fisheries economics and policy analysis. In the case of DoF, policymakers ask the Fisheries Economics Division first on impacts and evaluation of policy. They feel that it is important to address socioeconomic impacts. Pongpat is now working on a new project with ICLARM on wetlands in the Mekong River region. A training workshop on economic valuation held by the Network in Bali in 1992 provided him the basis to work on the project and to use economic valuation for policy analysis. The results of this project will provide critical information for establishing policy to conserve wetlands.

2. Dr Somsak Boromthanarat, Director, Coastal Resources Institute (CORIN), Prince of Songkla University, Had Yai, Thailand. Interview conducted 7 June 2002 at ICLARM office in Penang, Malaysia.

CORIN was brought into the Network during time of Dr. Harlan Lampe as coordinator in the late 1980s. There were three original members, Somsak, Dr. Awaee Masae, and Dr. Bussabong Chaijareonwatana. Dr. Ayut Nissapa was brought in later when he returned from his PhD work in Australia. The Network has definitely helped to advance the career of all members.

CORIN works on policy and influences policy in Thailand on coastal resources. CORIN works in partnership with the government sector on policy. For example, the Thai government has undertaken institutional and administrative reform. Integrated coastal management needs institutional reform in order to coordinate and eliminate the overlap and duplication for resource management in Southern Thailand. The Ministry of Natural Resources and Environment has decentralized

to regional and local levels. This was implemented as part of a World Bank supported project. CORIN gave policy advice to the World Bank project to look at a model for a Southern regional office of the Ministry of Natural Resources and Environment and a new mandate, staff, and institutional arrangements. The model integrated DoF, Office of Economic Planning and Policy, and RFD under one umbrella coordinating unit. This model developed a link for national agencies to local administrative and provincial authorities for natural resource management. CORIN was central in developing new policies and this new institutional structure. When the World Bank was looking for a local Thai institution to conduct this project, CORIN was identified. The capacity building provided by the Network to CORIN team members allowed them to be selected and to do this policy analysis and influence government agencies for improved natural resource management in Southern Thailand.

At the local community level, methods of participatory management were learned from Network training. The Office of Economic Planning and Policy (OEPP) came to CORIN for advice on mechanisms for participatory management and empowerment at the local ecosystem level. CORIN worked closely with OEPP to develop guidelines and policies for local management of coastal resources. Realized that people need mechanisms to be able to participate in management. This is all part of the new national policies in Thailand.

CORIN applies integrated coastal zone management concepts on the ground. CORIN staff have recently worked on an international funded project to provide policy and spatial planning technical analysis. They established zoning guidelines for management of coastal resources and developed a consensus over use conflicts. They also provided for a local community sense of ownership over the process of setting boundaries. Many of these methods were learned from Network training and participation in ICLARM projects. It helped CORIN staff to learn to conduct policy analysis which they did not have before the Network.

One of the most important projects supported by the Network was the coastal management of Pak Phanang Bay near east of Nakhon Si Thammarat. This project was conducted jointly by CORIN, DoF and Kasetsart University team members. The goal of the project was profiling of the area for management. A historical perspective of the resources and issues was conducted. Policy recommendations were provided for freshwater management, sedimentation in the Bay, rice culture, and fisheries management. This report now serves as the basis for all policies on resource management in the Bay.

The Network allowed CORIN staff to develop expertise to undertake policy analysis. It was important to have the basics of social science methods before moving to policy analysis. Good policy analysis requires the analyst to have an understanding of many disciplines which was learned through the Network. The Network went from training and capacity building to policy analysis which has helped CORIN staff do policy analysis and influence policy on coastal resources.

Somsak noted that three network members received their M.Sc. from UPM under Network and IDRC support. These were Dr. Penporn Janekarnkij, Dr. Thanwa Jitsanguan, and Dr. Piti Kantangkul, all of Kasetsart University.

3. Dr. Somying Piumsonbun, Senior Fisheries Advisor, Department of Fisheries, Thailand. Interviewed by telephone on 8 June 2002 in Bangkok.

Dr. Somying received a CIDA scholarship to attend Simon Fraser University (SFU) in the late 1980s. In the early stages of the Network she was the DoF team leader. After graduating from SFU she became Director of the Fisheries Economics Division. She has now been promoted to Senior Fisheries Economics Advisor to the DG of DoF since 1998. This is the same level as a Deputy DG. She provides policy advice on international trade, fishery economics, aquaculture economics, and marketing.

Dr. Somying stated that her early involvement with the Network helped her to develop capacity to do social science research on fisheries and, later, to conduct policy analysis. The Network training helped to advance her career and gave her skills and confidence to do her PhD degree. Fishery economics is very important in DoF. It is well respected and advice on policy is requested from the Fisheries Economics Division.

4. Kasetsart University, Bangkok, Thailand.

It should be noted that it was not possible to meet with any of the Network team members of Kasetsart University during the time of this trip. All members were either on travel or not available due to work or family commitments.

5. Mr. Prayut Supavivat, Senior Policy Advisor, Department of Fisheries. Interview conducted on 4 June 2002 at his office in Bangkok. (note that Mr. Supavivat was not a member of the AFSSRN)

Mr. Supavivat has been with the Department for over 20 years and is aware of the AFSSRN through his association with ICLARM activities and through Pongpat of the Fisheries Economics Division. He stated that the Fisheries Economics Division has taken a more prominent role in the Department by providing socioeconomic analysis for policy making. He expected that Pongpat gained knowledge from being a member of the AFSSRN and participating in trainings.

Mr. Supavivat specifically mentioned two AFSSRN funded projects that were of use to the Department of Fisheries. First, in the mid-1980's, Kasetsart University and Ruangrai Tokrisna and other faculty conducted a number of economic and marketing studies on shellfish. He remembered that the studies looked at

production, processing and marketing of oysters, mussels and clams. At that time the Department of Fisheries was pushing aquaculture development in coastal communities. The studies carried out by Kasetsart University faculty were timely as they addressed many of the questions policy-makers in the Department had concerning shellfish aquaculture. Specifically, the Department developed policy to support shellfish aquaculture through the provision of financial support for marketing cooperatives for shellfish producers and development of international markets for shellfish. Actually, he stated, cultured oysters are still a major seafood export from Thailand and their development can be traced, in part, back to these studies.

