SOCIAL FACTORS INFLUENCING NATURAL RESOURCE MANAGEMENT IN THE PHILIPPINES

by

Maria Gladys G. Buenavista

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APPROVED:

Cornelia Butler Flora
Co-Chair

Theodore D. Fuller
Co-Chair

Jan L. Flora

George A. Hillery, Jr.

Virginia Rinaldo Seitz

Dale W. Wimberley

September, 1995
Blacksburg, Virginia

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Maria Gladys G. Buenavista

Committee Chairs:

Cornelia Butler Flora (North Central Regional Center for Rural Development, Iowa State University)
Theodore Fuller (Sociology, VPI&SU)

(ABSTRACT)

This is a study about rural households making a living from a declining natural resource base and surviving in a changing rural economy in rural Philippines. Informed by the political ecology and feminist environmentalism theoretical frameworks, the study uses empirically-based theorizing to elucidate social factors that influence household resource management strategies. Interactions of class and gender relations, the coexistence of market and nonmarket relations, and the power of social networks are among the social constructs that shape the everyday choices and decisions of household resource users. The findings of this study suggest that a "technological fix" model to address resource degradation is not the answer. I conclude by stating that building social capital and engendering local control of resources are keys to sustainable natural resource management.

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CHAPTER ONE

INTRODUCTION

Natural resource management is a "value-laden and interest-laden" concept (Peluso 1992). It comprises a culmination of a complex set of interactions that operate at the micro and macro level, influencing household choices and decisions. To understand household resource management strategies, we must go beyond questioning natural birth increases or putting the blame on the poor for degrading the resource base. Instead we need to shift our energy towards understanding the social processes generated by particular resource management strategies: the relations of power, relations of production, and the changing social landscapes within the context of the community in question.

I. The Research Question

This is a study about rural households making a living from a declining natural resource base and surviving in a changing rural economy in the village of Agbanga, located in Leyte island, Philippines. The study purposely focuses on households to draw out historically and culturally embedded social relations which shape intra- and inter-household resource management strategies, basing the study design on

theories of political ecology and feminist environmentalism. I examine the dilemmas in resource sustainability that affect rural households and also analyze peoples' responses. The study addresses the question: what are the social factors which influence rural households' natural resource management strategies? It seeks to elucidate social factors that constrain resource sustainability or have the potential of promoting it. Although the current study primarily provides a sociological analysis, it also attempts to include other parameters that may add to our understanding of household resource management strategies. This study does not attempt to test hypotheses. Rather, it uses empirically-based theorizing to identify households' resource activities and to explain people-resource interactions within the social and historical context of resource users.

II. Goals of the Research

This study begins with the premise that class and gender differentiation as well as other sets of sociocultural factors that structure the lives of rural people -- women, men, and children -- can be linked to specific resource management strategies. An emphasis on class and gender relations questions the supposed unity of

household resource management strategies. It provides avenues to understanding intra- and inter-household resource management strategies as experiences of differential power between and among women and men. To illustrate the significance of these social concepts and relationships to the study of resource management, the study addresses the following questions:

1) How do social factors such as class and gender structure intra- and interhousehold production activities?
2) What are the various patterns of resource access and control? How do they affect choices and decisions relating to resource management?
3) Do changes in resource conditions differentially affect women, men, and children? How do they respond to resource scarcity?

III. Contributions of the Research

Natural resource management embodies within it several strands of discourse. Identifying these strands can help explain the relation between resource users and the natural resource base. Earlier theorizing from the Malthusian point of view (Ehrlich 1970; Meadows 1972; Brown and Eckholm 1974; Brown 1981; Brown 1985) emphasized the effect of unchecked

population growth on the physical resource base. Although this view continues to make an important contribution to the analysis of natural resource degradation, it ignores distributive issues, the realities of class relations in a capitalist society, and the resource pressure created by the international economy on the South, are the cogent arguments of neo-Marxists (Redclift 1987; Goodman and Redclift 1991; Blaikie 1985). The surge of feminist scholarship linking women and nature offers essential epistemological contributions to the resource management dialogue (Shiva 1989; Merchant 1980, 1989; Agarwal 1991, 1992; Dankelman and Davidson 1988; Hoskins 1983; King 1989; Sontheimer 1991; Collins 1991; Jacobson 1992; Rodda 1991; Braidotti 1993). Detailed accounts of household activities forced a recognition of class and gender differences in the division of labor as well as access to and control over resources. Household resource management decisions embody what Amartya Sen (1990) called "cooperative conflicts" whereby the level of intra-household negotiations depends not only on the kinds of resources involved but also relations of power among household members. Researchers also advanced the notion of gendered indigenous knowledge, rights, and activism (Rocheleau 1988; Shiva 1989; King 1989; Monimart 1989; Agarwal 1991).

This study contributes to the body of literature in

gender and the environment, which embraces the "gender and development" approach.[1] It places at the core of analysis the everyday lives of rural households, addressing how the social construction of gender influences resource management strategies of women and men. While this study analyzes the gender-specific ways women and men use natural resources and experience resource degradation, it also examines how class further differentiates women's and men's interaction with natural resources. Linking natural resource management strategies to specific social dimensions provides a vital perspective in understanding the diverse ways in which households and their members act to influence the utilization of natural resources.

Central to the discussion of gender and the environment is the recognition that resource users are social actors. It challenges the stereotyping of resource-poor households as "passive victims" of natural resource degradation and questions the systematic blaming of victims for causing further degradation of fragile ecosystems. Studies in

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[1] The gender and development (GAD) approach emerged in the 1980s as an alternative to the earlier women in development (WID) focus (Rathgeber 1990; Elson 1990). In contrast to WID, GAD treats gender as a socially-defined construct which structures the relationship between men and women. It also examines the social differentiations among women as expressed in the complex ways that they experience gender (Elson 1990).

political ecology reveal that resource users' actions are not isolated from larger social, economic, and political processes (Blaikie 1985; Schmink and Wood 1987; Peluso 1992; Thrupp 1990). Grassroots activism to protest against the destruction of the natural resource base is increasingly documented (Ghai and Vivian 1992; Hecht and Cockburn 1989; Shiva 1989). The gender and environment literature is rich with examples of women's struggle to save their natural environment (Jain 1991; Shiva 1989; Bhatt 1990; Sharma et al. 1980; Maathai 1985; Dankelman and Davidson 1988; Sontheimer 1991). The current study analyzes the concept of collective action from the standpoint of a people experiencing changes in resource quality and availability. It identifies factors which facilitate or impede local efforts to mobilize for change. Findings of the study contribute to the discourse on collective action.

In the context of popular advocacy for community-based management of resources, this study provides critical insights to development project planners as well as policy makers on issues relevant to the transfer of the state's responsibility over common property or open access resources to local communities. This study contributes to the current debate on the role of the state in the resource management equation.

The method of sociological investigation used in this

study deviates from the conventions of positivism. The study employed a set of participatory research tools which would be valuable to development practitioners and other researchers interested in gender analysis in natural resource management.

IV. Definition of Terms

A. Natural Resource Systems

The current study defines natural resource systems as endowments produced from the earth's natural processes from which people appropriate specific resource units to produce goods for consumption, commodities for exchange or investment (Ostrom 1990). Natural resource systems can be classified into three categories: perpetual, exhaustible, and potentially renewable resources. Perpetual resources consist of inexhaustible endowments on human time scale. Exhaustible resources are non-renewable resources which have a fixed amount or stock. Potentially renewable resources are resources which can be depleted within a particular period of use but can be replenished through natural- or human-assisted processes. For some resources these categories are not discrete. Soil, for example, can be a perpetual resource if it is managed properly. If it is

mismanaged, soil is non-renewable within a short time frame. However, if management practices change before a critical degree of degradation is reached, soil can be renewed.

Natural resource systems are further differentiated on the basis of access and consumption.[2] Access to resource systems can either be exclusive or inclusive. Exclusive access implies limited access to certain resources. Users gain access to resource systems by paying user fees or by membership in certain social group. For other users, their ability to gain exclusive access to resource systems depends upon their possession of the means to purchase the right to own specific resources as private properties. Private ownership gives individuals the right to employ measures controlling access of other users as well as the right to transfer ownership of the resource to another individual.

Inclusive access means that resource systems are available to all potential individual users although access may or may not be regulated by the local community or the state. For example, fishery resource systems may be available to all fishers, but national laws may prohibit fishers from using some types of harvesting technologies. Moreover, inclusiveness may depend upon the scale of

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[2] This discussion is an adaptation of the dimensions Flora et al. (1992) developed to differentiate access and consumption of a community's economic infrastructure.

technology needed to exploit the resource. Deep sea resources, for example, may be exploited only by users who possess very capital-intensive technological capacity.

Consumption refers to the process of withdrawing resource units from the resource system. Consumption can be classified into two categories: joint and rival. Jointness means that within certain limits resource users can benefit from the resource system jointly (Oakerson 1986). Rival consumption means that one persons use of a resource affects another individual's use of the same resource. Air and sunlight are good examples of resources having joint consumption. Air and sunlight support consumption by innumerable users. Trees are examples of rival consumption. A tree cut down deprives another person from continued use of the products from the same tree.

It is important to point out that the difference between joint and rival consumption is not clear cut. When resources are abundant, they can support joint consumption. However, as resources become scarce, their consumption becomes rival.

In this study, four major resource systems will be dealt with: fisheries systems, lowland agricultural systems, upland agricultural systems, and livestock systems.

B. Natural Resource Management

Natural resource management has been used interchangeably with resource conservation (Omara-Ojungu 1992). In this study, explication of the concept is not limited to resource conservation. Natural resource management is a comprehensive concept (Omara-Ojungu 1992). It denotes a process involving choices, compromises, and decisions that individuals or groups make to exploit and enhance the value of resources (Omara-Ojungu 1992). Using O'Riordan's definition, natural resource management

> may be defined as a process of decision making whereby resources are allocated over space and time according to the needs, aspirations, and desires of an individual or group of individuals within the framework of their technological inventiveness, political and social institutions and their legal and administrative framework (1971:19; also cited by Omara-Ojungu 1992).

Embedded in the decision making arrangements in natural resource management are social relationships based on structures of differentiation that determine who decides what in relation to whom (Oakerson 1986).

C. Resources as Capital

Resources constitute forms of capital if used for investment as well as for the creation of new resources (Flora "Social Capital and Sustainable Landscapes"). Flora (1995) identifies five forms of capital: financial and manufactured capital, human capital, environmental capital (raw materials), and social capital.

D. Financial Capital

The most mobile of all forms of capital, financial capital includes cash income, non-cash income, and instruments of credit directed towards investment. Financial capital can be generated individually or collectively (Flora 1995). Financial capital is generated from businesses, remittances, formal and informal sector employment, wage labor, and sale of productive goods.

E. Manufactured Capital

Manufactured capital includes physical infrastructure found in the landscape as well as externally purchased inputs which have been integrated into local production systems. This includes, for example, market stalls,

irrigation system, educational facilities, water pumps for domestic consumption, access roads, and production equipment and inputs which are necessary for capital formation.

F. Human Capital

Individual capacity, skills, training, human health, values, and leadership comprise human capital. Human capital development is enhanced through education and leadership activities.

G. Environmental Capital

Environmental capital includes natural resource endowments produced from the earth's natural processes from which people appropriate specific resource units. These assets can be broadly grouped into air quality, soil and water quality and quantity, and biodiversity (Flora 1995). They can be consumed, conserved, and invested. To be considered as capital, users invest these assets to generate other resources.

H. Social Capital

Flora (1995) defines social capital in a landscape as collective norms of reciprocity and mutual trust embedded in

the networks of relations that individuals build over time. Investment in social capital comes in the strengthening of relationships through patterns of reciprocity and mutual trust. In contrast to capitalist market relations, norms of reciprocity are built on gifts and exchanges within and across socioeconomic classes or what Flora (1995) calls horizontal or hierarchical exchange relations. Horizontal relations of reciprocity imply egalitarian forms of social exchange between people from similar socioeconomic backgrounds, whereas hierarchical or vertical relations portray exchange relationships between individuals or groups from different socioeconomic backgrounds.

Chapter nine specifically analyzes the qualitative dynamics of social capital formation in a changing economy and its implications on household resource management strategies.

CHAPTER TWO

METHODOLOGY

Understanding the landscape and lifescape characteristics of the research site is essential to develop a contextual investigation of the research question.[3] This chapter opens with a description of the research setting. This is followed by a discussion of the research approach that was used to collect information on natural resource management.

I. The Research Site

The research was conducted in Agbanga, Leyte from February to May 1992. Agbanga was chosen for several reasons. First, the presence of three ecological zones provided the opportunity to explore interactions within and across zones. Second, Agbanga is accessible to public

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[3] Landscape and lifescape are theoretical and operational concepts that are core to the SANREM CRSP's research agenda. Funded by the United States Agency for International Development, the SANREM CRSP stands for Sustainable Agriculture and Natural Resource Management - Collaborative Research Support Program.

Landscape refers to biophysical elements while lifescape refers to the social, cultural, political, and economic arrangements.

transportation. Travel time to and from the research base, the Visayas State College of Agriculture, was reasonable.[4] Third, peace and order did not seem to be a problem despite the coming national and local elections. Fourth, the village leaders consented to having research only conducted in the area. No promises of a program or project were made.

Agbanga is one of the 30 barangays that make up the Municipality of Matalom on Leyte Island, the Philippines (Figure 1. Map of Matalom, Leyte, Philippines).[5] Located two kilometers (about 1.24 miles) south of the poblacion or the town proper of Matalom, Agbanga covers about 250 hectares (Agbanga Barangay Council Survey 1991). Approximately, ninety percent of the land is used as agricultural land; two percent for residential lots; five percent government reserves consisting of mangroves and nipa swamp; three percent for the elementary school.

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[4] I previously worked at the Visayas State College of Agriculture (VISCA). Using the College as our research base facilitated administrative support. Staff from the Farm and Resource Management Institute (FARMI) of VISCA also provided input in the direction of the research.

[5] A barangay is the smallest political unit in the Philippines. In Philippine history, barangay or balangay referred to families of Malay origin, who travelled in boats and established settlement in the Philippine islands prior to the Spanish colonization.

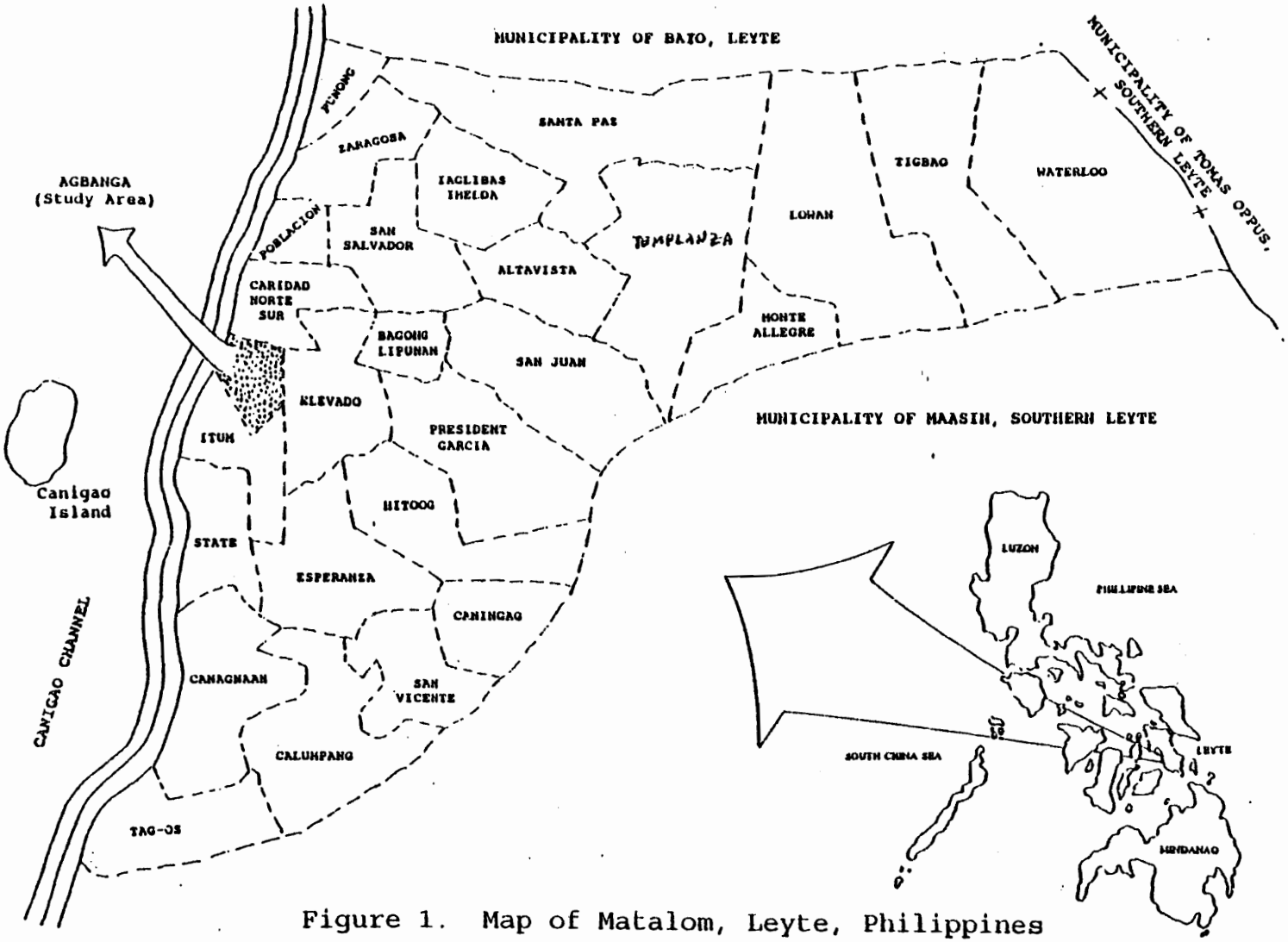


Figure 1. Map of Matalom, Leyte, Philippines

A. Landscape

The name of this small village is testimony to its history of natural resource decline. Oral history reveals that Spanish colonizers named the village after a tree locally known as baganga, which at one time grew abundantly in the area. Like much of the village's natural resources, the presence of baganga trees is becoming a rarity in the area.

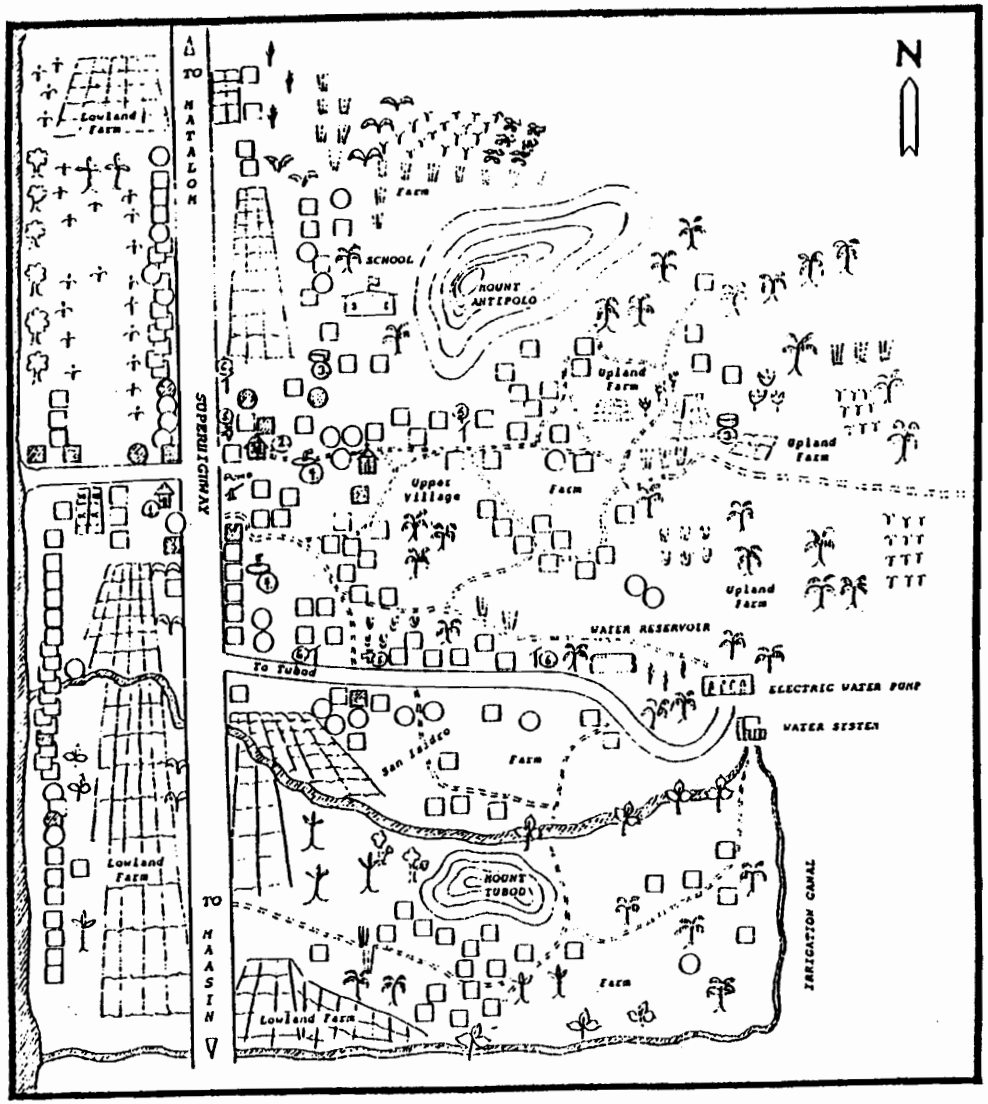
Agbanga is geographically divided into seven sub-villages or purok, which transect the zones. Puting Baybayon is a coastal area; Right Superhighway and Left Superhighway are lowland areas; Upper Village, Mount Antipolo, Tubod, and San Isidro are upland areas (Figure 2. Spot Map of Barangay Agbanga). North of Agbanga is the village of Caridad del Sur, in the south is the village of Itum, east is the village of Elevado, and in the west lies the Canigao Channel. Along the coastal area is a narrow strip of mangrove and nipa swamp, open beach, and coral reefs. The coastal area offers a rich fishing ground for local fishers and those from neighboring towns and islands. Two kilometers offshore from Agbanga is Canigao Island -- a popular fishing area. Until recently the Canigao Channel itself was considered a rich fishing ground. Agbangans now complain of coastal resource

degradation, as destructive fishing methods, primarily the use of locally-manufactured explosives, are being practiced indiscriminately by fishers. Pomeroy (1989) reports that dynamite fishing has significantly destroyed Matalom's original coral reef and the reef around Canigao island. During the period of study dynamite fishing was also observed around the mangrove area.