The second project was conducted in Pak Phanang Bay in Nakorn Si Thammarat. This Bay was becoming overexploited due to the use of push nets to catch shrimp and resulting in lower income levels for fishers. As he remembered, this project provided strong biological and economic evidence to support a Department of Fisheries policy banning push nets in the Bay. He remembers that Pongpat and Ruangrai (of the Agricultural and Resource Economics Department of Kasetsart University) were involved in this project. He stated that it was good that the University and the Department worked together on this project as the University has expertise that the Department does not have. The Department also works with the Department of Fisheries of Kasetsart University. This is good since the Department of Fisheries is on the Kasetsart University campus in Bangkok.

6. Dr. Nik Mustapha Raja Abdullah, Dean, College of Economics, Universiti Pertanian Malaysia (UPM), Selangor, Malaysia and Dr. K. Kuperan Viswanathan, Senior Scientist, ICLARM, Penang, Malaysia (formerly Associate Professor, Natural Resource Economics Department, Universiti Pertanian Malaysia). Interviewed at ICLARM office on 5 June 2002 in Penang.

UPM was the lead training institution for the Network. UPM received recognition as a center of excellence in fisheries economics by ICLARM and FAO. A variety of training opportunities were offered including a M.Sc. degree, one semester program on fisheries and aquaculture economics, short courses on fisheries and aquaculture economics, and short courses for fisheries biologists on social science issues in fisheries. UPM provided a broad spectrum of knowledge to those not trained in the area of fisheries and aquaculture economics. Students came from Thailand, Malaysia, Indonesia, Philippines and Sri Lanka. One faculty member from UPM went to SFU for his PhD degree.

At the beginning of the Network all of the staff at UPM only had their MS degrees. By the mid-1990s, all had received their PhD degrees from universities in the US and Canada.

The purpose of the Network was not only to develop social science capacity but also to develop links between biological science and social science. It developed

better interaction between disciplines. The capacity of people trained at UPM was used later by many of them to provide policy advice to government as they advanced in their careers. The Network provided the basics for furthering the careers of many people in the region. For example, Mr. Kamaruzaman did his M.Sc. at UPM in the late 1980s under the program developed with IDRC support. Before his degree he was an Assistant Fisheries Officer. After his M.Sc. he was promoted to Fisheries Officer in the Department of Fisheries of Malaysia. He went to the University of Hull for his PhD. He is now the Director of Corporate Planning and Policy in the Department of Fisheries. Another example is Ismael Awang Kecil. He was a biologist at the Fisheries Research Institute in Penang, Malaysia. He took the fisheries economics short course at UPM. He went to the Netherlands for his MS in aquaculture. He is now the Director of the Fisheries Research Institute. Findings from the Institute provide information for national fisheries policy in Malaysia.

UPM staff are hired as consultants on fisheries projects worldwide. They provide policy advice and analysis on fisheries to Malaysia and other countries around the world. UPM was strengthened as a result of its interaction with the Network. Training and capacity building have a direct link to policy as the graduates of UPM courses and Network trainings went back to their managerial roles in government fishery agencies.

In Sri Lanka, two staff of the National Aquatic Research Agency (NARA) came to UPM for the short course on fisheries and aquaculture economics. Partly as a result of this, there is now a social science division at NARA. NARA also got a coastal zone management project in the early 1990s from USAID due to their involvement in the training at UPM.

The University of the Philippines in the Visayas, Diponegoro University in Indonesia, and Kasetsart University in Thailand all have programs in fisheries economics as a result of their interaction with UPM and for having staff get degrees from UPM.

UPM staff undertook an early Network supported project on fish marketing in Malaysia. As a result of policy recommendations from that project, the fishing industry utilized plastic fish boxes and refrigeration and government decreased its interventions in the fish markets. Direct interactions were held with UPM staff and government fisheries policy makers.

A Network supported project in the province of Johor Baru, provided policy recommendations for fisheries management in the area. The project, a bio-socioeconomic model for the management of the small pelagic fishery, was used to simulate the fishery under various management scenarios. It was found that the fishery was biologically and economically overfished and that a reduction in fishing effort would result in greater biological and economic returns. These

recommendations were used by the Province to develop a new management plan and regulations for the fishery which is reportedly still be implemented.

Association with the Network allowed members to have connections to researcher and government policy makers locally, regionally and internationally. This was very important for recognition and knowledge generation.

Dr. Kuperan received his BS degree in 1980. In 1983 her received his MS from University of New England in Australia in resource economics. He was an original Network member from UPM and was involved in the trainings provided by UPM and teaching in the M.Sc. program. In 1989 he went for his PhD degree at University of Rhode Island and graduated in 1992. He was on faculty at UPM from 1992 to 1999 when he took a position at ICLARM. This is really a Network success story. A Network member whose career was advanced by his interaction with the Network went from a national university in the region to an international research center.

Dr. Nik is another example of Network success. He received his BS degree in 1979 and his MS in 1991. He was the original founder of the Network with the first coordinator, Brian Lockwood. From 1985 to 1988 he did his PhD at Oregon State University. He was promoted to Professor at UPM in 1987 and Department Head of Natural Resource Economics in 1989. In 1993 he was promoted to Deputy Dean and to Dean in 1997. Nik provides policy advice as a member of the Malaysia National Fisheries Development Council, the National Economic Advisory Council and the National Agricultural Advisory Council. He is a member of the Groups of Experts on Scientific Aspects of Marine Environmental Protection associated with the United Nations.

It was reported that it was important that ICLARM provides space in NAGA, the ICLARM quarterly to publish output of Network members which has an important policy role.

It was noted by Drs. Mustafa and Viswanathan that the Network had a great deal of female representation. A review of the 1994 AFSSRN member list found that 37 percent of members were female, with the highest percentage in Thailand (57%) and Philippines (48%).

7. University of Malaya.

It was not possible to meet with anyone from the University of Malaya. Dr. Jahara Yahaya, the team leader, was not located. Dr. Yahaya was especially active in gender research in fisheries and published several papers from her research. One of her Network supported research projects, Determinants of Women's Economic Participation in the Small-Scale Fisheries Sector, Peninsular Malaysia, resulted in a book published by Sage Publications. She is consulted regionally by

international organizations (FAO, ICLARM, Bay of Bengal Program) on the role of women in fisheries. She is the Secretary of the Asian Fisheries Society.

8. Dr.Ha Xuan Thong and Mr. Nguyen Giang Hai, Institute of Fisheries Economics and Planning, Ministry of Fisheries, Hanoi, Vietnam. Interviewed on 10 June 2002 at the Ministry of Fisheries in Hanoi.

The staff at the MoF had limited knowledge of social science research methods and co-management before their involvement with the Network in 1993. The whole concept of participatory management in Vietnam was promoted through the Network trainings. It was a new concept for Vietnam. After the training programs the concept was no longer strange to the Vietnamese people.

The first Network training held in Vietnam was on social science research methods conducted by other Network members from the Philippines. It was for researchers. A second training was held for resource managers and policy makers to introduce them to the concepts, including the Vice Minister, Directors of departments and provincial fisheries service officers. A training on co-management involved Network members from other countries in the region who shared ideas and experiences and knowledge. A study tour was conducted to Philippines, Indonesia, and Thailand to learn more about co-management. After that, the idea was promoted in Vietnam through information. As a result of the trainings on co-management, it became a central policy of the government. It has been written into the new fisheries law. The Fisheries Sector master plan has included participatory management and property rights as national policy. Co-management, an idea brought to Vietnam by the Network training, is now national policy for marine fisheries, aquaculture and reservoirs.

As Vietnam was isolated for so many years, involvement in the Network allowed Vietnamese researchers to meet their peers in other Asian countries. This was important to gain knowledge and share ideas. This allowed Vietnamese to advance quickly and to help their country.

Many of the Vietnamese were trained in Russia or East European countries. They were not trained in certain free market economic and socioeconomic methods. The Network allowed MoF staff to learn new methods and concepts which were needed to develop. They did not know how to do policy analysis and the Network provided needed skills. For example, two training courses were held at the Ministry of Fisheries in Hanoi in 1995 and 1996 on social science research methods. These courses included topics such as sampling, research design, interviewing and surveys. As a follow-up to these trainings, the Network supported the first comprehensive socioeconomic study of fishing villages in Vietnam. Socioeconomic assessments were conducted by staff of the Institute of Fisheries Economics and Planning of the Ministry of Fisheries in eight communities along the coast of Vietnam. In addition to providing a socioeconomic profile of each community, the results of this study provided the

Ministry with the first information it had ever collected on people's attitudes, perceptions, needs and concerns about fisheries. This study served as an important reference source in the development of a new fisheries policy in Vietnam and in the preparation of the Fisheries Sector Master Plan.

9. Cantho University, Cantho, Vietnam.

It was not possible in the time allocated for this trip to visit Cantho University. Dr. Tuan, the team leader at Cantho University, was out of the country and not available for a telephone interview. Members of Cantho University participated in two of the Network training courses in Vietnam.

10. Dr. Nguyen Chu Hoi, Senior Planner of Aquaculture and Environment, Ministry of Fisheries, Vietnam. Interviewed on 10 June 2002 in his office in Hanoi. (note that Dr. Hoi was not a member of the AFSSRN)

Dr. Hoi remembers that Pomeroy of ICLARM brought some faculty from the University of the Philippines in the mid-1990's to have a training course on socioeconomic analysis methods. While many of the staff of the Ministry of Fisheries have PhDs in economics from Russia and Eastern Europe, this was the first training of its kind in Vietnam and helped them gain new skills to conduct socioeconomic research on fishing villages (note: this training was supported by the AFSSRN).

Hoi stated that these new skills were used by Thong and his staff to conduct the first, detailed socioeconomic survey of fishing communities along the coast of Vietnam (note: the study was funded in part by the AFSSRN). Hoi stated that the information from this study was used in the Danida-funded Fisheries Sector Master Plan for Vietnam which the Ministry prepared in the late 1990's. Hoi stated that the study asked fishermen about their opinions on fishing and their life, which had not been done before.

Hoi also reported that the idea of co-management came as a result of training and research supported by Pomeroy and ICLARM (note: this was funded in part by the AFSSRN). Hoi stated that several trainings on co-management were conducted by Pomeroy and Verlaan (of the University of British Columbia) and an exchange visit to look at community-based coastal resources management in other Southeast Asian countries. As a result of these activities, co-management has now become a policy of the Ministry of Fisheries and is in the Fisheries Sector Master Plan. The Ministry is now using co-management to develop aquaculture in coastal areas and reservoirs by working with local people to select species to culture and areas for culture.

Hoi stated that he wishes that there were more training's to help Ministry staff development their skills. It is important as they have so much new work to do to better manage fisheries and develop aquaculture.

11. Mr. Rene Agbayani, Southeast Asian Center for Agricultural Research, Los Banos, Philippines (formerly Social Science Division, Southeast Asian Fisheries Development Center (SEAFDEC) – Aquaculture, Iloilo, Philippines). Interviewed on 12 June 2002 in Manila, Philippines.

SEAFDEC has been a Network member since 1985. Network membership has advanced careers of team members through participation in training courses. Under the coordinators Lockwood/Lampe/Fallon the training focused on technical and methods of social science for fisheries and aquaculture. Under Pomeroy it shifted to policy and co-management. Limited or no policy work early in the Network but hands-on learning of methods such as microcomputer programs. All SEAFDEC staff in the Socioeconomics Division were able to participate in Network activities.

Research supported by the Network did improve capacity. For example, a study was conducted on milkfish breeding. The study used microcomputer spreadsheets for the first time for financial analysis.

Under Pomeroy there was a move to more management and policy analysis from technical and methods. For example, another project on milkfish breeding as a private enterprise teamed SEAFDEC with the Bureau of Fisheries and Aquatic Resources. SEAFDEC provided technical and policy analysis for milkfish. The project looked at privatization of government owned milkfish hatcheries. Government was found to be ineffective in milkfish breeding. A policy was recommended to privatize the government owned hatcheries and the government would provide the technology. This policy was accepted and BFAR implemented the privatization policy. SEAFDEC and BFAR worked together in biological, technical and socio-economic aspects of the study. Training provided by the Network allowed team members to undertake the study. The Network link between SEAFDEC and BFAR allowed for exchange of information and improvement of the study. At several Network meetings, results were presented and critiqued by other Network members which brought about an improvement in the results and policy recommendations.

A study was conducted in Malalison Island in the Philippines by SEAFDEC with IDRC funding and with funding from the Network for process documentation, co-management and rural rapid appraisal. The results of the project influenced policy at community and local government level in the municipality of Culasi and the province of Antique. This was an eight year project. With support from SEAFDEC, the local government developed ordinances to regulate fishing in the area and developed territorial use rights in the area. The co-management idea was new in the area and the country at manage coastal resources. The study provided to the local government helped to formulate resource management policies. This concept of co-management has now spread to four other municipalities in the area surrounding the study site. Results were presented at

national, regional and international meetings. The Network research support and training was central for success.