An abandoned family-owned fishpond, measuring approximately four hectares, is found opposite the nipa swamp. According to the owners, who live nearby, the pond was previously a mangrove. They built the pond in the late 1950s and raised milkfish which they sold to a fish dealer. Due to conflict in water use with rice growers and damage caused by a typhoon that hit the village in the 1980s, the pond is now non-operational.

Irrigated ricefields (lamak) stretch along Agbanga's lowland area. Water coming from an upland spring (tubod) flows through the hand-excavated canals. With reliable water supply, farmers grow rice twice a year. Along the earthen dams, which demarcate rice farms, farmers cultivate root crops. They also tend a few banana and coconut trees.

Agbanga's rainfed upland area is classified into two agricultural land types: flat land (banica) and sloping land (baul). Mixed and intensive agricultural systems characterize upland cultivation. Farmers rotate subsistence



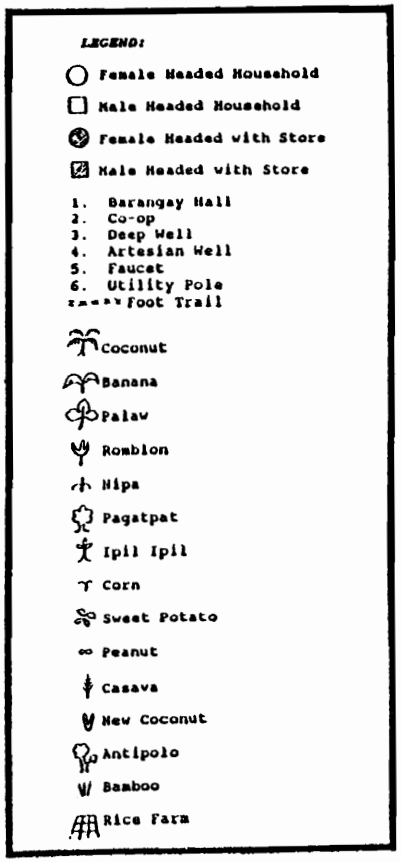


Figure 2. Spot Map of Agbanga.

food crops consisting of maize, sweet potatoes, and cassava. A few farmers include peanuts and mung bean in the cropping system. Vegetables, other types of root crops, and romblon are commonly grown along the farm margins and on the home gardens.[6] Banana and coconut trees as well as bamboo also abound in the upland areas. Hardwood trees are sparse and scattered. Leguminous trees can be found along the borders of the farm plots. Soil erosion and declining soil fertility are among the major constraints to sustainable upland agriculture.

Agbanga is regularly visited by calamities. Typhoons and occasional prolonged dry seasons complicate the villagers' livelihood strategies which depend on extracting resources from fragile areas.

B. Lifescape

A mixed population of natives and migrants inhabit the village. Oral history revealed that settlers came from the islands of Bohol, Cebu, Negros, and Panay. The Boholanos and Cebuanos stayed in the area as evidenced by traces of Binul-anon and Sugbuanon in the spoken dialect. Migrants from Negros and Panay moved to the plains north of Matalom.

[6] Romblon resembles the pineapple plant although it is much bigger. The leaves are used to weave mats.

More migrants, mostly fishers, from the small islands of Cebu came after the Second World War.

Agbanga's population increased from 756 in 1980 (National census and Statistics Office 1980) to 1127 in 1991 (Barangay Council 1991). The 1980 census reported more males (393) than females (363). In 1991, there were more females (596) than males (531). Thirty-five percent of the population ranged from seven to seventeen years old, nineteen percent from eighteen to twenty-five, and twenty-four percent from twenty-six to fifty years old.[7] Seventeen percent were six years old or less. During the period of study the total number of households was 193 compared to 174 in 1990, and 142 in 1980 (National census and Statistics Office 1980; National Statistics Office 1990). Increase in the number of households can be attributed to new household formation or young couples choosing to live separately from their parents.

Thirty-two households are headed by women living without male partners for a variety of reasons, the dominant one being the death of the spouse.

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[7] Demographic breakdown was provided in the barangay census. No age distribution was reported in the 1980 census of population.

The Village Political Structure

The village is governed by a locally elected body or barangay council, which was first organized in 1925. The punong barangay or barangay captain heads the council of six members, two of whom are women.[8] The members represent the seven sub-villages or purok.[9] The council creates ordinances and provides leadership in various barangay projects. Ordinances prohibit cutting down trees, leaving farm animals astray, and using destructive fishing methods. Among the projects undertaken by the council include construction activities such as the village nursery, bridges, open air stage, multipurpose pavement, reading center, market stalls, sea wall, and barangay hall.

Although the current leadership had taken a proactive stance in promoting community beautification and sanitation, the acid test of local authority is the ability of the village leaders to enforce ordinances that will strategically sustain the livelihood of the people through the protection of its fragile natural resource base. This was not evident in Agbanga. The later part of this work

[8] Men and women are eligible to head a purok.

[9] There is only one representative from the sub-villages of Right Superhighway and Left Superhighway.

examines the constraints towards creating a community-based resource management strategy in Agbanga.

Organizations

Including the barangay council, Agbanga has eleven functional organizations, none of which is directly involved in any environmental movement. A description of local organization follows.

a. Farmers Association

The Farmers Association was created in 1976 through the initiative of the Department of Agriculture's extension service. It serves to facilitate the dissemination of agricultural technologies and provide members with an additional source of income. Association activities are concentrated on lowland rice production. Since 1979 it has been farming a hectare (about 2.47 acres) of irrigated land leased from the government. Members contribute their labor to the various production activities. They pay a fine for failing to fulfill assigned activities and attend organizational meetings. At the end of each cropping season, members receive their share of unmilled rice, which is determined by the number of work days they actually

rendered. The Association sells its produce locally. Profits from the first cropping go back to the association to pay for inputs such as fertilizer, pesticide and seeds. Profits from the second cropping are divided into two parts. The first part goes back to the association while the second part is divided among the members. If the harvest is small, members do not get a share. All profits go to the association to finance production expenses.

In the past, the Association extended credit to its members to finance their farm activities. This was discontinued due to slow repayment by borrowers.

The association owns a back-pack chemical sprayer for the rice. Members rent the sprayer at a minimal fee while non-members pay a slightly higher rate. A member, who owns spraying paraphernalia (hat, gloves, and mask), is in charge of the sprayer's upkeep. The Association pays him to spray the Association's farm. He also gives instructions to users on the proper handling of the sprayer as well as chemicals and free advice on the kind of pesticide to apply.

The government-paid Agricultural Production Technician (APT), who is a resident of Agbanga and a member of the association, ensures the link between the Farmers Association and the Department of Agriculture's extension service. Membership in the association provides farmers access to agricultural information through on farm

demonstrations and training programs sponsored by the Department of Agriculture. Extension activities cover a wide range of topics, such us composting, use of carabao manure for fertilizer, integrated pest management (IPM), water management, and others. Two members attended a training on contour farming, but neither seemed actively engaged in hillside farming. According to the APT, while on-site extension activities are open to all local farmers, mostly Farmers Association members attend them.

b. Agbanga Youth Organization

Young people, both men and women, in Agbanga have been organized since 1979 as part of the Marcos government nationwide program. The Agbanga Youth Organization's (AYO) function is to develop cooperation and unity among the young and unmarried population in the barangay. The organization's activities are mostly related to supporting the annual barangay fiesta.

c. Agbanga Professional Organization

The Agbanga Professional Organization is made up of residents with college degrees. The Association provides financial assistance to barangay activities especially during fiesta. Members do not meet regularly.

d. Agbanga Multi-Purpose Cooperative Inc.

The Agbanga Multi-Purpose Cooperative Inc. was formed by the Farmers Association to obtain loans from the Land Bank of the Philippines. Membership is open to non-FA members.

e. Agbanga Chapel Association

The Association coordinates religious activities of the Catholic church and maintains the village chapel. During the time of study, the Association undertook a project to improve the chapel. Members contributed money towards the project.

f. Parents and Teachers Association

The Parents and Teachers Association deals with school related activities in the village. Its activities include school beautification and facilitation of school programs (e.g., graduation).

g. Agbanga Coconut Farmers Association

The Association is comprised of small-scale coconut producers which was organized by the local Philippine Coconut Authority to promote village coconut production.

h. Agbanga Gardeners Association

The Agbanga Gardeners Association promotes village-level production of food and nonfood crops. The association provides free planting materials. Although the Association does not receive direct support from the municipal government, members can obtain seeds and seedlings from the local Department of Agriculture.

i. San Agustin Death Aid Association

The association was formed mainly to provide financial assistance to the bereaved family in covering funeral costs. People raise money only when there is a death.

j. Agbanga Manila Association

The Agbanga Manila Association is comprised of residents currently working in Manila. The association

provides financial assistance to barangay activities especially during fiesta.

k. Catholic Relief Services

The CRS was formed in Agbanga during the 1970s. It is mainly a feeding program for children six years old and under. With the assistance from the parish in Matalom, the program in Agbanga is carried out in the barangay by two barangay volunteers who are women. The program has 50 children. Each member household pays a donation of 20 pesos to cover for the delivery of the goods consisting of yellow corn and milk. Agbanga CRS volunteers also coordinate their activities with the local Department of Social Welfare and Services (DSWD), which also handles food distribution and conducts mothers' class, and a day care program.

Local Infrastructure

Agbanga offers modest facilities accessible to the public. The village has a barangay hall, a reading center, nursery (seedhouse), Catholic chapel, concrete basketball court, and a three-classroom school building. The village public school provides primary instruction. A Barangay Council survey conducted in 1991 reported there were three

teachers employed and 97 pupils enrolled or a ratio of one teacher for every 32 pupils. During the period of study the local government undertook two projects: the remodelling of the barangay stage and the construction of market stalls on one side of the basketball court.

Residents used to get drinking water from open deep wells. In 1970, water pumps were installed. Nine additional faucets were installed in 1990, but water is not yet piped to houses. The present source of water is a natural spring in Tubod. The water project, costing approximately 2.3 million pesos or roughly 88,500 US dollars, was funded by the Local Resource Management Project of the National Economic Development Authority.[10] Users pay a nominal fee to the local government, but fee collection has not been organized. It is not clear who is responsible for collecting the user fees and setting the collection schedules. Presently, the public has access to various water facilities such as artesian wells, jetmatic pumps, and faucets. The are seven privately owned jetmatic pumps, which neighbors most commonly have free access to.

Some women do their laundry by the beach, while others take a long hike up to Tubod. The men wallow their carabaos at the lower portion of the spring. Laundry is also done at

[10] In 1992 the exchange rate was $1.00 = 26.00 pesos.

the spillway where water flows from Tubod, through the ricefield and out to the open sea. Villagers bathe in both sources.

The national highway passes through Agbanga. Travel is facilitated by a variety of land transportation to major areas in Leyte. Pedicabs (motorcycles with a side car) are the easiest form of transportation to the poblacion. Within the village, there are two barangay roads. One goes through the sub-village of San Isidro to Tubod. The other road is from the highway which passes through the sub-village of Puting Baybayon (coastal area) up to the next barangay of Itum. There are numerous trails leading to various points in the village. Villagers use fallen tree trunks for bridges.

II. Unit of Analysis

Households constitute the unit of analysis of the study. Individual households are the locus of strategic resource management decisions. It is, however, noteworthy to recognize that households are made up of individuals with varying interests, needs, and expectations as well as access to and control over resources (Whitehead 1981; Elson 1990). These individual differences as well as the broader social and political context in which households are embedded in shape household strategies (Young 1992). Understanding

household strategies requires analytical instruments to examine the specific and changing ways individual members negotiate and participate in its formulation and implementation.

III. A Participatory Research Approach

The study employed a participatory research approach (PRA) to collect information.[11] Participatory research is a field methodology grounded on facilitating a dynamic interaction between scientists and subjects, comprised of individuals, social groups, or the whole community. It shifts the research process from scientists' control to control by scientists and subjects (Seitz 1995). A participatory research process demands reversals in learning, in that researchers learn first from the subjects, recognizing them as bearers of knowledge (Chambers 1983).

[11] Distinction should be made between participatory research and participatory action research (PAR). In PAR, the community, in particular the powerless and marginalized group, defines, analyzes, and solves the problem. The ultimate goal of research is radical transformation of social reality and improvement of the lives of the people. In this study, social transformation was not the objective rather, it was to explain community resource management strategies using participatory tools to collect information. Like PAR, participatory research as used in this study, rests on the assumption that the problematic situation experienced by the people can best be defined by the people themselves and that researchers take part in the process by systematically collecting and processing information.

Participatory approaches have been used in rural appraisals to design village resource management plans and in agricultural research -- under the rubric of farmer participatory research (FPR) -- to conduct on-farm research experiments (Chambers 1992). Participatory research is also used in modelling bioresource flows, for example, showing the integration of farming systems with aquaculture and other enterprises (Lightfoot et al. 1991).

Methodologies used in participatory research approaches are contextually-specific and are designed to provide verbal and visual interaction among researchers and subjects. More importantly, these methodologies are conceived in a manner that facilitates both the presentation as well as the analysis of information by the subjects themselves (Chambers 1992). In the present study, the participatory research methodologies used in the field provide the analytical tools to examine gender relations in natural resource management.[12] Gender analysis in natural resource management is a contextual and systematic identification and examination of the differences in and the relationships between men and women's activities, responsibilities, and access to and control over resources. An analysis of gender

[12] Gender analysis has been used in agricultural research and in development planning. This study gleans from the gender analysis framework developed by Feldstein and Poats (1989), Rao et al. 1991).

as a dimension of the social relations that structure the lifescape (Seitz 1995) of a community. The analysis brings into focus how gender is experienced differently by women and men across social categories (Elson 1990).

The research process consisted of three major activities: village-level definition of social categories, in-depth participatory data gathering, and formal survey. The in-depth data gathering included four parts: (1) activities analysis, (2) resource analysis, (3) benefits analysis, and (4) trend analysis. The development of field methodologies to carry out these activities was guided by three criteria: theoretical appropriateness, high levels of household member participation, and high levels of enjoyment by the individuals participating (Buenavista and Flora 1994).

First, the research methodology had to fit with the theoretical framework of who within the household and community does what activities and who controls what resources (Feldstein and Poats 1989; Rathgeber 1990). We wanted to know the productive and reproductive responsibilities as well as community roles assigned to men, women, and children in the household (Moser 1993; Rathgeber 1990). Moreover, gender relations within the household determine who has access to and control over resources and the products of labor. Although gender is central in the

theoretical framework, gender experiences vary on the basis of class, age, ethnicity, race, and religion.

Second, the methodologies had to be participatory and interactive. It was not enough to draw responses from interviewees. An environment had to be created where researchers and informants interacted with and among each other. Data gathering was transparent. The methodologies used presented the data to both the researchers and subjects and at the same time each took part in interpreting the data as they were perceived. In couple households, both the husband and wife were present during the whole data collection process. In female-headed households, other adult family members also participated if present.

Third, the methodologies had to have a semblance of a game, using portable props. It was important that interviewees had fun in the process! The data gathering process should facilitate a two-way learning experience for researchers and interviewees.

Each research team consisted of one discussion leader and one or two assistants who took down notes and prepared

the props. Some of the teams were male-female while others were all female.

IV. Defining Social Categories within the Community

Class can be a "simplifying social construct which reduces rather than expresses the complexity of experience" (White 1992:37). Outsiders often enter villages and group households based on categories pulled together from another research environment. To capture Agbanga's social reality, the research subjects themselves identified the social categories in their barangay based on their individual perceptions. These rankings were important to (1) classify each barangay household and, more importantly, identify local criteria of wealth and status. Researchers adapted Barbara Grandin's (1988) wealth ranking methodology. The experience of the Farm and Resource Management Institute (FARMI) staff, who had carried out a wealth ranking of their upland research sites offered valuable insights.

Choosing the geographic area from where the key informants (KIs) were drawn for wealth ranking -- and thus the interviewees -- was based on the following criteria: (1) the area should be small enough so that the KIs would know all the residents they would rank very well; and (2) the area should have no more than 50-70 households so that the

whole ranking exercise would not take longer than an hour. Using the purok as unit of analysis seemed to be the most effective way to achieve the above criteria. Households within a purok seem to know each other very well. The houses are located relatively close to each other. Relatives tend to live in clusters. In all seven purok the number of households ranged from 22 to 40.

The researchers selected three KIs from each purok. One more KI was added with whom we continually consulted over the course of the research because there were just too many things that could not have been otherwise understood without understanding local interpretations and perceptions. Of the 22 KIs, 16 were women.[13] The primary KIs comprised of the council members who each represented a purok. Although two of the council members did not reside in the purok that they represented, this did not seem to pose any problem at all in terms of the KIs' familiarity with the households.

A complete list of the households in each purok was obtained using the village spot map. The researchers prepared a card for each household with the family name and

[13] We ended up interviewing more women than men because the men were either not interested or absent during the activity. Appointments were made prior to the activity although this did not always work out. Nonetheless, even without appointments, most Kis were quite willing to sit down and participate in the activity.

the nickname of the husband and wife, and the household number on a card. Using the nicknames was very useful, because residents commonly addressed each other by their nicknames and did not necessarily know the given names of their neighbors, despite knowing a great deal else about them.

The activity began with the researchers introducing themselves and the ECOGEN research project prior to getting information about the key informant's household.[14] The discussion leader explained the purpose of the wealth ranking activity, emphasizing the project's interest in knowing the key informant's perception of household circumstances within the purok. The key was to draw general descriptions of wealth and status of each group created by the KI and not on specific households. Household circumstance was translated in the dialect as kahimtang sa pagpamuyo.

All family members were encouraged to participate in the activity. Neighbors were discouraged from observing the activity because their presence hindered the KI from openly expressing his/her opinion. The KI was given a pile of cards, which included his/her household's card, and was

[14] ECOGEN stands for Ecology, Community Organization, and Gender. This research was funded by the ECOGEN project of Virginia Tech.

asked to make a pile of households which they perceived had similar circumstances. Following Grandin's method, the discussion leader encouraged the KI to make at least three piles. After the initial categorization, the KI was asked to go over the piles he/she just created and to make changes if necessary. A discussion of each pile ensued, employing the following guide questions: What sort of qualities made you (KI) put these households into one group? Why did you separate the households in this group from the ones in this pile? What are the differences between these two groups? What are the primary features of these households' livelihood strategies? While the discussion proceeded, one of the researchers recorded the household numbers in each pile.