A study on shrimp hatcheries supported by the Network at SEAFDEC was critical in the growth of the shrimp industry in Panay Island in the Philippines. It provided financial information for investment by the private sector and helped to set private enterprise policy for shrimp culture.

The Network helped advance the career of all SEAFDEC team members. Rene was promoted from researcher to associate scientist to division head to head of the training and education unit at SEAFDEC. Giselle Samonte went to ICLARM to work and later received a World Bank scholarship for her PhD in the United States. Susan Siar took her PhD in Hawaii and has been working on gender issues in fisheries with Network support, such as the role of women in Malalison Island and the community's awareness of gender roles.

SEAFDEC does not directly influence policy makers but prepares policy statements on a range of issues to inform policy. These include contributions of the aquaculture industry, shrimp culture, milkfish breeding and culture, mangrove friendly aquaculture, fisheries resource management, and aquaculture as a part of the coastal zone. Network members have been directly involved in the preparation of these policy statements.

As a result of this Network supported work policy makers now have a better understanding of the socioeconomic contribution of aquaculture; the impact, both positive and negative, of aquaculture on the environment; increased awareness of environmental issues; and a paradigm shift from central management to co-management and community based management.

12. Dr. Danilo Israel, Philippine Institute of Development Studies (PIDS), Manila, Philippines. Interviewed on 13 June 2002 in Manila.

Danny was a member of the SEAFDEC Network team from 1985 to 1987, when he left to do his PhD in the US. The Network gave Danny his first experience with computers. He was given a computer to work with and was the first person at SEAFDEC to use a computer and a spreadsheet. He participated in several training courses on fisheries and aquaculture economics organized by the Network. They greatly improved his knowledge of the subject and helped him in his work.

Danny was involved in the prawn production economics study which had no direct policy impact at the time but later gave government and the private sector a better understanding of the financial profitability of prawns. This attracted private investment to the industry. This work was supported by the Network.

The most important impact of the Network was the relationship with other Network members. This allowed for professional friendships to develop, which continue today, which expedite research, information exchange and policy development. For example, in May 2002, Danny organized a Philippines national workshop on aquaculture that the Network members attended. It would not have been possible to have this important meeting if many of the participants, now high ranking policy makers and researchers in the country, had not known each other for many years, due to the Network. Networking through the Network was and is critical for researchers and policy makers to meet and know each other. It is how policy is influenced in the Philippines, these long term personal relationships.

PIDS is a policy institute for economic policy research on different aspects of the Philippine economy. Its audience is government, the executive, legislature, agencies and departments of government, international organizations and the private sector. It partners with universities in its work. Danny's early membership in the Network still impacts his work and his ability to influence policy. Training in the basics of social science research from the Network is critical and helped him to advance his career.

13. Dr. Ruben Sevilleja, Vice President, Central Luzon State University (CLSU) and Director, Freshwater Aquaculture Center, Munoz, Philippines.
Interviewed 14 June 2002 in Manila.

Joined the Network in 1989. CLSU became a member because ICLARM had a project in integrated agriculture-aquaculture based at CLSU. There was a need to do economic research on the project. Ruben was brought in the project team and CLSU was brought into the Network. There were four active members, all economists.

At the beginning, Ruben was the only economist at CLSU who was working on aquaculture. The Network generated interest in the area of aquaculture economics and fisheries for other social scientists at CLSU to get involved and to learn more about research methods. There was an opportunity to interact with other researchers, to attend trainings and workshops, and to upgrade skills.

One team member now leads a large Bureau of Agriculture Research project in the Philippines under the national research, development and extension network (RDE). The RDE is composed of four members – CLSU, University of the Philippines in the Visayas, Marine Science Institute and Mindanao State University. The RDE sets national priorities and policy for aquaculture research, development and extension. The RDE reports to the national Senior Science Advisory Committee, the Fishermen Industry Advisory Committee, and the Department heads of major government line agencies. It has direct national policy influence for aquaculture.

Network team members were involved with a Network supported research project on integrated livestock-fish farming. The project contributed to programs in integrated aquaculture being recognized by the Bureau of Fisheries and Aquatic Resources and aquaculture being included as a national priority in the Medium Term Fisheries Development Program. Integrated livestock-fish and rice-fish are now a priority area for aquaculture policy in the Philippines. This was a direct result of Network supported research. Ruben was a part of the original national task force with BFAR which was the lead in developing this policy.

The Freshwater Aquaculture Center is involved in national aquaculture programs and the RDE. It has staff from various departments on the campus. The team is a mix of disciplines including biologists and economists. The Network was critical in getting many of those currently doing aquaculture research to be involved in it. The Network has had a long term impact on capacity building at CLSU.

Without the support and training from the Network, CLSU's research and policy analysis capacity would not have been developed. The Network allowed staff to internally work together and allowed for linkages with other institutions doing similar work in the Philippines and the region. This networking is important to policy development and influence as it lets new ideas be exchanged and developed among peers. This improves policy recommendations for all.

14. Dr. Ida Siason, Chancellor, University of the Philippines in the Visayas (UPV), Miag-ao, Philippines. Interviewed on 14 June 2002 in Manila.

UPV has been a Network member since 1985. About six UPV faculty have been active in the Network through the years. The early research was descriptive studies of coastal communities which served as benchmarks for fisheries management. The Network strengthened capacity of the team members to do social science research on fisheries. No one had really heard about fisheries economics or fisheries social science research before the Network training.

The training, both short courses and M.Sc. program at UPM helped a number of staff to advance their careers. The association with UPM in Malaysia helped UPV develop their own MS degree program in marine affairs. Training and research support gave confidence to researchers to engage in higher levels of research. The Network may not have had a direct impact on policy but it did have indirect linkages to policy influence through research output and engagement of UPV staff with policy makers. Now there is a more direct linkage between social science and policy as staff have improved their research skills and have been more involved in policy.

The Institute of Fisheries Policy and Development at UPV produces policy analysis studies. For example, the Institute recently evaluated the policy implications of shifting the Bureau of Fisheries and Aquatic Resources to a Department of Fisheries. Recommendations were provided for this shift and it

has received national attention. A dialogue among various policy makers has been initiated through this study which may lead to a change in administrative structure of fisheries in the Philippines.