After the interaction, the discussion leader asked each primary KI to name three to four people within their purok who would be willing to do the wealth ranking. Having male as well as female key informants and that the interviewees represented the social categories just created were prime considerations. The same procedure was used for the rest of the wealth ranking activity.

Upon completing the wealth ranking interviews, the researchers checked the rankings of each household received from the various KIs. On the average, KIs ranked their neighbors based on four categories. If rankings were very

different, a researcher personally visited the household and obtained information about the household's living conditions and livelihood strategies. Using that information, the rankings were adjusted accordingly. There were instances when categories were combined into one category or divided into two. It was primarily up to the discretion of the researchers how to interpret the categories although when there were major questions, KIs were consulted. Four major categories for each purok were created.

One major challenge in doing the wealth ranking was getting the key informants to talk about general characteristics of each pile and to compare piles using these characteristics. Often, unavoidably, key informants talked about specific characteristics of each household. This situation left the researchers to determine the predominance or incidence of certain characteristics of each group. A check list of indicators where a researcher could tally each time a characteristic was mentioned might be helpful.

V. In-depth Studies

The in-depth data gathering followed the wealth ranking. Data gathering consisted of activities analysis,

resource analysis, benefits analysis, and trend analysis.[15] All four activities were conducted sequentially, on separate days. Each activity took almost an hour.

A. Selecting Key Informant Households

The sampling strategy used in the in-depth data gathering was purposive. Obtaining generalizable data would be possible if the key informants represented the categories established in the wealth ranking activity. Households that represented a general circumstance as well as circumstances unique to the purok in each category were selected. A series of verifications ensued with barangay informants before approaching the key informant households. Another household was chosen to pretest each activity.

Eight key informant households were picked for the in-depth studies, which included two households headed by women. Asking the key informant households to participate in the data gathering was a challenge. First, the research would definitely take some of their time. Second, no development activity was promised to follow. Third, key informant households initially expressed lack of confidence

[15] The activities, resource, and benefits analyses were expanded versions of the framework developed by Feldstein and Poats (1989).

in their knowledge, as evidenced by the questions they addressed to the researchers: "Will I know how to answer your questions?" "Do I have the knowledge?" It took some time to assure the key informant households that they are knowledgeable and that their knowledge counts in the research process. To ensure that the data gathering activities did not conflict with household activities, appointments were made before meeting with the key informant households.

B. Activities Analysis

For the activities analysis, the researchers prepared a 12-month calendar written on a 36" x 68" Chart (Manila) paper. The months were written on the top across the chart and the set of activities on the left side of the chart. May was the first month of the calendar because May marks the beginning of the rice cropping season.[16] The activities included agricultural production, livestock production, social reproduction, coastal/aquatic activities, attendance at meetings, fruit production, vegetable production, off-farm activities, and non-farm related activities. Since

[16] This was determined by the researchers after observing that it facilitated recall of the production activities. Rice production is a primary activity in the area.

labor processes are both gender-segregated and gender-sequential, effort was made to make each activity as detailed as possible.[17] Space was also provided to write down additional tasks. For each activity, the discussion leader asked the key informants who performed each activity and to indicate the type of labor arrangement if labor outside the family was used. The discussion leader mapped the activities on the chart using symbols, previously explained to the key informants, to represent who did the activity. Socially relevant periods were overlain on the calendar, showing the dry and wet seasons, the hungry months, months that people expect to spend more money than their normal monthly expenditures, and the months when incidence of illness in the barangay is high.

C. Resource Analysis

The information collected from the activities analysis provided the starting point for the discussion in the resource analysis. For example, having the knowledge about

[17] "Gender" is introduced here rather than "sex" to signify the social rather than biological factors that differentiate women and men's experiences. Gender as a social construct unravels relationships of power between women and men within households and among women and men across households. Experiences of gender are shaped by complex sets of intersecting factors, such as class, age, race, and ethnicity.

the various activities identified in the previous exercise, it was possible to list the kinds of resources that members of the household would have access to. The researchers used a manila paper to construct the resource map. Before meeting each household, the researcher sketched on the map the physical lay out of the village, showing the coastal, lowland, and upland areas, and located the house of our interviewees at the center of the map.

The resource analysis began with the discussion leader explaining the purpose of the activity and the processes involved. Using the house as a reference point for resource flow in and out of the household, the discussion leader facilitated the key informants in mapping out the location of productive and reproductive resources, drawing arrows to show the flow of each enterprise and the interconnections that existed. The discussion included the following topics: who had access to the resource, who owned it or the source, crops planted in the case of land resource, sources of planting materials, formal and informal credit sources, location where products were sold, and inputs used and their sources. Information on sources of remittances, source for drinking water, location where the household laundered clothes, access to common property resources, and patterns of exchange relations between households were also drawn.

D. Benefits Analysis

The researchers developed a card game to analyze who had access to the products of the household as well as who controlled the decision making for each product. Products and by-products from the various activities were written on a card. For example products and by-products of corn production included kernel, grits, bran, sheath, and cob. After explaining the purpose of the benefits analysis and the game to the interviewees, the discussion leader dealt cards to the husband and the wife. Each took turns in reading the product/by-product written on the card and in describing who used the product or by-product, how it was used, who decided how it would be used, and who controlled the money if it was sold. If a spouse did not have anything to say of the product/by-product, he/she passed the card to the other.

E. Trend Analysis

The trend analysis was done with key informant households and organizations. Since there was no organization actively or directly involved in natural resource management, it was necessary to include a broad range of local groups including the farmers' association, recipients of Catholic Relief Services (mothers), youth, members of the government-sponsored local resource

management program (inactive), and the barangay council. Researchers met with each group only once. Each group was of mixed gender. Meetings took place in an open area (barangay stage).

The trend analysis consisted of three parts. The first part was mapping out the trend of the resource conditions in the area. Charts were used for the activity. Prior to each meeting, the researchers prepared three charts, showing resource conditions in agriculture, fishery, and forestry. The fishery chart, for example, showed on the vertical axis the state of aquatic life on a scale from zero to five. Five showed a variety of fish, corals, etc., while zero showed total degradation. Though none of the research staff had any special artistic talent, they tried to be realistic with the illustrations. In the fishery chart, the researchers drew fish found in the area, especially those that the people could easily identify. The horizontal axis was labeled as "year". The discussion leader facilitated the informants in describing the resource conditions going back as far as they could remember or based on the stories of their elders and moving on to the present. Informants identified the year when resource conditions started to decline or improve, when specific practices were introduced, and when interventions/programs were implemented by governmental and non-governmental agencies.

The second part of the trend analysis dealt with problem-solving activities. The discussion focused on village-level efforts to solve the problem on resource decline. Knowing that resources are declining, what has been done to address the problem? What have the people done? What have they not done? Why?

The third part of the trend analysis was called "responses to scarcity". In this part, the discussion centered on how rural people were responding to changes in resource conditions. Were they performing tasks differently than they used to do them? This activity involved a simple card game to answer the question. Major activities were each written on index cards. The discussion leader asked the informants how they used to do the same activity in the past and to compare it with the present. To provide ease in recalling past activities, informants compared how they performed certain tasks during the time when they lived with their parents and now that they are living separately from them. In one of the households, the mother of the husband joined the discussion. The presence of two generations made the discussion interesting.

The methodologies described above enabled the researchers to collect a rich volume of village-level information. Their implementation required time and sensitivity to local conditions. Moreover, it was

recognized that these methodologies required basic reading skills from key informants. This requirement, however, did not deter the participation of an informant who belonged to the lowest social category as efforts were made to engage the informant in an informal conversation.

VI. Formal Survey

Following the in-depth studies and validation of the trend analysis with local organizations, a formal survey was conducted. Items included in the questionnaire (Appendix 1) were developed to substantiate initial themes drawn from the in-depth studies. To cite an example, access to and control over land seem to have important implications for land use management. Hence, the survey included questions pertaining to tenurial arrangements, how access to the resource was gained, location of and relationship between tenant and landowner and so forth. Another set of items pertained to modes of fishing and how fishing fulfills a redistributive function in the village. The questionnaire was pretested in the neighboring Barangay of Itum which had similar social and biophysical condition as Agbanga.

Out of the 193 current households in the village, 176 were interviewed. Key informant households were excluded from the survey because of the time and energy that they already devoted in the in-depth data gathering activities.

VII. Analytical Procedure

The research generated thick qualitative and quantitative data. Notes from the in-depth data gathering were written during the research period. In addition to notes, the data collection tools (e.g., charts and diagrams) provided additional source of information. The analysis demanded an iterative process involving numerous revisits of the notes as the analysis progressed (Seitz 1995).

Following the analytical procedure used by Seitz (1995) and Denzin (1989), themes were drawn from the field notes. How these themes were contextually-defined within households and the overall cultural, political, social, and economic aspects of the country were also taken into consideration. The themes guided the construction of the formal survey

VIII. The Research Team

The core team was comprised of 4 members: myself and 3 research assistants. Two of the research assistants are

women. The gender mix of the research team was important in terms of reaffirming our philosophy that interest on gender is not only a woman's interest. Also, the presence of a male member facilitated interaction with male key informants, especially in male-dominated activities such as fishing. All three research assistants were graduates from ViSCA and had some work experience in the College. In addition to the core team, Dale Shields (female) from Clark University, who conducted an ECOGEN participatory research effort in Siquijor Island, Philippines, participated in the research for most of the data gathering process. Dale and I acted as discussion facilitators in the in-depth data gathering process. Other members of the team were given the opportunity to facilitate the discussion after having observed several of the research activities. The core team also received guidance on the methodological techniques as well as content from Drs. Cornelia Flora and Dolores Alcober, who is from ViSCA. Both spent about a week in the field, participating in the data gathering activities.

IX. Reliability and Validity of a Participatory Research Approach

Implementing a participatory research approach is science.[18] Although unlike other scientific research approaches, participatory research uses nonconventional modes of inquiry, but still maintains a systematic process of organizing information into usable knowledge. Within the scientific community, participatory research has provoked relevant debates about its reliability and validity.[19] Reliability and validity in a participatory research process is addressed by using complementary research methodologies and allowing an intimate involvement by the subjects in the research process to facilitate documentation and analysis of their social reality from their perspective.[20]

In this research, in-depth studies with key informant households was implemented using a variety of tools to generate information about their resource management

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[18] Hoover (1976:5) defines science as a set of rules and forms of inquiry created by people who want reliable answers.

[19] Reliability is defined as the extent to which a research tool yields consistent results with repeated applications (Kirk and Miller 1986). Validity is the extent to which it gives a correct answer.

[20] Denzin (1970) advanced the notion of "triangulation" which is the use of multiple methods in the study of the same object.

strategies and the resource conditions in the area. The same tools were used in validating the information with the various organizations in the village. Information generated was further verified through informal conversations carried out by the researchers with the villagers and through experience gained from living in the village as participant observers.

In the validation process, the research tools generated similar themes across households and groups. However, it is important to note that class and gender experiences of the individuals involved provided variation to these themes. To cite an example, while all households reported declines in fishery resources, this reality was differentially experienced by the subjects because of the complex sets of factors which mediate their interaction among each other and the resource. Participatory research facilitates a "subjective mapping of experiences" (Behar 1990; Seitz 1995) and, thus, a proposition is advanced that because these experiences are contextually specific, participatory researchers may have to rethink of their own set of criteria to test for reliability and validity.[21]

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[21] This debate took place in a workshop sponsored by the Sustainable Agriculture and Natural Resource Management-Collaborative Research Support Program (SANREM-CRSP) which dealt, among many other subjects, reliability and validity issues of participatory research.

Finally, in addition to the participatory research tools, a formal survey was done towards the end of the study to obtain a quantitative profile of the households and the community.

X. Presentation of Results

Results presented in this study contain both qualitative and quantitative information. Effort is made to protect the confidentiality of persons interviewed. Social profiles, which I will refer to here as "vignettes", of key informant households are presented in Appendix 2. The names of these households have been changed to maintain anonymity. Whenever applicable, a household or households is (are) quoted in each chapter to substantiate the analysis. As a participatory researcher, I think there is no better method to give each household a human voice in this study other than quoting their own experiences.

CHAPTER THREE

THEORETICAL FRAMEWORK

Recent work in the social sciences reveals that natural resource management implies a broad spectrum of factors which influence household decision making environments. This chapter reviews two of the major approaches that have expanded current dialogues in the area. These are political ecology and gender and the environment.

I. Political Ecology

Political ecology is a methodological approach introduced in the last decade by researchers interested in the processes pertaining to understanding human resource management strategies (Peluso 1992; Schmink and Wood 1987; Blaikie 1985; Blaikie and Brookfield 1987; Hecht 1985; Thrupp 1990). Using a political economy framework, studies in political ecology adopt a structuralist perspective to analyze the relationship between people's resource-dependent activities and the social and political structures that influence how people act upon the natural environment. Political ecologists explain people's resource-related actions by providing a critical and contextual analysis of

the social relations in which individuals and/or social groups are embedded and linking this dynamic to the broader political and economic processes (Peluso 1992).[22]

An examination of the social relations of production bring into focus the relations of power embedded in the process of appropriating aspects of the natural resource base. Human resource management strategies embody the interests of various social classes, possessing varying degrees of social power (Schmink and Wood 1987; Peluso 1992). In Schmink and Wood's (1987) study of the political ecology of the Brazilian Amazon, the authors illustrate how competing economic groups struggle to control ideological and state political structures to ensure access to forest resources.

Dominant ideological structures consist of belief systems which serve to maintain existing social and economic arrangements as orientations for action and to promote the

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[22] The contextual approach used in political ecology is adapted from human ecology's "progressive contextualization" popularized by Vayda (1983). Peluso (1992) and Schmink and Wood (1987) discuss in brief the methodological difference between political ecology and human ecology.

Blaikie and Brookfield (1987; see also Blaikie 1985) call the structural factors operating at the micro level, place-based factors because they are endogenous to the geographic area. Macro level factors are non-place based factors, consisting of economic, social, and political networks which do not have a geographic expression but nonetheless influence resource managers' decisions.

interests of particular social groups, commonly the dominant economic class (Schmink and Wood 1987). State-supported economic development models, characterized by emphasis on accelerating the national economy through export-oriented and resource-extractive production regimes, represent ideological forces which seek to pattern the social, economic, and political behavior of various classes and justify particular resource management strategies (Peluso 1992; Blaikie 1985; Blaikie and Brookfield 1987; Schmink and Wood 1987; Thrupp 1990). In Indonesia, ideological and structural transformation between the 1960s and 1970s ushered in changes in the country's forest policy and resource use, emphasizing large-scale industrial development of extractive resources, primarily rattan (Peluso 1992).

The state's interaction with local resource management strategies constitutes a significant concern in political ecology. Political ecologists critically examine the relationship between the society's economic base and the state to explain how and why the state through its institutions operates in the interest of the dominant class (such as the investors in the Amazon or the logging concessionaires of Java) or reproduce a mode of production which is biased towards a specific economic class.

Political ecology offers theoretical richness by linking micro and macro level issues to explain local

resource management strategies. It particularly pays detailed attention to social class differentiation in the organization of resource appropriation. The literature, however, has not accorded comparable attention to gender as a social and analytical construct which potentially influences resource management strategies.[23] The next section presents an approach which locates gender at the core of the analysis.

II. Gender and the Environment

Discussions on gender and the environment encompass multiple threads of feminist scholarship which address an array of social, cultural, and political dimensions pertinent to natural resource management. This section discusses three major perspectives, categorized by on how gender has been conceptually defined vis a vis the natural environment. The first perspective discusses women's interaction with the natural resource base in the context of their social roles. The second perspective brings in the feminist view of the gendered construction of ecological knowledge and provides a logical connection to the ecofeminist discourse. Finally, the third perspective

[23]Blaikie (1985) provides a brief discussion of the relations of power within the household.

posits that to understand the complex issues of natural resource management a socially and historically contextualized analytical framework must examine how gender intersects with various forms of social differentiation as well as other structures impinging on people's lives.

A. Women's Social Roles and Natural Resource Management

Women's dependence on the natural resource base has been commonly discussed within the context of their social roles (Dankelman and Davidson 1988).[24] Women appropriate various aspects of the natural resource base to fulfill their social reproductive role in the household.[25] They harvest plant and tree products which they use as cooking fuel, fodder, food, and medicine (Hoskins 1981; Molnar and Schreiber 1989; Rodda 1991). Women are also responsible for collecting water to serve the multiple needs of household members (Rodda 1991). In coastal villages, women and

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[24] Social roles refer to the culturally prescribed expectations, duties, and rights that define women's social position within a given society and their relationship with the people that they interact with (Andersen 1988).

[25] Social reproduction encompasses individual and collective strategies involving the transformation of goods and services essential to the daily regeneration of the labor force (Brydon and Chant 1989). In most societies, women play a crucial role in processes of social reproduction.

children engage in small-scale fishing and glean reef flats for subsistence and market production (Illo and Polo 1990; Firth 1984; Pomeroy 1987; Sobritchea 1992, 1994; Norr and Norr 1992). They also perform other fishing-related activities, such as processing and vending, using either formal or informal channels that they have established.

Researchers working within this framework, analyze the intersection between women's reproductive work and the natural environment. Women's roles and responsibilities in social reproduction influence how they manage natural resources. Whether they head the household or not, women pattern their behavior in accord with nature to ensure the subsistence needs of their families (Rodda 1991). Thus, researchers have been quick to point out how resource degradation negatively impacts women's work.

B. Gendered Ecological Knowledge Systems

The second perspective deals with the gendered nature of ecological science (Merchant 1980; Shiva 1989; King 1989; Rocheleau 1988, 1991). It posits that women and men have separate and interlocking knowledge systems (Rocheleau 1991). Gendered ecological science is rooted in the social division of labor and gender differences in opportunities and access to and control over resources (Rocheleau 1991; Li

1993). Women's marginalization in the process of modern technological advancement and exclusion from full participation in the market economy have enabled them to preserve ecologically sound practices (Peluso 1991). Rocheleau (1991) views women's indigenous ecological knowledge as a science of survival.

A radical stance on the relationship between gender and ecological preservation is grounded in the ecofeminist discourse. Ecofeminism embodies several strands of thought, but it stands on one common vision: the symbolic embeddedness of women in the nonhuman world (Agarwal 1992).

Vandana Shiva's work, Staying Alive (1989), locates the ecofeminist vision in the Third World setting. She illuminates the feminine principle in nature and women's social role in producing life with nature. Shiva expands the ecofeminist thesis by linking the processes of (mal)development and change, which she describes as

patriarchal projects, with the marginalization of the feminine principle in nature and in society.

Specifically focusing the dialogue on women's knowledge systems distinguishes the second perspective from ecological anthropology. Ecological anthropology studies a particular social group and the relationship between the group's cultural behavior and the natural environment. It idealizes "traditional" systems in relation to the conservation of resources and ignores the social and political dimensions which influence resource users' behavior.

The integration of gender into natural resource management elucidated the differential roles of women and men and made invisible women's work visible. Research in the Third World paved the way to gaining initial understanding of the context in which women and men perform various activities and the issues pertaining to resource access and control.

While research has made strides in addressing gender bias in natural resource management, more questions continue to loom. Agarwal (1992), for example, comments that speaking of a single or homogeneous Third World women's experience is an essentialist discussion and poses an analytical problem. In her critique of Shiva's ecofeminist project, she identifies factors such as class, caste, race, ecological zones, etc. which differentiate Third World

women's experiential understanding of the environment.[26] Agarwal questions the unchanging nature of the ideological construction between gender and nature as posited by ecofeminists (and ecological anthropologists). Gender and nature are not timeless categories (Collins 1991). Rather, both are linked to specific social and historical contexts. Agarwal further takes issue at exclusively attributing colonialism, modern reductionistic Western science and Western model of development to violence against nature and women (Shiva 1989; Merchant 1980). Using India as an example, she points out that forms of social differentiation, which would have affected natural resource management strategies by different classes and social groups, already existed prior to the British colonial era. Present development strategies, resource use, and social change, she says, are products of a complex pre-colonial and colonial heritage. She therefore calls for the development of a framework which renders a structural analysis of the causes of environmental degradation.

[26] For other critiques to Shiva's (1989) work, see Braidotti 1993 and Sethi 1989.

C. Feminist Environmentalism[27]

The third perspective uses a structuralist framework to analyze women and men's interaction with the natural environment. Complex human interrelationships constructed through class and gender relations as well as other cultural, political, economic, and social factors combine to create contextual structures within which women and men make decisions and act upon (Nyerges 1987; Hyma and Nyamwange 1993; Agarwal 1992).