Dr. Siason was initiated to do social science research through the Network. She was a faculty member working on social psychology. The Network supported her research on decision-making among fisherfolk and the social psychology of fishing communities. The Network also supported her research on gender issues and specifically the role of women in rural fishing communities. UPV has the fisheries college for the Philippines. When Dr. Siason was interviewed for the position of Chancellor her association with the Network and her research on fisheries supported by the Network was a positive element for her getting the position. Through the Network she was able to get a better appreciation of fisherfolk and fishing communities. She credits the Network with helping her career and the career of others at UPV.

Two UPV staff and Network members were recently able to compete and obtain support for a project to do socioeconomic analysis in two Bay's in the Philippines. This work is part of a large policy project funded by the Asian Development Bank in the Philippines called the Fisheries Resources and Management Project. The Network prepared the two staff members to have the knowledge and experience to successfully compete for this policy project.

The Network has provided faculty with resources to do research and to build the capability of the staff. The linkages between Network members and international experts has brought a new perspective to faculty and has exposed them to new ideas and helped to build their confidence. The early work of the Network was on basic social science research but as staff's capacity has improved they have moved into policy analysis. Much more of the work of Network members is now not just research but policy relevant research. A Network training on changing research into policy really helped staff learn how to conduct policy analysis and how to get their recommendations to policy makers. For example, a 1996 study funded by the Asian Fisheries Social Science Research Network examined five alternative livelihood projects in Iloilo Province, the Philippines. This study found that although initial interest in these projects is usually high, many participants lose interest and drop out after a short period of time. The recommendation made by the UPV researchers was that many alternative livelihood projects were designed from the top down with little or no consultation with the beneficiaries. The UPV researchers prepared a policy brief about their findings and recommendations which was distributed to policy-makers at BFAR. The policy recommendations of more bottom up project design became a central component in the design of the Fisheries Resources and Management Project mentioned above and a reason why UPV staff were asked to be involved in that project. The UPV staff were able not only to carry out an applied research project but to influence national fisheries policy and programs.

15. Mr. Nelson Lopez, Supervising Aquaculturist, Bureau of Fisheries and Aquatic Resources (BFAR), Quezon City, Philippines. Interviewed on 14 June 2002 in Manila.

Nelson was team leader for BFAR for the Network. There were six active members in the team. Two of the members, Nelson and Jessica Munoz, are now very senior in BFAR and direct policy on aquaculture and marine fisheries, respectively. The Network helped to develop their knowledge of doing social science research early in their careers which has helped them both to advance and now to influence policy in the country.

Network membership has been very important. The networking with others has been critical. For example, recently Dr. Thong in Vietnam has requested assistance from Nelson for developing milkfish aquaculture in Vietnam to help poor fisherfolk. This is part of a national policy in Vietnam to address poverty alleviation through aquaculture. Thong and Nelson met through the Network and became friends. As representative of their respective government's fisheries agency they can work closely and informally with each other to get work accomplished and to cut through "red tape". This has helped to develop policy. For example, recently there was a national workshop on aquaculture policy organized by the Philippine Institute of Development Studies. All the important people in aquaculture in the country attended. Many were Network members. They were able to organize the workshop more easily because of the relationships developed over the years through the Network. People could talk more freely and directly with old colleagues and develop policy recommendations. Also, the university faculty and government policy makers could work together because they know each other through the Network which may not have occurred without the Network. This networking is important for policy making and influencing policy.

The training courses helped BFAR increase their skills early in their careers. This was before there were many scholarships and big international projects in the Philippines that helped to build capacity. New concepts and methods for fisheries and aquaculture social science research were learned from the Network activities. This early training set the foundation for doing policy research later as staff became more experienced and knowledgeable. Many people in developing countries are good researchers but do not know how to do policy analysis. Under Pomeroy as Network coordinator, the Network emphasized policy analysis which we were prepared to undertake. It is also important to learn how to influence policy makers. How to prepare reports that they will read and use. That is different from research. It needs to be learned.

A research project the BFAR team did on milkfish economics with SEAFDEC and Rene Agbayani did influence policy. The team looked at the idea of privatizing milkfish hatcheries. It looked at the economics of this and concluded that the

private sector would be more effective in managing hatcheries. This was a policy recommendation that was made in the study and Nelson, being a BFAR staff, was able to drive it forward. The results of the project changed the policy of the country and now milkfish hatcheries are privatized. This is an example of a Network supported project which did directly influence policy in the country.

Dr. Pomeroy assisted Network members with editing of publications resulting from the research projects and this allowed the members to get their research output to a wider policy audience. Research reports were published and distributed to target policy audiences.

16. Ms. Cecilia Reyes, Chief, Fisheries Policy Research and Economics Division, Bureau of Fisheries and Aquatic Resources, Philippines. Interviewed on 13 June 2002 by telephone in Manila. (note that Ms. Reyes was not a member of the AFSSRN)

Ms. Reyes stated that the problems confronting the fishery sector in the Philippines received varying degrees of attention from government over time. For instance, in the past two decades the government's main thrust was to increase productivity through technology improvement. However, in the late 1980's, the worsening problem of inequity in fisheries shifted the concern to the socioeconomic issues of sustainability and equity. This reorientation in emphasis is largely attributed to the contribution of social scientists.

In terms of policy influence, Ms. Reyes stated that in the early 1990's a team of Network members conducted a review of social and economic research in the fisheries sector of the Philippines (note: this project was funded by the AFSSRN). This review proved very timely for policy as BFAR used the report in the project development stage of the Asian Development Bank-funded project in the Philippines, Fisheries Sector Program, a large fisheries and coastal resource management project implemented in 12 bays throughout the country. The review focused on contemporary issues in the fisheries sector and identified critical development and policy issues from a socioeconomic perspective that were useful, in part, in setting direction for the Fisheries Sector Program.

The AFSSRN was also useful in bringing together for the first time social scientists in the Philippines who worked on fisheries and aquaculture issues. Ms. Reyes was aware of people working in this area before, but the Network helped develop groups at various institutions around the country working on these issues and topics and strengthened their skills to do socioeconomic analysis. This has been useful for BFAR policy since it is possible to bring together a good group of researchers at workshops to discuss a specific policy issue or topic. This group of social scientists from BFAR, SEAFDEC, UPV and CLSU is still around and active today. Ms. Reyes reported that in May there was a national policy forum on aquaculture which was attended by this group that was useful in understanding the current level of development and research and in setting new

research and policy directions for the country. She feels that the AFSSRN has a legacy in the Philippines.

17. Dr. Victor Nikijuluw, formerly of the Research Institute for Marine Fisheries, currently Director of Social Empowerment, Directorate General of Coastal and Small Island Affairs, Ministry of Marine Affairs and Fisheries. Interviewed on 4 July 2002 at Hotel Salak in Bogor.