Nyerges' (1987) study of the Western African Susu reveals the conflation of social and economic factors which facilitate the exploitation of labor and land. In a "gerontocratic" and patriarchal Susu social system, elder and wealthy men maintain their position in society by controlling access to labor markets and responding to market demands for cash crops, particularly chili peppers. They compete for access to scarce labor by controlling women's labor through polygyny and young men through domination of their cooperative work group. Lacking control over household and work-group arrangements, young men are forced to abandon their standard, ecologically adapted farm practices. Interaction with the cash economy has meant more

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[27] This concept is taken from Agarwal (1992).

work for women, who have to combine groundnut cultivation for subsistence and maintenance of cash crops.

Hyman and Nyamwange (1993), who studied women's role and participation in community tree-growing activities in the Kiambu District of Kenya, point out that social and institutional structures, such as land tenure and security, customs, taboos, and beliefs, determine women's adaptation to changing environmental conditions.

One's position in the class and gender hierarchy determine access to productive resources as well as the privilege to participate in decision making processes. There is, however, growing recognition that class and gender form only part of the structuring process (Agarwal 1992; Collins 1991). Collins (1991), for example, links the expansion and contraction of the world economic system and the role of the state to subtle gender-linked changes in the division of labor, resource tenure, resource management strategies, and technological innovation. Agarwal (1992) identifies that processes of degradation, statization (or the appropriation of the state) and privatization are the primary factors which interactively and independently account for the differential class and gender effects of environmental change in India.

The political ecology and feminist environmentalism theoretical framework informs the development of this

project. Using the political ecology framework, I attempt to examine the broader processes that influence rural households' resource management strategies. Feminist environmentalism, on the other hand, offers the tool to examine micro level processes to explain why households differentiated by class, gender and other forms of distinction manage their resources in ways that sometimes cause resource degradation and, thus, endangering their own survival.

CHAPTER FOUR

SOCIAL DIFFERENTIATION IN AGBANGA

I. The Villagers' Criteria of Social Differentiation

The Marxist approach to class is based on the rudimentary division based on possession or non-possession of the means of production. Capitalists own the means of production while the workers' only way to generate income is to sell their labor-power to the capitalists. Using the same definition to analyze the class structure in Agbanga oversimplifies the complex social reality that its villagers currently experience. In the wealth ranking exercise, key informants identified several criterion with which they grouped the households within their sub-village. These are 1) access to and control of major productive enterprises, 2) type and scale of productive enterprise, 3) non-agricultural cash income from remittances and regular job, 4) household health and structure, and 5) investment in human capital through education. While the first three would be identified by traditional Marxist approaches, the last criteria relates to a Chayanovian analysis of sources of wealth. Importantly, the wealth ranking criteria were developed inductively rather than deductively.

The importance of these indicators of wealth was realized only after reviewing the qualitative data of each of the households' activities, resource, and benefits profile, and complementing that information with formal survey data. A more critical analysis of the qualitative data revealed other factors which significantly contributed to the household's socioeconomic position in the community. First is the degree of dependence on a social network to participate in productive activities. Second is the degree of direct participation of women and children in productive activities. Our qualitative data consistently showed that through key informant households gained access to productive activities as well as resources through social networks and deployment of women and children. From a materialist perspective, these two factors are not immediately recognizable because they reflect use value rather than exchange value. As we shall see in Agbanga, women's and children's participation in productive enterprises are much woven into their social reproductive responsibilities and in cultivating social networks.

A. Access to and Control of Productive Activities

Access to productive enterprises refers to the ability of the household or its members to participate in productive

activities, generally, with limited involvement in decision making. Access is gained, for example, by working as a share harvester in which the worker does not participate in the decision making processes, but gain access to the resource in the form of a non-cash income. Control of productive enterprises means ownership of the means of production and, therefore, having the power to decide the course of the activities.

Agriculture, fishery, home-based activities, trading, and hiring out ones labor comprise the productive enterprises which enable household members to generate cash income and/or goods for home consumption or investment in other productive activities. Agricultural enterprises are categorized into lowland and upland farming. Lowland farming is considered to be more important than upland farming, as rice (produced in lowland areas) is staple in the local diet and declining soil fertility is perceived to be a constraint in sustaining upland production. Income generating activities performed within the sphere of the household comprise the home-based enterprises. Petty trading involves buying and/or selling of locally-produced resources.

B. Type and Scale of Productive Activities

Types of productive activities include agriculture, fishery, home-based activities, trading, and sale of labor. Scale of productive activities can be qualitatively distinguished as to whether the type of enterprise simply fulfills the households' subsistence needs or allows for capital accumulation.

C. Education and Non-Agricultural Income

Non-agricultural income includes income from businesses, remittances, and formal and informal sector employment. Businesses are entrepreneurial activities which include small general (sari-sari) stores, operation of motorcycle cabs (pedicabs), and carpentry. Remittances are external sources of income provided by household members who have migrated to places outside the community. Remittances may be sent periodically or whenever financial need is expressed. Children, who have found jobs as domestic helpers and factory workers mostly in Manila or have regular

jobs in the public and private sector, are the major sources of remittances.[28]

Education is a primary requirement to qualify for regular jobs. A college degree opens possibilities for obtaining a white collar job, brings prestige not only to the local "professional" but also accords status to the entire household. It facilitates the household's upward social mobility in the community. Human capital development through education entails considerable financial investment, especially because there are no nearby colleges. Key informants differentiated households by their capability to allocate resources towards their children's college education as well as presence of college degree holders among households.

D. Household Health and Structure

Age and physical condition of household members determine the households' ability to organize multiple income strategies. In Agbanga, the presence of adults implies the availability of labor which could be deployed for wage-earning activities as well as reproductive activities.

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[28] An employed household member are usually expected to assist their families in financial stress by providing for the family's subsistence needs or financially supporting another household members' education.

Children are viewed as dependent on the income generated by older household members. In the dialect, they are called "mga gastuhan" which means that they are financially dependent on the parents or adult member. In reality, however, children make up the unremunerated labor force.

The physical condition or health of household members either limits or encourages their ability to engage in productive activities. Key informants used poor health as one qualitative criterion to characterize poor households in the community.

E. Social Networks

Social networks are socially-crafted institutions which bond households within and outside kinship groups into relationships of mutual obligation. They constitute "resource-sharing institutions" (Illo 1990), because connections are manifested in gift giving, exchanges, labor assistance, and invitation to work which provide access to productive resources. Fulfillment of mutual obligations and repetitive exchanges strengthen inter-household social bonds. Networks expand through participation in social rituals such as being invited to act as wedding or baptismal sponsor. One gets an entirely different picture of class,

power, and power relationships within the village if the subjects of the study are disconnected from their social network than if one views subjects vis a vis their membership in strategic networks as crucial to the relationship.

F. Degree of Direct Participation of Women and Children in Productive Activities

The degree to which women and children directly participate in wage-earning or income-generating activities is indicative of the socioeconomic position of households in the community. Among better off households, women's participation in wage activities is much less than that of women in low income households because of the ability of the former to substitute capital for their labor. Women as well as children from low income households, on the other hand, will willingly intensify their involvement in agricultural activities and labor-intensive ("back-breaking") home-based enterprises to gain access to cash (and non-cash) income to procure goods necessary for the social reproduction of the household.

Using the five criteria generated from the wealth ranking, four categories of households were created: Class I, Class II, Class III, and Class IV. A summary of the

characteristics of the four social categories is presented in Tables 1a to 1e. In the following sections I will describe the four categories of households, using the information generated from the formal survey. This information is complemented with the qualitative information provided in the in-depth studies.

Table 1a. Number of Households by Social Class

Class I	Class II	Class III	Class IV	Total
21.0 (37)	25.0 (44)	31.8 (56)	22.2 (39)	99.9 (117)

Note: Number of cases are in parentheses.

Table 1b. Summary of Access to Financial Capital by Social Class

Financial Capital	Class I	Class II	Class III	Class IV
Household access to livelihood strategies and rank	#1 Employment by state or private firm #2 Lowland farming #2 Fishing #3 Upland farming	#1 Lowland farming #1 Fishing #1 Employment by state or private firm #2 Upland farming	#1 Fishing #1 Lowland farming #2 Upland farming #3 Sell labor	#1 Sale of labor power #1 Lowland farming #2 Upland farming #2 Fishing

Table 1b. Summary of Access to Financial Capital by Social Class

Financial Capital	Class I	Class II	Class III	Class IV
Household members' participation in off-farm labor and rank	#1 Daily wage labor (pasuhol) #2 Labor exchange (ayon) #3 Contractual labor (pakyaw) #3 Harvesting (tabang) #4 Weeding and harvesting (ambo)	#1 Daily wage labor (pasuhol) #2 Weeding and harvesting (ambo #2 Harvesting (tabang) #3 Labor exchange (ayon) #4 Contractual labor (pakyaw)	#1 Daily wage labor (pasuhol) #2 Harvesting (tabang) #3 Weeding and harvesting (ambo) #3 Contrac-tual labor (pakyaw) #4 Labor exchange (ayon)	#1 Daily wage labor (pasuhol) #2 Labor exchange (ayon) #3 Harvesting (tabang) #4 Weeding and harvesting (ambo) #5 Contrac-tual labor (pakyaw)

Table 1b. Summary of Access to Financial Capital by Social Class

Financial Capital	Class I	Class II	Class III	Class IV
Women household heads' participation in off-farm labor and rank	None	#1 Harvesting (tabang)	#1 Daily wage labor (pasuhol) #2 Harvesting (tabang)	#1 Labor exchange (ayon) #2 Harvesting (tabang) #3 Weeding and harvesting (ambo) #4 Contractual labor (pakyaw) #5 Daily wage labor (pasuhol)

Table 1b. Summary of Access to Financial Capital by Social Class

Financial Capital	Class I	Class II	Class III	Class IV
Women's participation in home-based production activities and rank	#1 Hog raising (12) #2 Nipa shingle making (7) #3 Mat weaving (5) #4 Abaca knotting (4) #5 Sari-sari store (3) #5 Selling cooked food (0)	#1 Mat weaving (8) #2 Hog raising (6) #3 Selling cooked food (5) #3 Nipa shingle making (5) #4 Abaca knotting (4) #5 Sari-sari store (1)	#1 Mat weaving (20) #2 Abaca knotting (14) #3 Hog raising (13) #4 Nipa shingle making (10) #5 Selling cooked food (4) #6 Sari-sari store (3)	#1 Mat weaving (13) #2 Abaca knotting (11) #3 Hog raising (6) #4 Selling cooked food (3) #4 Nipa shingle making (3) #5 Sari-sari store (1)

Table 1b. Summary of Access to Financial Capital by Social Class

Financial Capital	Class I	Class II	Class III	Class IV
Percent of households receiving remittances	46.0 (17)	43.0 (19)	46.0 (26)	36.0 (14)

Table 1c. Summary of Access to Environmental Capital by Social Class

Type of Access	Class I	Class II	Class III	Class IV
Lowland:				
Percent of households who have purchased land	14.8 (4)			
Percent of households who have inherited land	2.2 (6)	11.1 (3)	13.9 (5)	16.7 (3)
Percent of households who are share-tenants	62.9 (17)	88.9 (24)	86.1 (31)	83.3 (15)
Total	99.9 (27)	100.0 (27)	100.0 (36)	100.0 (18)

Note: Number of cases are in parentheses.

Table 1c. Summary of Access to Environmental Capital by Social Class

Type of Access	Class I	Class II	Class III	Class IV
Upland:				
Percent of households who have purchased land	14.3 (3)		12.0 (3)	4.8 (1)
Percent of households who have inherited land	61.9 (13)	47.6 (10)	40.0 (10)	42.9 (9)
Percent of households who are share-tenants	23.8 (5)	52.4 (11)	48.0 (12)	52.3 (11)
Total	100.0 (21)	100.0 (21)	100.0 (25)	100.0 (21)

Note: Number of cases are in parentheses.

Table 1d. Summary of Access to Human Capital by Social Class

Level of Education of Adult Members	Class I	Class II	Class III	Class IV
College graduate				
women	9	1	1	0
men	4	1	0	0
High school level				
women	5	7	5	3
men	4	2	4	1
Secondary level				
women	7	14	18	9
men	6	12	7	8
Primary level				
women	6	12	15	16
men	6	14	23	9
No years of schooling				
women	3	3	1	3
men	2	0	3	7

Table 1e. Summary of Access to Manufactured Capital by Social Class

Type of Access	Class I	Class II	Class III	Class IV
Percent of households with access to fishing gear:				
Net				
self-financed	20.0 (2)	3.8 (1)	1.7 (1)	5.3 (1)
financier	10.0 (1)	3.8 (1)		5.3 (1)
Long-line				
self-financed		7.7 (2)	19.0 (11)	
financier	20.0 (2)	19.2 (5)	19.0 (11)	50.0 (9)
Dynamite				
self-financed		3.8 (1)		
financier	10.0 (1)	3.8 (1)	19.0 (11)	10.5 (2)

Note: Number of cases are in parentheses.

Table 1e. Summary of Access to Manufactured Capital by Social Class

Type of Access	Class I	Class II	Class III	Class IV
Percent of households with access to fishing gear:				
Hook and line				
self-financed	10.0 (1)	15.4 (4)	17.2 (10)	5.3 (1)
financier	30.0 (3)	7.7 (2)	3.4 (2)	5.3 (1)
Fish trap				
self-financed		11.5 (3)	8.6 (5)	
financier		19.2 (5)	12.1 (7)	15.7 (3)
self-financed and financier		3.8 (1)		5.3 (1)
Total	100.0 (10)	99.7 (26)	100.0 (58)	(100) (19)

Note: Number of cases are in parentheses.

Table 1e. Summary of Access to Manufactured Capital by Social Class

Type of Access	Class I	Class II	Class III	Class IV
Households who own fishing craft non-motorized				
one boat	2	3	8	1
two boats	1			
motorized				
one boat	3	6	6	
four boats	1			
Households who own compressor				
one unit	3	2		
four units	1			

II. Class I

Thirty-seven (21%) out of 176 households surveyed belong to Class I. Class I households are engaged in a variety of enterprises, particularly fishing and agriculture. They have some control over local productive resources, particularly land and fishing gear. Class I households have members who are college degree holders and are employed in the formal sector.

In ranking their major sources of livelihood, Class I households ranked employment by state or private firm first, lowland farming and fishing second, and upland farming third. Non-farm incomes from private or public sector employment and remittances that children send in provide a steady flow of money, which are pooled into the household economy. Seventeen out of 37 of Class I households receive remittances, which they mainly use for consumption.

Class I households invest in human capital development through formal education. A wife from a key informant household tells about her two sons who are degree holders. When the first son graduated from college and found a job, he took the responsibility of sending his third sibling to college. The second son provides financial support for his fourth sibling to finish a course in engineering. The youngest son is in high school and under his parents' care.

Although none of his siblings has committed to finance his college education, this is definitely forthcoming.

Women have higher educational attainment than men. Nine women have college degrees compared to 4 men. There are, however, three women and two men with no years of schooling.

Twenty-seven out of the 37 Class I households are engaged in lowland agricultural enterprise; 21 households are engaged in upland agricultural enterprise; and 10 households are engaged in fishery enterprise.

Class I households' access to lowland farm, however, is primarily through share-tenancy. Although upland farming ranks third as a livelihood source, many Class I households are upland farm owners, with land obtained primarily through inheritance. They comprise the largest social group who inherited lowland farms (22%) and upland farms (62%).

Only ten Class I households are engaged in fishing enterprise, most of who are financiers (pinancer) and employ a crew of men (kompaniya) working under a share arrangement. They use nets (pukot), long lines (palangre), dynamite (boom), and traps (bobo).[29] None use hook and line (pasul). They own fishing boats and gear. One household, for

[29] A key informant from Class II household introduced to the researchers the word, "boom" to mean fishing using dynamite.

example, owns 4 motorized boats, each equipped with a compressor.[30] A key informant household owns 5 nonmotorized boats; four are rented out to relatives and friends, using a share mode of payment.

Class I household's ability to substitute capital for labor exempts women and children from labor-intensive activities, particularly in agriculture. However, among Class I households who participate in off farm activities, husbands mostly participate in paid off farm work (pasuhol and pakyaw), while husband and wife teams participate in share harvesting activities (ambo and tabang). Children, on the other hand, consistently participate in all off farm activities.

Women from Class I households are actively involved in hog raising.[31] The wife in the key informant household makes a good business on the boar that she raises. She gets an offspring whenever her boar is used for breeding and distributes the offspring to other villagers under share rearing arrangement (alima).

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[30] There are only six households who own a compressor in Agbanga. The two other compressors are each owned by Class I households. The remaining two compressors are each owned by Class II households.

[31] Women's home-based production activities is discussed in detail in the next chapter.

Class I households' social network is wide and cuts across socioeconomic groups. Located on top of the socioeconomic bracket, they are often approached to sponsor weddings or baptisms, which is indicative of high status. The wife of the key informant households said that they hire "people close to their heart" -- adult godchildren as well as relatives -- to work on their farm.

There are eight households in this category which are headed by women. Four of these households are headed by unmarried women.

III. Class II

Like the previous class, Class II households have diversified livelihood sources. Fifteen households ranked lowland agricultural enterprise, and nine, fishing, as their primary livelihood. Employment in state or private firm was ranked first by only three households. Upland farming is a secondary source of livelihood.

Twenty-seven out of 44 Class II households are engaged in lowland agricultural enterprise; 25 households are engaged in upland agricultural enterprise; and 15 households are engaged in fishery enterprise. Class II households access to lowland and upland farms is primarily through share-tenancy.

Class II households engaged in fishing use long lines (palangre), dynamite (boom), and fish traps (bobo) (Table 11). Of the nine bobo fishers, three are self-financed, five belong to a kompaniya, and one is both self-financed and kompaniya. Two households engage in dynamite fishing. Three households own nonmotorized boats while 6 own motorized boats.

Nineteen out of 44 Class II households receive remittances, which are used mostly for consumption. A key informant household remodelled their house from the remittances sent by their children working in Manila. Through their children they acquire capital goods to start new productive enterprises. Two daughters each bought a brandnew sewing machine and plan to start a tailoring business, while a son bought a fishing boat engine. The couple had planned to sell one of their caracalves to buy a boat.

Eight households have extended families, with members who are engaged in farming, fishing, and non-farm activities. Household labor is vital in all productive activities. A key informant household depends on their children, including those who are married, in all fishing activities. A male child maintains the fishing boat and gear and fishes together with the kompaniya employed by his

parents. All household members participate in salting or drying fish. The wife takes charge of selling the fish.

A woman, who heads a household, gets assistance from her children, who have separate households, to continue cultivating her small upland farm. Her son helps her hire workers while her daughter handles the financial aspects of the enterprise. She always hires her brother and brother-in-law to prepare the land. She confesses that most of the time her daughter acts as the financier and gets a share of the harvest.

Among Class II households men's participation in all off farm activities continues to remain high. Also, showing increased participation in comparison to Class I households is husband and wife participation in all off farm activities. Participation by one female head of household is noted in share harvesting, tabang. Women from Class II households are engaged in home-based production activities, particularly mat weaving, hog raising, and abaca knotting. Eight Class II households are headed by women.

IV. Class III

Fifty-six households in Agbanga belong to Class III. Twenty-one households ranked lowland agriculture enterprise as their primary livelihood source, while 23 ranked fishing enterprise as their primary livelihood. Upland farming was ranked second by 19 households.

Forty out of 56 Class III households are engaged in lowland agricultural enterprise; 28 households are engaged in upland agricultural enterprise; and 30 households are engaged in fishery enterprise. Class III households gained access to lowland and upland farms primarily through share-tenancy.

There are 30 Class III households who are engaged in fishing, the largest group of fishers (54%) among the four social classes. Twenty-two households practice long- line harvesting method, 12 use hook and line, 12 use fish traps, and 11 use dynamite. Among those who use long lines, there is an equal number self-financed fishers and fishers who belong to a kompaniya or financed by a financier. Dynamite fishing is mainly collective or kompaniya. More than half of the bobo fishers are both self-financed and belong to a collective. Of the total number of fishing households, only 8 own non-motorized boats and 6 motorized boats. None of the households owns a compressor. Lack of access to fishing

craft and gear suggests that Class III fishing households work for financiers from either Class I or Class II households or other fishers who own a boat.

Twenty-six out of 56 Class III households receive remittances, used primarily for consumption. The comprise the highest percentage of households (34%) that receive remittances across social groups. None of the households have members who have access to regular jobs. Class III households show high participation in daily wage labor (pasuhol) and share harvesting (tabang). Participation by women head of household is noted in daily wage labor and share harvesting.

Class III household women's participation in home-based production activities is markedly high in mat weaving followed abaca knotting and hog raising. Five Class III households are headed by women.

V. Class IV

Thirty-nine households in Agbanga belong to Class IV. Ten households in this category ranked lowland agricultural enterprise as their primary livelihood. Another 10 households identified sale of labor power as their primary livelihood. Class IV households are the rural poor that have limited access to productive resource (Figure 3. Class

IV Household Resource Map. Their labor is their only capital asset. Wage labor enables them to gain access to cash and non-cash income on a daily basis. They depend largely on social networks outside their kin group to organize their subsistence needs. Everyone survives on a daily basis. They are known to "search, cook, and eat" or to live a hand to mouth type of existence. Diversification for this group is a matter of survival. Members may engage in fragmented micro income-generating activities that do not require significant capital outlay. They gather raw materials from public or open access areas.

Eighteen out of 39 Class IV households are engaged in lowland agricultural enterprise; 26 households are engaged in upland agricultural enterprise; and 13 households are engaged in fishery enterprise. Class IV households gained access to lowland and upland farms through primarily share-tenancy. The comprise the largest group of share tenants in the upland and third in the lowlands.

Class IV households participate in off farm activities to gain access to cash and noncash income. Participation in daily wage labor, labor exchanges, and share harvesting are among the common off farm activities that Class IV households participate in. Compared to the other social groups, participation of women head of households is noted in daily wage labor (pasuhol), weeding and harvesting

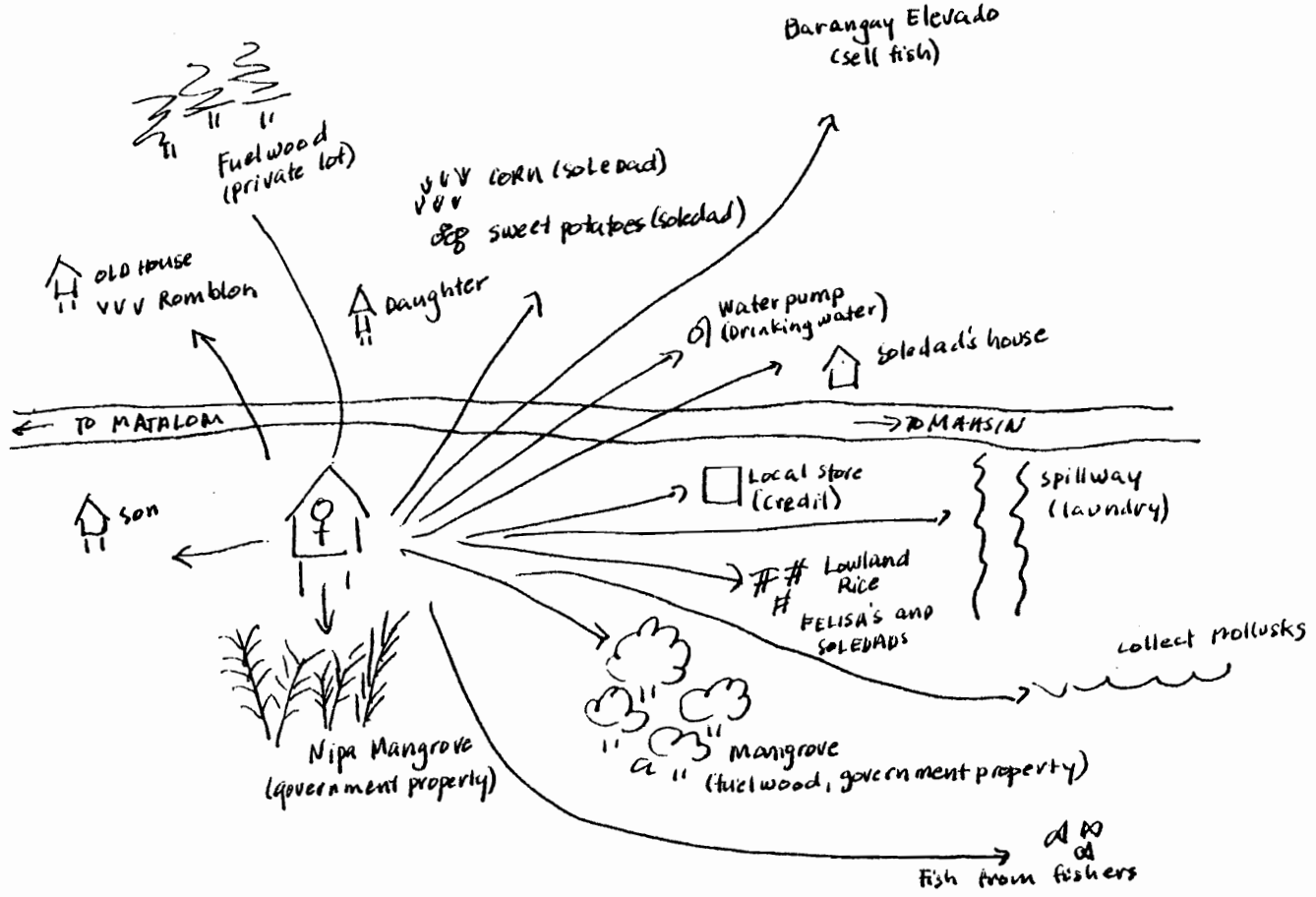


Figure 3. Class IV Household Resource Map (Female-headed)

(ambo), contractual labor (pakyaw), share harvesting (tabang), and labor exchange (ayon).

Thirty-six percent (n=14) of the households receive remittances, used primarily for home consumption. Eight women, who are households heads, belong to Class IV. Six of them are widows.

Class IV household women's participation in home-based production activities is markedly high in mat weaving and abaca knotting.

VI. Summary

In this chapter, I presented and described the four social categories which were created from the wealth ranking exercise. The analysis revealed several key points that would contribute towards our understanding about the intersections of social factors and natural resource management. First, regardless of socioeconomic status, Agbanga households have multiple resource-dependent livelihood strategies pursued jointly or separately by its members. However, the higher the class, the more they are able to diversify and exercise control over their resources. Diversification of the household economy is necessary not only because farming and fishing are seasonal, but also to augment family income and reduce risk. The type and scale

of livelihood strategies vary across social groups. For high social class households, diversified economic activities allow certain members to obtain cash with which to finance current productive activities or other economic niches. For households from low social class, diversification is a matter of survival. It provides the possibility for everyday access to cash and non-cash income necessary for household reproduction. The diverse livelihood strategies pursued by all households across social groups in Agbanga depend on the exploitation of the natural resource base. Second, intersection of class and gender shape access to and control over productive resources. Our analysis reveals that for low socioeconomic groups to gain access to resources they have to complement both wage and non-wage labor activities. Non-wage labor activities, such as share harvesting, give them seasonal access to and control over staple resources. Men have better access to both wage and non-wage labor opportunities than women. Women are more visible in non-wage labor activities than in wage labor activities. However, women, who head households in low socioeconomic groups, participate in both wage and non-wage labor activities. Third, financial capital, generated in the fishery enterprise, is invested in harvesting technologies which facilitate capital accumulation among the financier class, but do not

contribute to the sustainability of the fishery resource systems. The introduction of technologies of scale in the fishery enterprise is redefining the inclusiveness of the aquatic resource base. Its accessibility is gradually being limited to fishers who have access to capital intensive technologies and social networks controlled by the financier class. Fourth, access to and control over resources differentiates women's participation in and choice of home-based production activities. Our data suggest that women's choice of home-based production activities depends upon their ability to access the resources as well as financial capital necessary to implement these activities. For example, while hog raising seems to be common across social groups, there are more women from Class I households and Class II households, who raise hogs, compared to the other social classes. This can probably be attributed to the fact that Class I and Class II households readily have access to land where they can grow crops, networks to obtain a free supply of crops and crop-by products, and capital to purchase manufactured goods such as feeds and medications. Women from lower social class tend to focus on activities, such as mat weaving and abaca knotting, in which resources are readily available to them and require less capital expenditure. In the case of mat weaving, for example, women do not necessarily need to have

access to upland farm land to grow their own romblon because romblon can be grown on their home gardens. They can also have access to romblon leaves through exchange or by purchasing them locally. As will be explained in the following chapter, raw materials used for abaca knotting are external to the village; however, women readily have access to them through a network of suppliers. Both abaca knotting and mat weaving require less capital than hog raising and also provide immediate returns to the women. However, women, who piece abaca together, do not have control of the resources that they use as well as the end products. Mat weavers, on the other hand, exercise management decisions as to allocation of romblon leaves, in other words, whether to sell the leaves to other weavers, give them away as gifts, exchange them for other goods or use them to weave mats, as well as the end products. Women sell mats, exchange them for other goods or give them away as gifts.

Home-based production enterprises enable women to diversify household livelihood strategies. However, the maintenance of these enterprises and linking them to their community management work entail women having control over the resources critical to the management of these enterprises.

The realities in Agbanga show that diversified livelihood strategies facilitate the coexistence of

precapitalist and capitalist modes of production. Diversified strategies represent a response to a situation in which no single activity can adequately support household maintenance and reproduction.

Precapitalist relations are manifested in subsistence types of activities performed by households or their members as well as relations based on reproducing social networks. Subsistence activities give households security and in some aspects a sense of control over food supply. When they say that goods they locally produce are for home consumption or "para konsumo", this connotes avoiding dependence on purchased foodstuffs.

Class I and to some degree **Class II** households fulfill their household needs from subsistence farming and wages from regular jobs, and engage in other activities where they have the possibility to accumulate capital. While all households depend on the natural resource base for their livelihood, Class III households, particular, and Class IV households exhibit the highest dependence. Class III households are primarily fishers while Class IV households are agricultural workers. A decline in the natural resource base will have its impact most on Class III and IV households because their livelihood strategies mainly depend on the utilization of the natural resource base. It is further worth noting that Class III and Class IV households'

access to the natural resource base is facilitated by membership in social networks.

Social network plays an important role in enabling access to agricultural resources, where households across social groups have gained access to land through inheritance and tenancy.

By coordinating family labor, households intensify their participation in productive activities to obtain cash and/or non-cash income. In all social groups precapitalist institutions provide the possibility to recreate and subsidize labor for market-oriented activities and direct cash and/or non-cash income not used for household consumption towards the consumption of manufactured goods.

Agbanga typifies a rural community in transition. Transition towards a market economy presupposes the articulation between precapitalist and capitalist modes of production. Capital's expansion in rural economies reinforces the reproduction of precapitalist relations, such as social networks built on exchange relationships which depend on the availability of resources.

The following chapter describes the changes that have taken place in Agbanga as a consequence of capital's expansion in the rural economy.

CHAPTER FIVE

A VILLAGE IN TRANSITION

Capitalist expansion in rural economies has taken many forms. This entailed transformation of production processes, opening village economies to accommodate manufactured capital, change in the access to and control of resources with the privatization and commodification of resources, and valuation of labor. Transformations in agriculture and fisheries, which were previously subsistence-based livelihood activities, is experienced with the emphasis towards capitalization. In this chapter I will describe how Agbanga and its people are experiencing transition towards a market economy. The discussion will focus on the productive enterprises, integrating into the analysis how capitalism is differentially experienced across class and gender groups.

I. Agrarian Transformation

A. Gaining Access to Private Land

Land is a primary resource in Agbanga. Farm land is differentiated into three categories: lowland (basak), flat

upland (banica), and sloping upland (baul). Average farm size for all categories is less than one hectare. Before lands were privatized, around the turn of the century, people gained land through use rights. Following a land use survey conducted by the government, possibly during the Spanish period, land ownership was formalized through the distribution of land titles. In an era when cultivable land was still abundant because of low population and when resources were exchanged rather than purchased, the establishment of formalized resource ownership did not seem relevant. Some people exchanged their farm lands for local tobacco (hunsoy) or for a machete. Short of cash, others pawned (prenda) their land to local money lenders for an indefinite period of time.

Present access to land in the village shows more local ownership of upland farms than lowland farms. Villagers had gained access to upland farms through inheritance rather than purchase. In the lowland, access was gained through share tenancy. As shown in the previous chapter, Class I households comprise the largest social group who own lowland farms while Class II households comprise the largest group of share tenants in the lowlands. There is more local ownership of upland farms than lowland farms. Across social groups, ownership of upland farm is gained primarily through inheritance.

Seventy-eight percent of the owners of tenanted lowland farms live outside Agbanga compared to 59% in the uplands. It is unknown whether outsiders had the first opportunity to buy parcels in the lowlands, transfer of ownership occurred through exchanges or pawning (prenda) or whether the owners improved their situation and moved out.

Social networks play an important factor in assuring the landless access to arable land. The networks depict relationships between landowner and tenant, some existing for several generations. Because land is scarce, people queue to gain access to and control over it. The queue begins within the household. Rights to farm or use the land commonly passes within the household or among relatives rather than outside kinship groups. Parents pass their tenancy or leasehold rights as well as ownership rights to their children. Of the 87 households, who are lowland farm tenants, 57% reported that family members/relatives were the previous tenants of the land they currently farm. A similar observation was made for the uplands. Tenants keep their tenancy rights for as long as they are able to cultivate the land. Years of tenancy ranged from one to more than 20 years. The mean number of years tenants have maintained their tenurial status is 12 years for the uplands and 14 years for the lowlands.

Networks are even more crucial if tenants and landowners are not related to each other or if landowners live outside of Agbanga and have to rely on local recommendations. A Class II key informant household has kept its tenancy status of the lowland farm that they cultivate for about 23 years already. The landowner had moved to Mindanao Island and designated his sister to act as the administrator. The new administrator did not get along well with the tenant, but is a good friend of the key informant household. She and the wife were formerly neighbors in Matalom. Their spouses are good friends, too. So every time she visited the farm, she would spend a leisurely afternoon with the key informant household. Through connection with the administrator, transfer of the tenancy to the key informant household was facilitated. They said that at that time the owner replaced the old tenant the agrarian reform was not yet strictly implemented so the process was "relatively easy".

Concerns about the government's agrarian reform program have strengthened the importance of social networks in tenant-landowner relationship. Fearing that non-family members would resort to agrarian reform laws to obtain ownership of the land, choosing a tenant is a critical decision. The owners will likely choose relatives and persons with whom the owners have social ties or have

cultivated a generation of patron-client relationship. Likewise, tenants may prefer working for relatives for security of tenurial status. A Class III key informant household was previously a tenant of an unrelated landowner. Their relationship with the landowner was not so congenial. The landowner mistrusted them and suspected that they would seek assistance from the Department of Agrarian Reform to gain control of the land. Because of this situation, the husband decided to give up his tenancy and worked as tenant for his relative. Although he received more share from the first landowner, he prefers working for his relative because he knows that he has secure access to land.

Among the landed residents of Agbanga, transfer of ownership within the family seems to be "loose". Information gathered from key informant households who have inherited land showed that land title is still under the deceased parents name. The current owners obtain legal hold of the land by paying declaration taxes.

B. Transformation in the Agricultural Production Process

Capitalist penetration in the agrarian economy has transformed certain processes in agricultural production. This is most evident in the rice farming systems in which technological change has refashioned all rice-production processes. In the past farmers in Agbanga planted traditional rice varieties in both lowland and upland areas. Production was entirely for household use. Farmers chose from six traditional rice varieties and planted only once a year. They exchanged seeds among themselves rather than purchasing them. The production process depended on the natural endowments of the ecosystem and seasonal variations of the area. The men prepared the seedbed in the upland. Transplanting the seedlings in the lowland was done by household members and other workers. Either women or men gave away extra seedlings to other farmers. Currently seedlings are sold at 15 centavos per bundle. Prior to transplanting the rice seedlings, farmers soaked them in a basin, containing a mixture of water and bat droppings (guano), collected from nearby caves. During the 1950s farmers practiced double cropping both in the lowland and upland, using traditional rice varieties. The first crop was planted in June and harvested around November (panuig). The second crop was planted in December and harvested around

March (pangulilang). This initial drive towards intensive production corresponded to a national campaign aimed at increasing food availability for growing urban centers. Thus, in addition to household subsistence requirements, market demand began to shape local farm decisions.

Significant transformation in rice farming occurred in the 1960s with the penetration of modern science into the countryside. The Green Revolution launched high yielding rice varieties, bred to respond to specific growth environments. The new seeds were bred to be nitrogen responsive and, thus, required the application of commodified inputs, which are external to the ecosystem. Exogenous resources replaced indigenous knowledge constructed on the basis of local social and natural interactions.

The process of "substitutionism" or the replacement of traditional raw materials with synthetic inputs (Goodman and Redclift 1991) was facilitated by the government's agricultural extension office. Extension agents promoted local adoption of modern rice varieties as well as chemical inputs and modern practices which accompanied the technological packages. Introduction of chemical inputs was not limited to rice systems only, but also in other productive activities where extension provided service. The household participants in the in-depth data gathering

revealed that they got information on farming techniques, particularly chemical use, from extension agents.

Towards the end of the 1980s triple cropping was introduced by the extension service. Farmers practiced triple cropping for only one year. They went back to double cropping after they observed a decrease in yield due to rice bug and stem borer attack. Pest infestation was attributed to successive cropping.

C. Commodification of Labor

In lowland rice production, land preparation, uprooting rice seedlings from the seedbed, transplanting, weeding, and harvesting require precise timing and labor in addition to family labor. In the upland systems labor demand is highest in land preparation, planting, weeding, and harvesting. As in the past, landowners or tenants still employ hired labor for various production activities. The difference, however, is that in the past, owners or tenants themselves had to go out of the village to hire workers because labor was scarce. An owner recalled going to neighboring villages early in the morning to contact workers. Presently, the abundant supply of workers, consisting not only of landless individuals (including fishers) but also those who farm small parcels of land, has resulted in local competition for jobs. Workers

often use their social networks to obtain employment. As mentioned in the previous chapter, godchildren, for example, seek employment from their godparents. Employers respond to the social expectation by preferentially hiring relatives and ritual kin.

Labor arrangement in the village ranges from mutual labor exchange to a variety of ways by which labor is commodified. Mutual labor exchange (ayon-ayon) -- even among landowners and non-landowners -- prevailed in the past. The ayon was a large group comprising of 20 members, both male and female. Farmers organized labor exchange for land preparation, weeding, harvesting, and uprooting seedlings. Present labor exchange consists of small groups of three to five members and are commonly gender-exclusive. Women organize an ayon mostly to uproot seedlings, while men organize to prepare land for planting. Ayon is practiced less now than in the past. The change perhaps can be attributed to the emphasis on forms of employment in which workers earn either cash or share from harvested crops.

Daily wage work (pasuhol) has been practiced in Agbanga for several decades. In the past, however, mostly men hired out their labor, while women and young girls performed housework and worked on the family farm. Some women said they started doing wage work only when they got married.

They have to make ends meet and cannot rely solely on the income of their spouse to support the household. They are hired to uproot rice seedlings, transplant, weed, and harvest. Men prepare the land for planting, which includes plowing and harrowing. They also sell their labor for activities which used to be dominated by women. Workers are paid less if they are provided with meals than without meals.

Contractual labor (pakyaw) is another form of wage employment. Landowners and tenants commonly contract a local tractor operator for land preparation or a group of workers, mostly comprised of men, for certain agricultural tasks, particularly transplanting and harvesting. Some farmers prefer pakyaw over pasuhol, because the former does not require job supervision. Contract workers have the reputation for finishing tasks fast to meet other contract obligations. By employing contract workers, farmers decrease labor cost because they are no longer obliged to provide workers with meals plus a gallon (or more) of coconut wine after work.

Despite increasing commodification of labor in most agricultural activities, harvesting has retained traditional forms of sharing. Share harvesting maintains the village social structure by ensuring landless workers and marginal farmers a portion of the output. In the past, the harvest

season represented community festivity. Harvesters set aside some rice to prepare sweets (magpilipig). They worked in teams known as bolhon, composed primarily of men. Non-harvesters went to the field to entertain them. At the end of the harvest, landowners hosted a banquet. The share of the harvester was between one-fourth and one-fifth. Harvesters received a bundle of unthreshed rice. According to the villagers, the bolhon stopped when food prices increased. Cultivators could no longer afford to finance festivities. Presently, harvesters use their share mainly for home consumption.

Recent forms of participation in harvesting are tabang and ambo. In tabang workers harvest, thresh, and winnow. Sharing arrangement between workers and cultivator is locally called winalo. Workers get one share of unmilled rice (palay) for every eight shares that the cultivator gets. The past sharing arrangement under tabang was one-third.