When he was active in the AFSSRN, Victor reported that he was on staff at the Research Institute for Marine Fisheries (RIMF). RIMF is one of the three research institutes coordinated by the Central Research Institute for Fisheries. Its mandate is to conduct research on marine fisheries and postharvest technology. Victor reported that he worked on socioeconomic studies of economic analysis and marketing of Nile tilapia and giant gouramy and production improvement of polyculture system of giant prawn and milkfish in brackishwater ponds. From 1993 to 1996 Victor was at the University of the Philippines-Los Banos doing his PhD. Upon returning from the Philippines, Victor went to work for the Socioeconomic Research Center in Bogor and was not directly involved in Network activities. He did, however, participate in the Indonesian Fisheries Socioeconomic Research Network. Victor is now in a policy-making position in the Ministry of Marine Affairs and Fisheries where he works on community management issues.

Victor stated that the results of his work on aquaculture in the early 1990's did not have direct policy impacts but was aimed at helping to develop aquaculture in Indonesia. At times Victor felt alone being the only economist at RIMF. His participation in the AFSSRN allowed him to interact with other economists in Indonesia and the region and his participation in training allowed him to learn new methods. The relationships he developed helped him to get into the University of the Philippines for his PhD work and also help him today in his current job as he is able to e-mail Nik Mustapha at UPM, for example, to ask for information and advice.

Before his current position in the Ministry of Marine Affairs and Fisheries, Victor was involved in doing research on community-based management at the Socioeconomic Research Center in Bogor. One of the projects which he conducted, which was funded in part by the AFSSRN, was a review of community-based management in Eastern Indonesia. He reviewed "gray literature" from universities and researchers in the country. He was able to identify a number of lesser known community-based management initiatives in the region. Victor published several papers from this work and also presented the results at meetings in Indonesia. He feels that the knowledge and experience he gained from conducting this project was, in part, instrumental in his getting his current position. Victor stated that AFSSRN support allowed him to develop his expertise which is now being used for national policy influence in Indonesia.

18. Dr. Fuad Cholikh, formerly of the Central Research Institute for Fisheries, Research Coordination Center for Fisheries, Agency for Agricultural Research and Development, currently Manager, Freshwater Aquarium.
Interviewed on 25 July 2002 at Hotel Salak in Bogor.

Dr. Cholikh was director of the Central Research Institute for Fisheries (CRIFI) which is one of nine research centers under the Agency for Agricultural Research and Development. CRIFI's functions are to coordinate research formulation and development that are highly relevant to the major problems of fisheries in Indonesia and which are supportive of the national fisheries development plan of the Directorate General of Fisheries (DGF). Dr. Cholikh is now retired from CRIFI and is manager of the freshwater aquarium outside of Jakarta. Dr. Cholikh was AFSSRN team leader for CRIFI.

Dr. Cholikh stated that as for research activities, CRIFI conducted socioeconomic research and was the only government institute which received money to do so. Socioeconomics was felt to be just an aspect of the research and was integrated into research projects but did not stand alone. Dr. Cholikh stated that policy-makers at DGF did not perceive results from socioeconomic research as beneficial. The policy-makers only supported socioeconomic research if it was integrated into another project and if it was relevant for development.

Dr. Cholikh stated that even though he was a fishery biologist, he understood the importance of socioeconomic research and the results of this type of research, especially for policy. He wanted to strengthen his staff in the field of socioeconomics and to give more national policy focus to socioeconomics. He felt that networking would be a good way to achieve this. In order to accomplish this, he began to involve faculty from economic from Institut Pertanian Bogor, Pajajaran University in Bandung and Hasanuddin University in Ujung Pandang in research projects of CRIFI. He felt that this involvement was not enough and wanted to network the various social scientists working on fisheries in the country. He felt that the AFSSRN was a good model to develop networking and capacity building and came up with the idea of the Indonesian Fisheries Socioeconomic Research Network (IFSRN). He used funding from CRIFI to hold at least two IFSRN meetings/workshops a year beginning in 1994. Some funding for these meetings/workshops came from the AFSSRN. Dr. Cholikh invited policy-makers from the DGF to attend the meetings/workshops so that they could become more familiar with socioeconomic research and researchers.

Dr. Cholikh felt that this participation and interaction changed the attitude of some policy-makers at DGF towards socioeconomic research as they began to specifically ask for socioeconomic research to be conducted on certain issues for use in policy-making. Dr. Cholikh gave the example of the Bali Straits fishery. This fishery for small pelagic fish was thought to be overfished and the DGF requested CRIFI to conduct an economic analysis to be used to develop a management plan. An economic analysis study was conducted jointly by CRIFI

economists and Faculty of Economics from the Universitas Diponegoro (a Network member). The study found that the fishery was economically overfished and made recommendations to reduce fishing effort. This recommendation was used by DGF to develop a management plan for the Bali Strait fishery which would eliminate the use of large purse seine nets.

Dr. Cholik felt that trainings and research activities conducted by the AFSSRN throughout the 1990's helped social scientists in Indonesia learn new methods and tools of analysis. Some of the early members of the Network, such as Victor Nikijuluw, benefited from participation in Network activities by improving their ability to do research. Dr. Cholik said that Victor is now in a policy-making position in the Ministry of Marine Affairs and Fisheries.

19. Mr. Erwin Fauzi, Senior Fisheries Advisor, Ministry of Marine Affairs and Fisheries. Interviewed on 25 July 2002 at the Ministry of Marine Affairs and Fisheries in Jakarta.

Mr. Fauzi was a senior fisheries officer in the Directorate General of Fisheries before his current position in the Ministry of Marine Affairs and Fisheries. He was aware of the AFSSRN through his interaction with Dr. Cholik and his participation in IFSRN meetings. He stated that throughout the 1980's there was not much interest in socioeconomic research in the DGF. Most staff were trained as fisheries biologists and that was the emphasis of policy. Dr. Cholik emphasized the importance and usefulness of socioeconomic research for policy-making at meetings with DGF and slowly it became more common to utilize this research. In the 1980's there were not many social scientists working on fisheries in Indonesia. There were many more working on agriculture. This was also a problem for why socioeconomic research was not used. It really wasn't until the early 1990's that there were more social scientists working on fisheries in Indonesia. Even at Institut Pertanian Bogor, where many of the fisheries biologists went for their first degree, only one or two economics courses were offered at the time.