Ambo was introduced into the village around 1980. Under this system, workers who weed a certain plot or plots are given exclusive right to harvest the same plot(s). Harvesters also thresh and winnow the grain. Sharing arrangement between harvester and cultivator is one-seventh. In both tabang and ambo, household members operate as a working unit to increase the household's share of the

harvest. Even young children are involved in harvesting. In the past only adults harvested, because traditional rice varieties were taller in stature than the modern rice varieties. The ambo system provides security of labor tenure for the worker households. It assures workers access to a field for the coming harvest season. Workers do not have to compete for work. Under this system, workers are not remunerated immediately after weeding. They receive remuneration only after harvesting by getting a share of the harvest.

Ambo represents a decline in real wages (Carner 1981). It deprives workers, especially the landless and women, of cash income from weeding and, thus, forces them to borrow money to make it through the next harvest. Traditional credit schemes include butang. Under such arrangement workers borrow money and pay the debt with rice grain.

In the upland systems, workers who sow corn seeds used to get a share of 100 corn ears during harvest. Contract workers received 100 corn ears for every ganta of corn seeds sown. [32] Present sharing arrangement is one-seventh or one-eighth of husked corn.

Participation in off farm labor increases the lower the socioeconomic status (Table 2). Daily wage labor (pasuhol)

[32] One ganta is equivalent to 2 kilos or 4.4 pounds.

is the most common type of off farm labor engaged in by households within and across social groups. Among Class I and Class IV households, labor exchange (ayon) is the second most important type of off farm labor that households participate in. Across social groups, however, share harvesting (tabang) shows the second highest percentage of household participation. Twenty-five percent of Class III households participate in tabang) while an equal percentage (21%) of Class II households participate both tabang and ambo.

Table 2. Type of Household Off Farm Labor by Social Class

Off Farm Work	Social Class I	II	III	IV	Total
Daily wage work (pasuhol)	33.3 (12)	30.3 (23)	26.0 (27)	29.3 (29)	28.9 (91)
Weeding and harvesting (ambo)	13.9 (5)	21.0 (16)	17.3 (18)	19.2 (19)	18.4 (58)
Contractual labor (pakyaw)	16.7 (6)	10.5 (8)	17.3 (18)	14.1 (14)	14.6 (46)
Harvesting (tabang)	16.7 (6)	21.0 (16)	25.0 (26)	24.2 (24)	22.8 (72)
Labor exchange (ayon)	19.4 (7)	17.1 (13)	14.4 (15)	27.1 (13)	15.2 (48)
Total	100.0 (36)	99.9 (76)	100.0 (104)	99.9 (99)	99.9 (315)

Note: Number of cases are in parentheses. A household is included in the category if any member participates in it.

D. Producing for Home Consumption: Dilemmas of Low Productivity

Conversations with key informant households, which were validated during meetings with local organizations, revealed that Agbanga used to be agriculturally self-sufficient. Landed households as well as tenants depended on the farms to satisfy their consumption needs as well as to meet social obligations. Farm produce was abundant, requiring farmers, especially the landed ones, to build storage facilities. Rice farmers stored unthreshed rice in a small hut locally known as dapa. When they depleted their kitchen supply they threshed and milled rice manually. Sweet potatoes were stored underground and corn was stored in huge storage baskets. Supplies lasted until the following harvest season. According to one villager, "Nobody sold agricultural produce because there were no buyers." Instead crops were exchanged for other commodities or shared with neighbors. One of the key informant households mentioned that her parents would leave a portion of their sweet potato plot unharvested intended for the Holy Week, fiesta, and other important occasions.[33] They slaughtered a pig and

[33] A widespread institution that bears the Spanish influence, fiesta is an annual celebration in honor of a patron saint of a particular locality. Villagers expend considerable time, money, and food for the festivities.

paid farm workers with the meat. The rest of the meat was used for home consumption and shared with neighbors.

Current agricultural activities combine production for home consumption and for the market. Market relations in the sale of agricultural products illuminate changes in the relationship between buyers and sellers, particularly in the control over by-products. In the past sellers maintained control over agricultural by-products. When they sold rice grain to local buyers, they got back the rice bran, which they fed to their livestock. Presently, control over by-products has shifted to the buyers. Buyers keep the rice bran, cutting off sellers from an important part of their product.

Past increases in agricultural productivity enabled farmers, especially the landed, to sell their produce. They practiced the paligid system, in which rice is sold right after harvest. They also sold corn, sweet potatoes, and coconut meat. Women, in particular, either brought their produce to the poblacion or to other municipalities during market day or sold their produce to buyers who came to the village.

The development of transportation networks facilitated the selling of agricultural crops to as well as purchase of inputs from municipal markets. Public buses and jeepneys travel to municipalities north and south of Agbanga. There

is no information on which market farmers prefer to sell their crops or best serve their needs.

Presently, agricultural productivity is declining. Landed farmers no longer store unthreshed rice in make-shift huts, a result of production decline rather than the adoption of better storage practices. Right after threshing and drying, people store the grain in sacks. Women bring the sacks of grain to the poblacion to be milled. Traditionally, women set aside palay and use it only during the next harvest to ensure that their families would not run out of seed rice. This practice is rarely followed today in the village. In most cases, whatever women are able to store is consumed before the next season's harvest. Villagers no longer store sweet potatoes underground. While horticultural crops are primarily for subsistence purposes (pangkonsumo), women from poor households may be forced to sell some of their produce and use the money to purchase basic subsistence items and manufactured goods or pay debts. Others directly exchange their produce for goods produced from another ecological zone.

II. Transformation in the Fishery Enterprise

Like the agricultural enterprise, capital has induced transformations in fishery, as can be observed in the process of harvesting marine resources and their distribution within local and outside markets. And like agriculture, transformation in the fishery enterprise is a discontinuous process. For example, the fishing technology used in Agbanga has undergone significant transformation from the simple, inexpensive hook and line technique to more capital intensive techniques which allow fishers to exploit marine resources. However, other components in the production process, labor in particular, maintain non-capitalist relations.

A. Inclusive Access to Primary Resource

One major difference between agriculture and fishery is access to the primary resource. Commodified agricultural land means limited or "exclusive" access (Flora et al. 1992). Access is guaranteed by ownership or through rights sanctioned by the owner. Private ownership of land gives the owners the right to employ measures to control access as well as the right to transfer ownership of the resource to another individual.

The Canigao Channel is the primary marine resource for fishers. Unlike land to which access has been made exclusive through privatization, the Channel is used jointly by fishers from Agbanga and from neighboring villages and islands. It is a common resource characterized by "rival consumption" and "inclusive access", which makes it particularly hard to control (Flora et al. 1992). The absence of collective authority in Agbanga leaves the indiscriminate exploitation of resources uncontrolled. The are no property boundaries regulating access to coastal resources. Detailed guidelines as to who may become a fisher are nonexistent. Although local and national ordinance had been enacted to direct users on how to exploit resources, strict enforcement vacillates. Villagers, especially fishers, have not taken it upon themselves to stop the use of explosives which destroy coral reefs and thus future fishing. This is an example of the absence of social capital - especially when they demand that the state act more authoritatively and violently to prevent them from misusing the resource.

B. Harvesting Technologies

The extraction and utilization of resources from the Canigao channel depend on access to fishing craft, gear or harvesting technologies, skill, and capital. Access to fishing craft and gear requires capital. Depending on the boat's size, a new non-motorized boat costs between 600.00 to 1,500.00 pesos or roughly 23.00 to 58 U.S. dollars.[34] Fishers need approximately 400 to 700 pesos to assemble a simple, wooden-hulled boat locally known as banca, which is equipped with two outriggers for stability. Nails, paint, glue, and marine plywood are the basic materials needed to construct a boat and are available in large town markets outside Matalom. A non-motorized boat is powered by paddle and/or sail. Only one person can be accommodated in a small sakayan, while the larger boats can accommodate four. When fishers go out to the sea, they are either alone or have one other companion in the boat. Non-motorized boats operate approximately within about three kilometers off the shore (Pomeroy 1989). Boats can be used from 10 to 12 years if properly maintained and repaired (Spoehr 1980 cited by Pomeroy 1989).

[34] $1.00 = 26.00 Philippine Peso

The more modern, motorized craft, locally known as "pumpboat", resembles the non-motorized boat. The pumpboat, however, is larger in size than the non-motorized craft and powered by an inboard engine or makina. Fishers can go as far as 20 kilometers off shore using a motorized boat (Pomeroy 1989). The price range for a standard-sized, general pumpboat is between 1,500 to 4,500 pesos. An eight horsepower engine may cost around 3,800 to 4,500 pesos. Agbanga residents purchase gasoline from the poblacion.[35] They are stored in plastic gallon containers or Coca Cola bottles and transported via jeepney or pedicab.

Class III households own most of the non-motorize crafts, while Class I households own motorized crafts. Fishers use various fishing gears or harvesting technologies. Some harvesting technologies can be assembled inexpensively, such as hook and lines, while others require capital investment. Small-scale fishers own fishing gear, while financiers control capital-intensive deep sea fishing technologies.

[35] Gasoline is sold at 6.00 pesos per liter or about $.23 per gallon.

1. Hook and line Fishing

Hook and line (pasul) fishing is probably the oldest fish harvesting technology in Agbanga. A hook and line is a relatively inexpensive fishing gear; hence, most of the hook and line fishers are self-financed. Hook and line fishing is an entry level for many fishers, although some continue to use it throughout their life (Pomeroy 1989). This type of fishing gear is commonly used by Class III households.

Fishers assemble their own gear, consisting of either a single line with a baited hook (pasul) and/or a single line with home-made artificial fish-like lures (Pomeroy 1989). Small fish, especially anchovy, are used as bait or paon for hook and line fishing. Hook and line fishers use either motorized or non-motorized boats; the latter, however, is most common.

Presently, however, some Agbanga residents, both fishers and non-fishers, complain that hook and line fishing has become difficult because of the decrease in fish population. It is almost impossible to catch fish around the mangrove areas. People attribute the decline in fish population to destructive harvesting technologies, particular the use of explosives by local fishers.

2. Fish Pots

Fish pots or baskets were introduced in the area between 1930 and 1940 by a fisher from Improved, who currently lives in Agbanga. During the second World War fishers stopped using fish pots because of the risk involved since Leyte was one of the sites where the American and Japanese fought. Fishers resumed using fish pots in 1955 and since then has been practiced by local fishers. April and May are reportedly the season for using fish pots because the sea is calm (linaw) and fish are abundant. Fish pots are made of a locally-grown bamboo known as tunokon, which is cut into strips and woven by hand. Fish pots have an oval body with both ends rectangular in shape. Each pot is held together by nylon thread and nails. It has a funnel-shaped, non-return entrance with sharpened tips. Fish pots are laid on the seafloor, the depth depending on the size of the pots. New pots are left for about two to three weeks to allow algae to build up. Fishers check the pots every day and harvest every two to three days. A fish pot lasts about 5 to 7 months before fishers replace them.

Agbanga fishers use two types of fish pots: panggal and bobo. Panggal are small-sized fish pots measuring about 1 x 1 meter with a hole (mata) size of about half an inch. One regular-size bamboo pole, which costs about 10.00 pesos (.38

cents) or can make a single panggal. Labor cost about 30 pesos ($1.15). Small pots sell between 70.00 to 80.00 pesos ($2.70. - 3.07). Weights, usually pieces of rock, are laid to weigh down the pots on the seafloor, about 5 to 10 dupa deep.[36] Divers camouflage the pots among stones and corals. Around the 1950s fishers used the hampas method to set up their panggal on the shallow areas. Coconut fronds were arranged towards the entrance of the panggal to serve as fish shelters. Hampas is no longer practiced because there are few fish in the shallow areas. Fish pots also get stolen.

Panggal fishing requires two fishers to perform the operation. A non-motorized boat is used to bring the pots out to the sea and during harvesting. A good catch ranges between 3 to 5 kilos per pot.

The bigger fish pots are called bobo. A single bobo can be assembled using five bamboo poles. It measures about 180 x 30 cm with a hole size of 1 x 1 inch. Labor cost to make one bobo is approximately 100.00 pesos ($3.85) and sell between 150.00 to 180.00 pesos ($5.80 to 6.90). With the aid of a compressor (kompresor), which provides air while they are underwater, installed on the motorized boats, divers (boso) lay the bobo on the ocean floor about 10 or

[36] Dupa when translated literally means arms-long. Ushijima and Zayas (1994) translated dupa to fathom.

more fathoms deep.[37] Usually four fishers are involved in harvesting, two of who are designated as divers. The other two stay in the boat make sure that the compressor is working. Divers go underwater with a babit, which is a metal bar tied with a rope attached to the boat, and fasten the babit to the pot. Fishers in the boat wait about 10 to 20 minutes before pulling the rope to haul the bobo out of water. Catch ranges between 5 to 20 kilos.

Fish traps are commonly used by Class II Households. Nineteen percent of Class II households belong to a kompaniya or work for a financier while 12% are self-financed. While bobo-making is largely a male-dominated activity, there also women who participate in the activity. Most of them belong to Class II and Class III households.

3. Long-line fishing

Long-line fishing (palangre) was introduced around the 1950s. A palangre is made of a long horizontal nylon line measuring about 400 meters long with vertical 15-inch nylon branch lines, called kuwambot, at intervals of three millimeters. There are about 400 to 500 hook-carrying

[37] A kompresor is a mechanical device making use of an oxygen hose connected to the compressor on board a pumpboat (Ushijima and Zayas 1994). Divers use the hose underwater as a breathing device, lasting about half an hour.

branch lines in a palangre. Hooks vary in size. Bigger hooks are used for fish weighing more than one kilo and the smaller ones for fish weighing less than a kilo. Both nylon line and hooks are available in the poblacion. The gear costs approximately 500.00 pesos.

Fishers begin assembling their gear during the day time. The process is time-consuming and tedious. They check for missing hooks, replace them, and untangle the nylon line. Fishers use oil to clean each hook and to prevent it from rusting too quickly. Men usually work in a team of 2 or 3 (kompaniya) financed by a financier. Self-financed household usually would involve both husband and wife in maintenance activities. Long lines last four to five years.

Fishers start looking for bait around 3:00 in the afternoon. Most common baits are squid and anchovy. Fishers buy bait or get them (especially anchovy) from their share in dynamite fishing. Fish vendors commonly use an empty plastic oil container to measure (Caltex) the bait.[38] A can of squid costs 20.00 pesos and about 12.00 to 15.00 pesos for a can of anchovy.[39] When anchovies are abundant following dynamite fishing, fishers can buy them for ten

[38] "Caltex" is used as a local measure which is approximately equivalent to one kilogram.

[39] Cost of bait depends on the season.

pesos a can. If there are no baits available they use artificial lures.

Palangre fishing is all year round, but March till May are the more favorable months because anchovy is abundant. Although fishers can use non-motorized crafts for long line fishing, motorized boats are commonly used. Catch varies from two to ten kilos. Fishers point out that if they are lucky (suwerte), they can harvest more than ten kilos at 45.00 pesos per kilo.

There are 40 fishers in Agbanga who are engaged in palangre, 27 work for a financier (kompaniya) while the rest are self-financed. Class III households show the highest number of long-line fishers both self-financed and working in kompaniya.

4. Spear Fishing

Spear fishing (pana) is also practiced in Agbanga. Divers (boso) go 15 to 30 fathoms equipped with a modified bow made of metal, compressor, modified under water flashlight fastened on each diver's head, and a pair of wooden flippers. To protect spear fishers from being cold under water, they wear long-sleeved shirts and jogging pants. Spear fishers stay underwater for 10 to 20 minutes and target fish usually weighing more than a kilo. In Matalom spear fishing for cuttlefish has become popular with

the opening of an export market to Japan through Cebu (Pomeroy 1989).

5. Nets

Net fishing, locally known as pukot, is of two types: bottom set gill net and drift gill net. Bottom set gill netting is widely practiced by fishers. They use different mesh sizes to catch a variety of fish. Ready made nets may cost between 1000 to 8000 pesos, depending on the size of the net and mesh. Nets last about 5 to 7 years and require regular repair and maintenance. Either a motorized or non-motorized boat is used for the operation.

Fishers, in teams of five to six members, set the net close to a sandy seafloor to keep the net from getting destroyed by the sea corals. Nets are left underwater overnight and hauled the following day. Bottom set gill net fishing is used all year round.

There are eight fishers in Agbanga engaged in net fishing; three of who belong to Class I households.

6. Dynamite Fishing

Dynamite fishing also locally known as boom, dinamita, pabuto, or tiro has been practiced in the area since the

1930s. Fishers secured explosives from military personnel and construction workers, who used explosives to level the ground. Fishers called these explosives binudbud (probably named after its shape like a traditional glutinous rice wrapped in banana leaf) and sisienta negra.

After the Second World War, dynamite fishing intensified as fishers found new supplies of explosives: unused explosives which they called "demolition dynamites". Residents say that dynamite fishing was controlled during the Martial Law period (1972 to 1982) because of the imposition of the "shoot to kill" ordinance. Dynamite fishing once again intensified towards the end of the 1980s.

Current explosives contain a mixture of ammonium nitrate, which is used as fertilizer for mango trees and supplied from the neighboring Dawahon island, and fuel oil. A local financier purchases fertilizer on a cash basis from a supplier in Dawahon island at 1,600.00 pesos ($62.00) per sack or about 60.00 to 80.00 ($2.30 to $3.07) per kilo. Men in Agbanga make homemade dynamite by heating the fertilizer on a pan and then combining it with a small amount of gasoline. Mixing is done by hand to control the temperature. The mixture is poured into a bottle with a wick inserted. Bottles vary in size and price. The smallest size (alcoholic beverage) contains half a kilo of fertilizer mixture and sells at 30 pesos. A half-gallon jar

holds 2 kilos of fertilizer and sells for 120 pesos. Half-gallon jars, which have a longer wick than the other jars, are designed to explode several feet underwater. A weight is attached to the jar so it will sink faster. Dynamite fishers, consisting of a crew of four to six members, use motorized boats. Each boat is equipped with a compressor.

Only men engage in dynamite fishing. They are mostly on their thirties and married. They work in groups of four or six with specific tasks. Once over a school of fish, either a group member lights the fuse and throws it overboard or the assigned diver will take the ignited fuse underwater. The usual practice is to follow up the first explosion with a second explosion (dublahan) before swimmers dive into the water with their individual scoop nets (sibut).

There are two types of swimmers: those who use a compressor, which allows them to stay underwater for a longer period of time, and those without any breathing device. At the surface, two men are assigned to watch the boat and collect the fish. The other fishers, who are not part of the kompaniya, dive into the water with their scoop nets.

Sixteen fishers interviewed reported that they practice dynamite fishing, majority of who belong to Class III households.[40] All but one work in a kompaniya.

7. Stupefiers

Occasionally, stupefiers such as the tubli (**Derris elliptica**) vine root extract are used to catch fish. The tubli root is pounded to a pulp using a stone and dipped into the water to stun the fish (Ushijima and Zayas 1994). A relatively inexpensive method, it is done either during high or low tide in reef areas.

Around the 1980s, it was reported that in Dawahon Island, fishers used poisonous substances to catch fish. One method is called pidlot in which a plastic bag is filled with chemicals and immersed in sites where there is a school of fish. Another method is called kuskos. A tablet, which costs about 12.00 pesos, is placed inside the body of a fish used as bait.

[40] Due to the sensitivity of the question, other fishers may have felt uncomfortable answering this question.

7. Compressor[41]

Compressors (kompresor) were first introduced in the neighboring Barangay of Tab-ang around the 1980s. It is a device making use of an oxygen hose attached to a compressor on board a pumpboat which would enable divers to stay underwater for a maximum of half an hour (Ushijima and Zayas 1994).

Acquisition of a compressor is indicative of ability to access capital. In 1988, a financier from Agbanga, who practices dynamite fishing, bought a compressor for 3,000.00 pesos ($115.40), using money loaned from the credit cooperative. According to this financier, the same unit would now cost about 8,000.00 pesos ($307.70).

There are nine compressors in Agbanga; seven are owned by Class I households with one household owning four units. Among households who own compressors, only one uses fish traps. The rest dynamite fishing in combination with other gear, mostly spears.

C. Labor Arrangement

Fishing technologies used in Agbanga has definitely gone through significant transformation. Simple,

[41] Compressors are also popular called "hookah" system in other places of the country.

inexpensive technology has been replaced by capital intensive technologies which give fishers better chances to overcome natural constraints such as depth of the sea and seasonality, to exploit marine resources. Fishers, for example, can use various types of nets to catch fish species which are found in the area during specific seasons. They can harvest precious corals and prime bottom feeding fish using, although risky, a crudely constructed breathing device.