One of the early research study's that he remembers which changed people's minds at DGF about the usefulness of socioeconomic research was a study conducted by CRIFI and UNDIP on alternative management schemes for shrimp production in 1990 (Note: a Network funded project). Mr. Fauzi stated that at the time shrimp aquaculture was expanding rapidly in Java and throughout Indonesia. This was an economic study of different production scenarios for shrimp culture. The study recommended a change in production practices based on improving economic returns. Policy-makers at the DGF reviewed the study, provided to them by Dr. Cholik, and based on the results of the study they made changes in national policy for aquaculture development to support this production practice.

Mr. Fauzi said that the AFSSRN had many positive influences on policy in Indonesia. First, policy-makers became more aware of the usefulness of socioeconomic research. Second, it helped to develop social scientists through training such as the IFSRN. Third, it supported research projects which impacted fisheries policy in the country.

4. SUMMARY

The AFSSRN and its Influence on Public Policy

The Network, as a project, was not designed, until its last phase, to have an influence on public policy. The Network's overriding objective was to build national research capacity to address important social science issues in the development and management of fishery resources in the region. However, the networking, training and education, research support, and information dissemination activities did both directly and indirectly influence policy for fisheries and aquaculture in the region.

In reviewing the history of the AFSSRN and the case studies above to prepare this summary, it became obvious that there were a number of stages in the Network's development and links to its policy influence. These stages, not a linear set but a flow with some going in one direction and some another, are:

1. limited capacity and skill base in the first instance
2. increasing research skills through training and small grants program
3. gaining confidence
4. career development and advancement of network members
5. networking among members
6. publishing research
7. influencing policy
8. providing advice to others (consulting)

Before the Network there was very **limited capacity** to undertake social science research in fisheries and aquaculture in the region and almost no capacity to undertake policy analysis. Fishery social scientists had little impact on policy in their respective country as they did not have the needed skill base to accomplish their work. The Network first provided **training and education** on the basics of social science research. This served as a foundation for Network members to be exposed to new concepts and methods which helped them in their work and to advance their career. Network supported **research projects** helped Network members gain more experience in using the new concepts and methods. As they **gained more confidence**, the level of research improved and many of the projects produced policy recommendations which were used by both the public (see, for example, interviews of Sevilleja, Mustapha, and Boromthanarat) and private sectors (see, for example, interviews of Agbayani and Boonchuwong). The **small grants** provided for research projects produced, in many cases, important results which impacted policy. The case of the milkfish project in the

Philippines, for example, where milkfish hatcheries were privatized or the case of Pak Phanang Bay in Thailand where the output of the research stills serves as the foundation for resource management in the area.

Network membership has **advanced the careers** of many members. A large number of the early members in the Network are now Dean, Chancellor or Vice President of a university or a senior staff member or director in a government fisheries department. These individuals now make and direct public policy in their country. In all cases, they attribute their advancement, in part, to membership in the Network where they learned new methods and concepts for fisheries and aquaculture management and development. The collegial relationships which have developed over time through **networking** among and between Network members both in a country and in the region has brought about linkages between research and policy influence which probably doesn't exist in many other places. This has been critically important in influencing policy in all Network member countries.

Network members have **published research** results in all of the most important peer-reviewed scientific journals related to fisheries, aquaculture and coastal resources in the world and in other publication outlets. These articles are referenced and utilized as the foundation for developing new policies on fisheries and aquaculture around the world. This is an extremely important influence on policy, even though it does so indirectly. For example, Minister Ngoc of the Ministry of Fisheries in Vietnam reported to the consultant that he has as a ready reference in his office an article on fisheries management in Southeast Asia by Mustapha and Kuperan published in the journal Marine Policy. Mr. Ngoc reports that the article helped him to better understand fisheries management issues in neighboring Southeast Asian countries and assist in developing new policies in the Fisheries Sector Master Plan for Vietnam.

With this skills base in social sciences, maturity in conducting research, career advancement, confidence in themselves as researchers, and more acceptance of social science research by policy-makers, Network members became more knowledgeable and experienced in how to conduct policy analysis and began to **influence policy**. This was especially true in Phase IV of the Network which emphasized policy analysis.

Network members are now hired to give **advice** as consultants and to work on projects throughout Asia and the world. Often these are policy projects. The grounding that they received in social science and fisheries research through the Network has allowed them to be respected enough to be sought after for these positions. A Network member now works as a senior scientist at ICLARM-The World Fisheries Center which is a major influencer on fisheries policy worldwide. Rather than bring in experts from North America, Europe or Australia to work on projects in Asia, Network members are now called upon to provide trainings, undertake projects, and design programs in Asia.

IDRC has supported many capacity building networks in Asia, including the AFSSRN. These projects have had long-term and lasting impacts on research, teaching and influencing policy. What is unique about IDRC is that they have been willing to support the projects for long periods of time to ensure that objectives have been met. The lives of many people have been changed as a result of these efforts. Both directly and indirectly, the members of these networks have influenced policy locally, nationally, regionally and internationally. Many of the members, young researchers or government staff members when they started in the network, are now high ranking administrators or research scientists. IDRC helped to advance these careers. These individuals are now the policy makers. These type of networking efforts should be continued as needed for new generations of individuals.

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18. Mr. Erwin Fauzi, Senior Fisheries Advisor, Ministry of Marine Affairs and Fisheries, Jakarta, Indonesia. Tel: 21-79180308.

Terms of Reference for the Evaluation

This project has been undertaken as part of the IDRC Strategic Evaluation: Research Influence on Policy. Many International Development Research Centre (Centre) project and program objectives reflect the expectation that the research supported will influence public policy at the national and local levels. Within projects and programs, the Centre staff promote various means of linking research to public policy, and research supported is often reported to have enhanced decision makers awareness of policy options or to have been otherwise taken into account in policy processes. If the Centre is going to increase (and improve the performance of) its portfolio of projects with this mandate, the Centre needs to address what it means by “policy influence”; to examine more systematically the extent to which and the ways in which the research it supports influences policy; and to examine the factors which affect the extent of policy influence resulting from its projects.

Initial discussions with Centre staff, and reviews of the literature and other relevant Centre documents point to three key questions: (1) what constitutes

public policy influence in the Centre's experience; (2) to what degrees, and in what ways, has Centre-supported research influenced public policy; and (3) what factors and conditions have facilitated or inhibited the public policy influence potential of Centre-supported research projects. This will serve two main purposes: first, it will provide learning at the program level which can enhance the design of projects and programs to address policy issues where that is a key objective; second, it will provide an opportunity for corporate level learning which will provide input to the strategic planning process, providing feedback on performance, and feeding the design of the next corporate program framework.

A series of case studies of past IDRC-supported research projects in each of the region's in which the Centre is working will be undertaken to form one important set of data in improving the Centre's capacity to support research which "will foster and support the production, dissemination and application of research results leading to policies and technologies that enhance the lives of people in developing countries". The focus of case studies will be on the development of rich case studies that explore not only the IDRC work undertaken but also the changing context in which the work was carried out and the processes that were used. The case studies will cover a range of stories to include cases where policy outcomes may be perceived as either positive or negative. The cases will present detailed stories of the policy influence process. The story will be developed through: (1) a review of documents including project design documents, monitoring documents (inter alia, technical reports, trip reports, correspondence) and project reports; and where they can be located; (2) interviews with project leaders and project participants; (3) interviews with those said to have been influenced; and (4) interviews with relevant IDRC staff.

The consultant hired to undertake a case study will collect data in three areas:

1. About what led to the project
 - how did you get involved in this area in the first place?
2. About the project
 - when it was started, what did the project intend to achieve?
 - what happened?
 - why did it happen?
3. About what happened after the project

Case study interview questions for each of these three areas have been prepared to guide the interviewer in collecting data for the case study.

From the ASRO region and the ENRM program area of IDRC, one project, the Asian Fisheries Social Science Research Network (AFSSRN or network), was chosen as a case study for this project. Although more will be said about the Network in the next section of this report, its objective was to develop fisheries social science research capacity as a partner with the fisheries, biological and engineering sciences in the planning and decision-making processes for natural resource and aquatic systems management in Asia through networking, education and training, collaborative research, and information dissemination.

While primarily a capacity building project, the Network did indirectly have an influence on public policy through expanding policy capacities and broadening policy horizons. These two indirect intent of policy influence were carried out by the project through its small research grants program, through training on policy analysis, and through providing opportunities for networking/learning with colleagues. Thus, this case study is unique from other case studies undertaken through this project in that the intent of the Network was not to directly influence public policy, but to build the capacity of research center, university and government fishery agency staff in Southeast Asia to undertake social science research and analysis, and through this work to influence public policy on fisheries, aquaculture and coastal resources management. As will be presented in this case study, this public policy influence was achieved and continues today.

As mentioned above, case study interview questions were prepared by IDRC to guide the interviewer in collecting data for the case study. These questions were prepared for research projects which were designed and implemented to have a direct influence on public policy. Since the Network was not designed and implemented to have a direct influence on public policy, many of the questions were inappropriate for the study. Several new questions were developed to guide the interviews for the case study. These are:

1. What was your position when the AFSSRN started? What is your position now?
2. Did your involvement in the AFSSRN help you to advance your career? How?
3. Did your involvement in AFSSRN activities help you in conducting policy analysis? How?
4. What factor/condition was most important to you to facilitate public policy influence?
5. Has your involvement in the AFSSRN helped you to influence/make/direct public policy? How? In what way? On who?
6. Do you feel that the AFSSRN met its objectives?
7. Did the AFSSRN meet your objectives of it as a member?
8. Did the AFSSRN influence public policy directly or indirectly? How? Who?
9. Who used the research supported by the AFSSRN? In what way?
10. What has changed as a result of the activities of the AFSSRN?

In early June 2002, a trip was made to Southeast Asia in order to interview project participants and those said to have been influenced by the project. The interview questions prepared by IDRC, with the above modifications, were used to guide each interview. The schedule for the trip, including the people, and their affiliation, interviewed, is presented below.

2 June: depart Washington DC

3 June: arrive Bangkok, Thailand

4 June: Bangkok, Thailand. Interview with Mr. Pongpat Boonchuwong, Department of Fisheries, Thailand. Evening flight to Penang, Malaysia.

5 June: Penang, Malaysia. Interview with Dr. Nik Mustafa Raja Abdullah, Universiti Pertanian Malaysia and Dr. K. Kuperan Viswanathan, ICLARM-The World Fisheries Center and formerly of Universiti Pertanian Malaysia.

6 June: Penang, Malaysia. Interview Dr. Mahfuz Ahmed, ICLARM-The World Fisheries Center, and review of AFSSRN project documents.

7 June: Penang, Malaysia. Interview with Dr. Somsak Boromthanarat, Prince of Songkla University, Thailand and continued review of AFSSRN project documents.

8 June: Bangkok, Thailand. Flight to Bangkok from Penang. Telephone interview with Dr. Somying Piumsombun, Department of Fisheries, Thailand.

9 June: Travel from Bangkok to Hanoi, Vietnam.

10 June: Hanoi, Vietnam. Interview with Dr. Ha Xuan Thong and Mr. Nguyen Giang Hai, Ministry of Fisheries, Vietnam.

11 June: Travel from Hanoi to Bangkok to Manila, Philippines.

12 June: Manila, Philippines. Interviews with Mr. Rene Agbayani, formerly of Southeast Asian Fisheries Development Center and Mrs. Anjanette Trinidad-Juan, formerly secretary for the AFSSRN, ICLARM.

13 June: Manila. Interview with Dr. Danilo Israel, Philippines Institute of Development Studies and formerly Southeast Asian Fisheries Development Center.

14 June: Manila. Interviews with Dr. Ruben Sevilleja, Central Luzon State University; Dr. Ida Siason, University of the Philippines-Visayas; and Mr. Nelson Lopez, Bureau of Fisheries and Aquatic Resources, Philippines.

15 June: Reviewing interviews and documents.

16 June: return Manila to Washington DC.

In July 2002, the consultant made a trip to Indonesia as part of work for another project. While in Indonesia, the consultant was able to interview two former members of the AFSSRN Indonesian teams and one policymaker who was not an AFSSRN member. The following individuals were interviewed:

4 July: Bogor. Interview with Dr. Victor Nikijuluw, formerly of the Research Institute for Marine Fisheries, currently Director of Social Empowerment, Directorate General of Coastal and Small Island Affairs, Ministry of Marine Affairs and Fisheries.

25 July: Bogor. Interview with Dr. Fuad Cholikh, formerly of the Central Research Institute for Fisheries, Research Coordination Center for Fisheries, Agency for Agricultural Research and Development, currently Manager, Freshwater Aquarium; and Mr. Erwin Fauzi, Ministry of Marine Affairs and Fisheries.