The expansion of fishing technology has opened up opportunities for work, especially for men, in Agbanga. Worker households can get into fishing relatively easily compared to farming because financiers provide the boat and gear. Despite the trust that financiers accord to their workers, such as having them manage the fishing craft and gear with minimum supervision, financiers seem to have significant control over labor as evidenced by using a share arrangement as mode of payment instead of daily wage.

Unlike farming which to some extent has succumbed to wage labor arrangements, vertical integration has not yet taken hold particularly in small scale fishing (Platteau 1989). The share system of labor payment is widely used because it addresses the problem of labor-shirking, especially under risky and strenuous conditions which characterize fishing activities. The share system ensures

cooperation and teamwork among crew members, which not only benefits them but also the financier. One problem associated with the share system experienced by financiers is output underreporting (Platteau 1989). Harvesters or fishers may report less than their actual catch to the financier. Financiers remedy this problem by joining the crew, through conscientious monitoring of the harvest, by employing relatives, or by building strong patron-client relationships. They foster patron-client relationship by providing loans or cash advances to crew members without any interest. Loans bind the financier and workers in a commercial relationship and also establish social ties between the two groups. One of the financiers in Agbanga has a sari-sari store and fishing gear storage next to this house. Every day the fishers meet there before going out to the Channel to fish. They also use this as a place to rest upon returning from a fishing trip and to socialize among themselves. Occasionally the financier provides them with food -- taken from the catch -- and drinks, especially coconut wine. The workers may also contribute some of their share and chip in money to purchase coconut wine from the financier. Financiers of dynamite fishing are expected to negotiate with authorities and to bail out their workers if they are arrested.

The sharing arrangement in the fishery enterprise depends on the type of gear used and skill of the individual fisher. It may be based on the arrangement established between financier and workers. In a typical sharing arrangement, each crew member and gear owner gets one share of the catch. The boat owner's share depends on the type of craft used. One share goes to the owner if a motorized boat was used and half a share for a non-motorized boat. In a fish trap/non-motorized boat combination, for example, the bobo owner and fishers each gets one share. The boat owner only gets half a share. A fisher, who is involved in dynamite fishing combined with motorized boat and compressor, revealed that a worker's sharing arrangement is determined by his skill and the task undertaken. Workers who perform risky activities get a larger share than the others. Workers who harvest fish right after the explosion and the person who throws the dynamite get two shares. Individuals assigned to hold the hose and watch the boat's engine and compressor get a share and a half each. The person who paddles the boat when the engine is not used gets one share and a quarter. The financier gets two shares. In tiro de mano, where a non-motorized boat is used, everybody gets an equal share.

Commonly, one person, the financier, owns both the fishing gear and craft. The financier also purchases

gasoline, oil, kerosene lamp, ingredients to make the explosive, and, in some cases, provides food. If the catch is abundant after a fishing trip, the crew makes a separate pile for home consumption (pangkunsumu) and sells the rest of the catch to the financier, who controls the price. If the catch is just enough, crew members and the financier may decide either to keep their shares or sell everything to the financier. At the end of the week or another schedule set by the financier and crew members, the financier gives the crew members their share in cash, deducting all expenses incurred including gasoline, oil, kerosene, and food. The average amount of money fishers working in a kompaniya get at the end of the week is about 200.00 pesos. The share that they get when harvest is abundant enables them to provide for home consumption needs as well as fulfill mutual obligations.

Thirty-three percent of the fishers surveyed answered that part of the share that they get from collective fishing is used for home consumption while the other portions are given away (Table 3). Six percent of the fishers said that they sell portions of their share and leave some for home consumption while 18% said that they use their share mainly for home consumption. Among the self-financed fishers, 58% divide their catch into several portions to enable them to sell some and use the others for home consumption, exchange

with other commodities, give away their catch. Only 6% use their catch mainly for home consumption.

Table 3. Use of Share from Fishing by Type of Financing

Use	Financier	Self-Financed	Total
Home	18.3 (9)	5.1 (2)	13.4 (11)
Give Away		3.0 (1)	1.2 (1)
Sell/Home	6.1 (3)	15.1 (5)	9.8 (8)
Sell/Home/Give	26.5 (13)	57.6 (19)	39.0 (32)
Home/Give	32.7 (16)		19.5 (16)
Sell/Home/Exchange	2.0 (1)		1.2 (1)
Sell/Home/ Exchange/Give	14.2 (7)	18.1 (6)	15.9 (13)
Total	100 (49)	100 (33)	100 (84)

Note: Number of cases are in parentheses.

D. Markets

The suki system is the common mode of marketing fresh fish in Agbanga. Suki means a regular buying and selling relationship established by the vendor and customer. When fishers return from a fishing trip their buyers are already at the shore, equipped with weighing scales and baskets.

Buyers also locally known as labasera are mostly women, who may be fishers' spouses, relatives, or neighbors.[42] There are 38 fish vendors in Agbanga, 26 of whom are women. Eighty percent (n=16) of the women fish vendors belong to Class III households, which is dependent on fishing as a major source of income.

The labasera either pay the fishers on the spot or after they have sold the fish. After a quick negotiation with the fishers, the labasera bring the fish to the public market in Matalom or in Bato. They either join the other labasera or sell the fish to another suki. A labasera revealed that she makes a profit of about five pesos per kilo.

It is important to point out that the labasera vend only undynamited fish. Dynamited fish, particularly anchovies, are sold only in the village. One labasera says that she vends fish harvested from her husband's bobo. She never sells anchovies, because she does not want to risk getting caught by the authorities. There are other vendors who sell anchovies, but display only a handful. They keep the rest of the anchovies inside baskets hidden under the stalls.

[42] In Agbanga, fishing financiers are also buyers.

Fish sales are not always steady. Citing the day when she was interviewed, one labasera said that fish sale was slow and made her feel sluggish. People, especially upland farmers, did not have money because of the long dry season.

Unsold fish are either used for home consumption or salted (tabalon). Women sell salted fish at the market.

Fishers working for a financier sell their harvest to the latter at lower than the market price. Dynamited anchovies are either dried (buwad) or salted (ginamos) prior to bringing them to market, where they are sold wholesale. One can also buy them locally at a retail price.

The relationship between the labasera and the fishers, and between financier and fishers in the suki system, are noteworthy. While both relationships are rooted in complex formations of social capital, they distinctively differ on the type of network. The labasera and fisher relationship epitomizes a horizontal network, characterized by interdependence rather than dependence (Duncan 1992; Flora 1995). Fishers depend on the labasera to market their fish. The labasera, on the other hand, depend on the fishers for a supply of fish. The fact that a majority of the labasera are fishers' wives means that they are socioeconomically similar to their customers. The financier and fishers relationship, on the other hand, can be characterized as hierarchical. Financiers and fishers build their network

within the context of a patron and client relationship. Financiers provide capital and also control labor. Fishers' dependence on the financiers is cultivated in loans as well as access to productive activities outside of fishing that the latter can readily provide.

III. Home-Based Enterprises

Home-based enterprises are income generating activities initiated within the sphere of the household. Largely dependent on locally available resources, home-based enterprises are commonly performed by women and children in conjunction with their social reproductive responsibilities. Women's degree of participation in home-based enterprises as well as in other productive activities depends upon their access to and control of capital. As observed in Agbanga, women from better off households are less directly involved in productive activities compared to women from low income households, since they are able to substitute capital for their labor and at the same time provide the other productive resources, such as hogs for alima or romblon for mat weaving.

A variety of home-based enterprises are undertaken by women in Agbanga. This section, however, will describe only on a few of the enterprises that depict women as central in

the organizing access to productive resources. These enterprises include share-rearing of hogs (alima), making mats, preparing and selling snacks and other foods, processing fish, making nipa shingles (magpawod), providing home and herbal medicinal services (manambal, hilot, and manabang) and operating general (sari-sari) stores.

A. Share-Rearing of Hogs

Share-rearing of animals locally known as alima system provide household members with opportunities to own livestock and generate income from sales. Through share-rearing arrangements, men gain access to draft animals (carabao) and women to hogs. Women from better off households invest in hogs, but care is done by the poor women. Having no capital to make the initial investment to purchase a pig, the alima system seems the best option for poor women to gain access to livestock from which they could potentially generate a resource that they can control in the future.

Women sell hogs and use the money for household subsistence or other economic activities, keep some hogs for annual celebrations such as fiesta, for paying debts, or for breeding purposes. However, hog raising practices have undergone some changes. What used to be a small scale

enterprise using indigenous knowledge and locally available resources now incorporates purchased exogenous inputs. Interviews with key informant households revealed that hog production increased dramatically in 1992 after a typhoon destroyed the local fishing industry. However, by mid-1992, fewer women raised hogs because of the costs involved and the subsequent drop in hog prices as fishing resumed.

Unlike other resources, hogs do not serve as sources of savings, as the type of hogs raised are finely bred, requiring feed and care beyond housescraps.[43] According to the women, in the past they fed pigs with their own supply of rice or corn bran, root crops, thinly sliced banana trunk, and other locally available crops. Now, they have to purchase most of the feed, because they do not have enough root crops and bran. The hogs also feed well on purchased feeds which are available at the local sari-sari store.

Another change found in hog raising is the current use of medication. Medications are available in drug stores at the poblacion. In the past villagers used indigenous methods, which they called binisaya, to treat hog diseases. The hogs grew well even without vitamin supplements. Local knowledge is now being replaced with antibiotics, deworming capsules, and vitamins. The women, in fact, could instantly

[43] Traditional bred hogs are called bisaya which are smaller than the new breed.

enumerate purchased medications used for hogs. One woman said that she learned to apply certain types of purchased medications from the local extension agent. Most commonly, information is exchanged locally. Self-prescription of medications to treat hog diseases is common in the village.

Sharing arrangements among caretaker, owner, and boar owner -- if the hog is bred -- are still the same. The boar owner gets one offspring, while the owner of the hog and caretaker share equally the remaining offspring. If the owner and caretaker decide to sell the hog, they share the sales equally.

Changes in current hog raising practices make the enterprise unaffordable to the poorest households in Agbanga. Current practices require purchased resources in addition to locally grown resources that only households who have some arable land can have access to.

B. Mat Weaving

In Agbanga, a number of women weave mats in their homes. Mats are used to sleep on. They are also laid on the ground when drying corn, rice, and other crops under the sun. For some weavers, mat weaving is a skill that they learned from their mothers or from older women in the village. Mats are made out of dried leaves of <u>romblon</u>,

which is grown locally. Women plant and tend the romblon. In the past, romblon plants were abundant, and leaves were given away for free. Presently, only few romblon plants grow in the area, although a few of the women interviewed mentioned that they had already planted some romblon suckers on private land. Suckers are given away for free.

A weaver said that she weaves mats from 8:00 to 10:00 in the evening and early in the morning about the time before her husband returns from fishing. During the day she does all the household chores, vends fish if her husband gets a good catch, and works with him in preparing the palangre. Since they do not have access to land, fishing and mat weaving are their main sources of cash income.

Mat weaving is relatively inexpensive which makes it affordable to women from poor households. A laborious activity, labor accounts for a large part of the investment. Romblon leaves are locally available. Weavers can also buy leaves at ten pesos per 100 pieces. In cases where romblon owners supply mat weavers with leaves, they get a share of the product. This arrangement is called agsa. In another arrangement, a mat weaver, who planted romblon on a rented land, gives a third of the sales to the landowner.

Woven mats come in two sizes, single or double, and either plain or with colorful designs. Weavers spend close to 10 pesos to purchase small packages of dye which can be

used to dye three to four mats, depending on the design and size. A single-sized mat sells for 25 to 30 pesos and double-sized mat for 40 to 45 pesos. Women sell the mats directly to the customers.

C. Local Medicine

Three of the six health care providers in Agbanga are women. Their skill is based on experience and knowledge of village-level medicine, which relies on indigenous plant and tree species. A village herbalist readily enumerated eight plants from which she uses the bark, roots, stems, leaves and other parts to concoct a medicinal drink (ilimnon) and massage oils (haplas). Collection of these materials requires time because they are found in remote areas. Some plants and trees had been destroyed by slash and burn agriculturalists (kaingineros), making collection all the more difficult.

The local herbalist collects supplies every day because of the increasing demand for both ilimnon and haplas. It may be conjectured that because of the absence of accessible medical care such as those provided by rural health centers, villagers largely depend on "traditional" medicine. The local herbalist buys other supplies such as roots, barks, and stems from the market at the poblacion about every three

months and tries to be frugal in using her supplies to make them last long.

Despite the time the local herbalist devotes to taking care of people's health, she says that she does not earn enough money. She charges 100 pesos for assisting delivery and about 5 pesos for other services. But generally she lets customers decide how much money to give her. Sometimes customers pay her. On many occasions, her services are free.

D. Nipa Shingles

Assembling nipa into shingles is a productive activity managed by women. Nipa shingles are common roof material for houses. Women harvest the fronds from nipa trees found along the coast. Ownership of the area where nipa trees grow is unclear. It is reported that part of the area is owned by the government, while the other part is privately owned. Nevertheless, residents seem to exercise free access to nipa fronds, although not all of them may take an extra effort to tend the trees and replace old ones.

Harvesting nipa fronds is laborious; harvesters may be hired by nipa shingle makers. They collect huwag from the nearby village of Tab-ang. Huwag, which resembles a vine, is used to hold the nipa fronds together. A substitute for

huwag is baliisan although not as sturdy as the huwag. Baliisan can be harvested in remote mountain areas. An Agbanga resident supplies baliisan at five pesos per bundle. Makers of nipa shingles also use a type of bamboo called butong as the main support of the fronds (paoranan). Split bamboo is sold locally at 20 pesos per hundred pieces. A hundred pieces of nipa shingles sell for 400 pesos.

E. Food Vending

Selling cooked food is an important income generating activity for 12 Agbanga women, especially among women from low socioeconomic groups. This activity enables women from across social groups to combine livelihood activity with social reproduction. Women prepare an assortment of snacks and main dishes using locally grown vegetables and crops as well as seafood sold by fishers or by fish traders. Occasional trips to the poblacion enable them to buy other essential ingredients. When local vegetables are scarce, they buy them in the poblacion and resell them in the village. Their trading routes include the elementary school, the beach, and places where residents commonly meet to chat.

Collecting firewood is a major activity in food preparation. The women themselves collect dried twigs, branches, and parts of coconut trees for fuel.

Another type of food women sell are processed fish. Fish processing involves either drying or salting, depending on the type of fish. When anchovy is abundant, women and other household members work almost round the clock salting and sun-drying anchovy. They salt other types of fish that they cannot sell at the end of the day. Processed fish is a source of food for the family which can be stored for a certain time period.

F. Sari-Sari Stores

Small general goods (sari-sari) stores are a common sight in Agbanga. Women operate sari-sari stores. Since the store is annexed to the homes, it provides a facility for women to manage small-scale trading activities while taking care of the household. The stores provide outlets for local products such dried fish, coconut wine, vegetables, and fruits. In some cases store owners purchase the goods from villagers. In others store owners sell the goods for villagers without charging a commission. Residents make their daily purchases from sari-sari stores.

Since not all villagers have access to daily cash income, store owners usually extend credit to customers.

G. Outwork

Outwork are activities that are part of a large production or manufacturing process distributed to rural areas where labor is abundant and cheap. Outworkers, comprised mostly of women, purchase the raw materials from a wholesaler, who is disconnected from the village social life and economy. The production activities, characteristically requiring manual dexterity, are carried out inside the confines of the home, removed from the public sphere, and fitted in between other productive and reproductive work.

Outworkers sell the partially finished product to the wholesaler at a somewhat higher price, having added value through their labor-intensive activity. Outwork has penetrated Agbanga, testimony to the village's integration into the regional market economy. In this section, I will describe two types of outwork activities, knotting of abaca and assembly of earrings, which women have turned to as sources of income in the face of a declining natural resource base.

1. Abaca Knotting

Abaca knotting or monos is one of the basic processes in the abaca (Manila hemp) industry which has penetrated into many homes in the village, enlisting the labor of women especially from poor households, for over 20 years already. Women buy the raw materials, consisting of large rolls of abaca fiber (escujedo), from a supplier who visits the village regularly to personally deliver the materials. A kilo of abaca fiber costs about 45.00 pesos. Women manually knot together the escujedo and sell the knotted fiber (tinagak) to the same supplier for 100.00 pesos. Bundles of knotted abaca are then sold to a middleman and shipped to larger cities (Pomeroy 1987).

The supplier insures the commercial relationship between himself and the women by providing them with interest-free credit, which they use primarily for home consumption. Recognizing the supplier's benevolence, the women make sure that they make weekly payments of their debt.

2. Assembly of Earring Sets

Assembling earrings is a very recent activity, introduced in Agbanga around 1991 by villagers with

connections to wholesalers in Manila, who supply earrings to department stores. Women hook together small metal pieces stamped out on a press in one of the local houses to form earring settings to be dipped in gold plate and sold in Manila. They are supplied with a pair of pliers and paid 8.00 pesos (about 30 cents) for every 150 earring sets (gurisa) that they assemble. A woman from Class III household says that she can make two gurisa in one day. She said the local supplier already advanced her 100.00 pesos which she used the money to repair their house. She planned on obtaining an additional cash advance to pay for the school fees of her child, who is in high school.

Outwork activities are not seasonal. Thus, they provide some year-round security of cash income to rural women, particularly those who have limited access to other productive resources. However, both knotting abaca and assembling earring sets contribute little to the social capital of the community (Buenavista et al. 1994). The materials, which are in the first place exogenous, are merely processed in the village and removed for completion or sale elsewhere. Even with partially finished products, their use is irrelevant to the village. The products cannot, therefore, be used in exchange relations. Women only receive minimum cash for their work which reinforces

the expansion of the market economy in rural areas but discourages the reproduction of the gift economy.

IV. Summary

In summary, the expansion of market relations in Agbanga has brought changes in local social and economic landscape. In agriculture, this is evident in the transformation of the agricultural production processes as exemplified in the way rice production is refashioned with the replacement of traditional varieties with modern high yielding varieties. Change in agricultural production ushered in various forms of labor commodification, commodification of land as well as the creation of markets for exogenous inputs that households from various social groups are responding to.

In the fishery enterprise, the opening of external markets for fishery resources has induced competition in resource extraction without parallel strategies to rehabilitate a declining resource base. Consequently fishery resource degradation has fueled intensive deep sea fishing, requiring the importation of capital-intensive technologies into the village. In effect while fishery used to be an inclusive resource, the penetration of economies of scale has transformed the fishery resource base

into an exclusive resource. Only those who can mobilize capital to finance a competitive enterprise gain access and control of the resource.

Home-based production activities represent a struggling livelihood strategy in the midst of an economy that is in transition. In hog raising, for example, transformation of the production processes has shifted the control of the enterprise to women from better off households. Women from low income households gain access to the resource by entering into unequal relationships. Capitalist expansion in other home-based activities is experienced by the commodification and privatization of productive resources, forcing women who have limited access to productive resources to enter into commercial relationships. Commercial relationships have extended to suppliers of raw materials, who are disconnected from the daily realities of the village.

In the three major enterprises: agricultural, fisheries, home-based production, transition towards a market economy show that participation in market relations enables households from various social groups to gain access to resources. Through off-farm labor, for example, households, especially those of lower socioeconomic status, gain access to resources. Entry to labor markets is determined by class and also by gendered division of labor.

While gender division of labor is evident in resource-dependent production activities, men as well as women allocate their resources both for the market and domestic consumption. Thus, the commonplace belief that women manage resources for household consumption and men for the market is not supported in this study. Women, in fact, in all three enterprises perform postharvest management of resources and, in many cases, allocate resources for household consumption, sale, and engage in inter-household informal resource exchange mechanisms.

Gendered division of labor imposes different sets of constraints to resource users. In the fishery enterprises, the male-dominated destructive fishing activity negatively affects the sustainability of the fresh fish vendors' livelihood strategies. Most vendors are women.

Although capital has penetrated into the village economy through the introduction of modern technology, the creation of markets for locally produced resources, commodification of labor, and the reformulation of the social organization governing access to and control of resources, precapitalist relations persist. Households differentiated by class and gender continue to recreate social arrangements as strategies to adapt to the new meanings introduced by capital. In Agbanga, there exists a complex web of social networks which shape the everyday

lives of the people inasmuch as these networks give some households access to productive resources while for other households networks strengthen their control of productive activities.

The following chapter explores the potential role that networks play in resource management.

CHAPTER SIX

CREATING AND REPRODUCING SOCIAL CAPITAL IN A RESOURCE-DEPENDENT COMMUNITY

Informal networks exist in rural communities in the Philippines, as in other parts of the world. Members of a network participate in periodic exchanges of goods, resources, and cooperative labor assistance that give individuals a sense of inclusion within the community, status, and a some form of economic security. In some circumstances, social scientists have conceptualized these networks as unorganized forms of resistance to capitalist structures (Scott 1976, 1985; Popkin 1979; Painter 1984). More recently this concept has found a niche in discussions pertaining to natural resource management. These social relationships are local strategies to achieve food security and/or cope with environmental disruptions (Peluso et al. 1994).

In this chapter I will examine networks as a form of social capital. I locate the concrete manifestations by which social capital is created and reproduced in the way households manage their own resources and those of the community. I seek to illustrate aspects of social capital formation that will generate hypotheses on factors that

influence household decisions pertaining to resource management.

Social capital is defined as "features of social organization, such as networks, norms, and trust, that facilitate coordination and cooperation for mutual benefit" (Putnam 1993). Social capital can be developed through social or solidarity networks (Fafchamps 1992). These can create and be based on norms of reciprocity and mutual trust. These forms are interrelated and build on to social capital formation in a community.[44]

Social networks in Agbanga are comprised of households, kinship groups, and individuals tied together in the interest of providing mutual insurance. They assist each other in many activities from getting work done on the farm to providing child care (especially among women). Networks are characterized by a ritual of resource sharing (gift giving), exchanges, monetary transfers through credit and remittances, mutual trust, personal connections, and access to resources outside the context of gift giving and monetary transfers. They are unstructured, with no formal authority enforcing the norms of reciprocity. Gift giving and exchanges are informal, voluntary, and spontaneous..."people

[44] There are several factors that facilitate the development of social capital. Flora (1995) identifies structural elements such as networks, resource mobilization, and symbols which influence social capital formation.

receiving are not expected to give something equivalent to what is received" (Fafchamps 1992:150).[45]

The existence of social capital in a community does not necessarily indicate that individuals, groups or households are bound in egalitarian relationships. Social capital can have a variety of configurations that describe the type of linkages or ties within networks. Horizontal social capital implies egalitarian norms of reciprocity because it involves individuals or groups, usually from the same community, whose resources are equally valued, although they may not have the same degree of wealth or status.

Hierarchical social capital, while it is also built on norms of reciprocity and trust, involves vertical rather than horizontal networks established by individuals or groups with sharply different degrees of power (Flora 1995). One set of resources is clearly more valuable than the other. A patron-client relationship (clientelism) is a good example of a hierarchical network, in which social capital is formed by dependency and unequal exchange (Fafchamps 1992). In this type of social network, the patron is viewed

[45] Contrary to this perception, Mauss (1967) argues that these "prestations" are obligatory and interested..."the accompanying behavior is formal pretence and social deception" (Mauss 1967:1). Shigetomi (1992) describes this relationship as "obligatory voluntaryism". According to Gouldner (1960) the unequal value of traded goods facilitates compliance to the norm of reciprocity and serves as mechanism to sustain it over time.

by clients as the "provider". Without his or her benevolence the clients and their households would risk starvation. Poor clients reciprocate by providing their services and that of household members any time desired by the patron, giving gifts, and showing loyalty, particularly political loyalty. Fafchamps (1992) argues that it is the patron who benefits in this unequal exchange, because it enables him or her to accumulate wealth. Duncan (1992) describes the prevalence of hierarchical social capital in communities with persistent poverty.

In some communities social capital may be absent or declining. Such communities are characterized by high population turnover, high levels of conflict, high crime rates and delinquency, individualism, absence of cohesive communal life, and indifference to participation in networks which promote intra-community support (Putnam 1993; Flora 1995).

I. Social Networks in a Resource-Dependent Community

Social networks are crucial in a resource-dependent community like Agbanga. Hierarchical networks are present in landowner-tenant, lender-borrower, and financier-fisher interactions. Patrons control the productive resources on which clients largely depend for their livelihood

activities. By unleashing these much needed resources, however marginal they may be, patrons make an important contribution towards insuring the clients from collective risk. They gain status in the community and their clients' loyalty, which is reinforced in the Philippine value system's expression of debt of gratitude or utang na loob towards the provider of the favor. For instance, in two key informant households, the landowners insist on maintaining the conventional rice sharing arrangement instead of implementing the fixed-rent arrangement mandated by the Department of Agrarian Reform. According to a tenant household, the rent that they would pay their landowner per cropping would be less than the half of the harvest that the landowner currently gets under the sharing arrangement. Tenants view the new arrangement as unfair to the landowner; hence, they consented to retain the existing arrangement. Another household does not participate in seminars sponsored by the local Department of Agriculture where members would have had the opportunity to learn farming techniques. Both husband and wife think that attendance at such meetings may subject their landlord to agrarian reform laws, and as a result they would face the risk of losing their tenancy status.

A ritual of compassion and social control best characterizes the mutual insurance system that binds patrons and clients. It breeds exploitative relationships which resource-dependent households submit to for their own protection. From the clients' perspective they do not define this as exploitation but a concern for their landlord.

Hierarchical networks or relationships can potentially discourage innovation. Long-ingrained feelings of powerlessness among tenants, as implied by their inability to improve their farming circumstances because of their lack of control over resources, drive them to be content to cultivate their farm the way that they are used to. Improvements that they are likely to introduce are external to the farm, most commonly chemical inputs in which benefits, aside from being widely advertised, can be reaped in the short term. Among upland farmers who own sloping land, 16% (n=5) do not use any soil conservation measures, while 84% (n=26) have integrated some types of soil conservation measures, such as establishing rock walls, planting trees, and leaving some areas uncultivated (Table 4). Among the share tenants, who are farming on hilly or sloping land, 23% (n=6) do not use any soil conservation measures, while 77% (n=20) have integrated soil conservation measures similar to the owners. Testing the relationship

between tenure and integration of soil conservation techniques did not yield a statistically significant result. This suggests that tenure is not related to adoption of sustainable farming practices.

The common soil conservation techniques that upland farmers have integrated are establishment of rock walls and planting of trees. More tenants than farm owners

Table 4. Integration of Soil Conservation Techniques by Access to Land, Upland Farmers

Soil Conservation Techniques	Access to Land	
	Owner	Share Tenant
No Techniques Integrated	16.1 (5)	23.1 (6)
Had Integrated Techniques	83.9 (26)	76.9 (20)
Total	100.0 (31)	100.0 (26)

Note: Number of cases are in parentheses.

established rock walls and vegetative contour strip in which materials are available on farm (Table 5). Farm owners, on the other hand, invested in planting trees in which seedlings or seeds are more likely to be obtained outside of the farm. While trees provide households a source of cash,

the monetary value of trees may not be realized by the owners or anyone else, because when men graze their carabao they leave the animals unattended and damage young trees. Men also harvest tree branches and sell them as fuelwood or stakes for the seaweed farm in Dawahon Island. Hence, in Agbanga planting trees may not be sustainable because of implicit male access and control. Contour hedgerows, as noted by Fujisaka and Cenas (1993), are not sustainable due to indiscriminate grazing of neighbor's animals. Fujisaka and Cenas's (1993) analysis, however, did not explore the gender or exchange relationship implication of the "failed" technology. Garrity et. al. (1993) also noted that farmers may not choose to plant trees because of their tenurial status. Our data suggest a substantial difference in tree planting by tenure.

Table 5. Kinds of Soil Conservation Techniques Integrated by Upland Farmers by Access to Land

Kinds of Soil Conservation Techniques	Access to Land	
	Owners	Tenants
Rock walls	35.5 (11)	50.0 (13)
Natural Vegetative Strips	19.4 (6)	15.4 (4)
Plant Trees	25.8 (8)	3.8 (1)
Rock walls and Natural Contour Strips		7.7 (2)
Leave Area Uncultivated	3.2 (1)	

Note: Number of cases are in parentheses.

Upland farmers in Agbanga also practice shifting cultivation.[46] Fifty-four percent (n=18) of the upland farm owners and 48% (n=13) of tenants practice shifting cultivation (Table 6). Fallowing the land can put farmers, both owners and tenants, in a risky situation of not being able to supply their subsistence needs. Additionally, among tenants fallowing the land can mean not being able to provide the landowners a share of the harvest. Although

[46] Shifting cultivation is method of cultivation in which "several crop years are followed by several fallow years with the land not under management during the fallow" (Harwood 1979).

there seemed to be a growing interest in using animal manure as fertilizer, dependence on chemical fertilizer is still significant. Upland and lowland farmers across social groups, who did not plan on integrating organic fertilizer into their farms, reasoned that they are used to applying commercial fertilizer.

Table 6. Shifting Cultivation by Access to Land, Upland Farmers

	Access to Land		
	Owners	Tenants	Total
Yes	54.5 (18)	48.1 (13)	51.7 (31)
No	45.5 (15)	51.9 (14)	48.3 (29)
Total	100.0 (33)	100.0 (27)	100.0 (60)

Note: Number of cases are in parentheses.

Horizontal networks are created and reproduced through gift giving and exchanges. Gift giving ranges from giving away resources drawn from the natural resource base, such as food crops, vegetables, and fish, to items produced within the household. Exchange relationships can involve direct trading of resources. Exchanges, even when complicated, such as when someone trades dried fish for sweet potato

cuttings, are not written down nor are strict accounts kept for future obligation. In other cases, trades are very specific, such as exchanging seed varieties or planting materials and labor.

Horizontal networks provide households access to resources that they would not have obtained from their livelihood activities, and can potentially serve as mechanisms which favor preserving resource diversity. Some households, for example, store seeds of one "native" corn variety that they use for the next cropping or exchange with farmers in the area for another variety. As mentioned earlier, farmers also exchanged or gave away cuttings of "native" varieties of sweet potato. Thus, through exchange networks rural households have been able to keep a stock of indigenous plant varieties. Usually the entire household participates in selecting seeds for planting. Children at a very early age learn the skill from their parents. During prolonged dry season, however, farmers may end up losing their planting materials, especially cuttings. When this happens, they are forced to purchase seeds and/or cuttings from farmers in the neighboring villages or at the town market.

II. Gender as a Social Construct in Social Capital Formation

Although household members, particularly adults, participate in resource sharing and exchange activities, social capital formation can be differentially structured by gender. The activities analysis of the key informant households show that while some productive as well as reproductive activities are done cooperatively, others are gender-sequential and gender- segregated. The gender specificity of certain types of activities indicates that access to and control over resources as well as products of labor vary in different stages of production. Women and men, for example, are jointly involved in crop production. However, since women across social groups perform a majority of the postharvest activities from processing to food preparation, they control food transfers, which are essential in building and strengthening horizontal networks. They organize sending food supplies to children or relatives working outside of Agbanga or share food, vegetables, and fruits with their neighbors and/or relatives. Extensive horizontal networks give them room to maneuver to gain access to resources critical to the reproduction of the household. It is they who negotiate and use social capital as collateral to obtain credit, as when they borrow

subsistence goods from the local store.
Internalized gender roles define the cultivation of horizontal network as women's domain.

Relations of gender, which establish differential relations of power between women and men, and among gender groups and households, are part of the hierarchical networks in Agbanga. Women's share rearing of hogs (alima) is structured based on an unequal exchange between hog owner and hog caretaker. They exchange resources which are not only markedly different in type but also in value: the hog owner provides the good (hog), while the caretaker provides both goods -- in the form of raw materials, feed, medications, and supplements -- and services. The hog owner and the caretaker's relationship is short-term and focused on the question of immediate and specific return for the resource provided by the hog owner.

Women in Agbanga have differential access to alima. Because finely-bred hogs are expensive and, thus, affordable only to women from high income households, women who have access to capital to purchase vitamins and medications as well as raw materials such as rice bran, sweet potatoes, and banana trunk are more likely to participate in alima than those who have marginal access to resources. An old woman related that one day she decided to ask her niece, who has a fulltime office job, if she could

raise her hog. After making the arrangements, she brought home the hog. However, that very same day she returned it to the owner, because she found it expensive to buy the feed. She also did not have her own supply of sweet potatoes and banana trunk.

Another woman from a middle income household, who seems to have built a reputation in the village as somebody who takes good care of hogs, raises only one hog under alima. She says that the hog she raises under alima is intended solely for the fiesta. One aspect that she does not like about the alima system is that after spending time and money to raise a hog, she has to share half of the money from the sale or half the meat with the owner.[47] She adds that although she keeps the head as the caretaker (nag-alima), hog owners insist that they share equally even the entrails. She raises her own hog and sells it when it reaches about eight to nine months.

A Class I key informant household has 10 hogs distributed in Agbanga and the neighboring barangay of Tab-ang. The wife, who is managing the alima, says that she does not interfere with feeding practices of the caretakers, but she is very much concerned that the hogs are given the

[47] As mentioned in Chapter VIII, another arrangement in the alima system is an equal sharing of the offsprings between the hog owner and caretaker.

right medication and supplement. She is known to be meticulous in demanding her share which she immediately distributes to other women to raise.

Hierarchical networks also operate between villagers and outsiders, who are differentiated not only by gender but also in position in the regional economy. In Agbanga, this is best exemplified by the asymmetrical relationship formed between low income women, who knot abaca fiber (monos) and men from outside the village, who provide the raw materials. The relationship is well-defined and bound by the completion of the task. One provides the raw materials and remuneration in exchange for the labor and product provided. Different types of goods and services are exchanged by individuals differentiated by gender, but what is perhaps more striking in this example than the alima is that while the relationship is also marked by imbalance of power, the relationship founded in the abaca outwork does not affect the distribution of resources within the village. The product is taken out of the village by the supplier, who is part of a larger economic system and much less involved in the everyday life in the village. The alima system, on the other hand, provides hog raisers the possibility to own their share of the offsprings and, therefore, pursue the same activity, outside the sphere of an unequal exchange.

Both the hog owner and caretaker are variably involved in the daily dynamics in the village.

Gender specialization of the fishery enterprise has given men more access to hierarchical relationships than women. These relationships are much more complex than the ones described earlier, involving strong bonding between financiers and fishers established through continuous reproduction of mutual insurance systems which in the long run becomes the instrument of exploitation (Fafchamps 1992). Financiers act as insurance providers, giving fishers access to productive resources as well as interest free loans, locally referred to as "advance". In return, fishers guarantee a labor force to the financier often by risking their lives. They protect the financiers' economic interests by not getting entangled with law enforcers, especially in the case of dynamite fishers.

While both kinds of social networks, horizontal and hierarchical, are vital as survival strategies in Agbanga, horizontal networks become the primary safety net, especially when hierarchical networks cannot assume the cost to cover the households' practical needs.

IV. Resilience of Solidarity Systems

For a resource-dependent community like Agbanga, natural resources, in particular subsistence resources, provide important social integration benefits in the community (Nord 1994). One female respondent responding to our comment on the amount of fish that she was giving away as we were working with her and the members of her household drying their huge catch of the day, said, "If we don't worry about and take care of each other, who will?" (Buenavista and Flora 1992). Reciprocal relations give households some flexibility to cope with food shortages. They serve an important risk-minimizing function, especially for poor and vulnerable households (Longhurst 1986) in which the social meaning of subsistence resources sometimes shifts from gifts (implying reciprocity) to charity or hinabang (implying giving for the greater good).

Reliance on solidarity systems has its limits. They could reach a breaking point during periods of crisis, seasonal stress or when progressive resource degradation is left unarrested. In Agbanga, the emergence of these conditions has important implications for the availability of subsistence resources. Solidarity systems are informally organized around sharing and exchange of subsistence resources. When subsistence resources are depleted, sharing

and exchange cannot occur. The breakdown of solidarity systems signals a serious threat to community sustainability. It encourages further exploitation of the natural resource base and competition, whereby only those who have strategically-positioned themselves in the community have better chances to survive at the expense of the resource-poor households.

Chapter eight examines how households cope with seasonal stress and resource degradation to maintain food security.

CHAPTER SEVEN

PROPRIETARY DIMENSIONS OF RESOURCES

I. Social Meanings of Resources

The volume Whose Trees?: Proprietary Dimensions of Forestry, edited by Fortmann and Bruce (1988) advances a provocative argument about the importance of examining variations of tree tenure. They state that "groups and individuals have distinct proprietary attitudes about trees, attitudes that may or may not receive formal legal recognition but which certainly affect behavior" (Bruce and Fortmann 1988:1). Recognition of the variation in patterns of ownership of trees is important in creating appropriate policies and implementing effective forestry projects. The same argument can be applied in Agbanga expanding the discourse to proprietary dimensions of resources, not just trees.

II. Social Meanings of Resources in Agbanga

Resources have social meanings (Fortmann 1988). Agbangans attach meanings to resources based on ownership, user, and value that resources and resource products serve.

Because market-oriented livelihood strategies in Agbanga are highly resource-dependent and to some degree show gender specialization, users have, whether consciously or unconsciously, attributed gender meanings to resources. Relations of power between gender groups shape the manner by which resources have been accorded gender meanings. Resources used in enterprises conventionally identified as men's domain are given more value than women's resources. Men's resources fit into market-oriented transactions and are more visible than women's resources because those transactions are done outside the domestic sphere. Bamboo, for example, is defined as men's resource, primarily because it is used in fishing, which is a male-dominated enterprise. Romblon, on the other hand, is locally perceived as a woman's resource. Women either sell romblon leaves or use them to weave mats. Romblon is implicitly viewed as a "secondary" resource because mat weaving is not economically as important as fishing or farming. It is something that women do during their "idle" time to augment household income.[48] None of the women in any of the social groups mentioned inheriting romblon or having monopoly access to

[48] In reality, however, women's "idle" time combines three to four reproductive activities: they can be weaving mats while doing child care and cooking.

romblon.[49] Women go out of their way to ensure that they have convenient access to romblon, often tending their own plants along peripheral areas nearby their homes or at the upland farm.

Although women's resources may have been assigned less value than men's resources in the household, as well as in the larger economy, women mobilize their resources not only to fulfill the households' subsistence needs, but more importantly to improve the household's economic and social position in the village. Women invest their resources to generate household capital. A woman from a Class II household sold a hog and used the capital to put up a store. Another sold her hogs to pay for the loan her husband took out to start a pedicab business. Women also raise hogs for the fiesta.

Moreover, it was evident from the benefits analysis that there are household resources with "diffused identities". In other words, women and men jointly manage the same resource. Analysis of intrahousehold dynamics, however, reveal that men and women may have conflicting interests on how resources should be managed. One source of conflict, for example, is deciding whether to use a resource

[49] One woman started growing her own romblon using the plant suckers that she harvested from someone else's plant. Access to romblon suckers is easy. Women give away romblon suckers much as they give away their ornamental plants.

for home consumption or to sell it. Hence, household resource management decisions may not always be collective or rational choices to improve household capabilities (Buenavista et al. 1994). Instead household resource management decisions embody what Amartya Sen (1990) called "cooperative conflicts" whereby the level of negotiation depends not only on the kinds of resources involved but also relations of power within the household.

In Agbanga even when landownership or access to land is transferred to or granted to another individual or household, the transfer does not necessarily carry with it access rights to all resources found on that piece of land. A Class I household, which rents out two parcels of their upland farm to two other local farmers, mentioned that they (the couple) have sole rights to both bamboo and banana plants.[50] Since the coconut trees are jointly owned by the wife and her siblings, harvesting rights of the coconut trees is shared with the siblings. A woman from a Class II household owns an upland area planted to coconut and bamboo. She gave her son sole access to the bamboo, which he uses to make fish traps, while maintaining sole harvesting rights on the coconut trees. A member of another Class II household

[50] Within households bamboo and banana have gender meanings. Bamboo is primarily a men's resource, associated with fishing while banana is primarily a women's resource, associated with women's reproductive work.

mentioned that although his parents had sold their upland farm to another farmer, they did not include in the sale the bamboo plant that was growing on the land. Hence, he has continually maintained sole rights to that bamboo, regularly harvesting some poles which he makes into fish traps. He and his wife also rent upland and lowland farms which the wife's mother has a control of. Sharing arrangement for corn and sweet potato grown on the upland farm is very flexible. They share the produce with the owner based on her needs. The sharing for copra sale as well as rice harvested from the lowland farm are defined. Another Class II household maintains a flexible sharing arrangement of all crops,which are planted on the upland farm, but coconut, which is owned by the wife's mother. Two Class III households who rent land from non-family members say that sharing arrangement of all crops grown are clearly defined.

Bamboo, coconut, and rice are prized for their economic value. Bamboo (tunokon) is a vital material for making fish traps, while copra, produced from coconut, generates an important source of cash. Although rice has high economic value, it is primarily used for home consumption. Regardless of whether the owner-renter relationship is between parent and child or owner and non-family member, access to bamboo, coconut, and rice resources can be characterized either as sole access (the owner has exclusive

access to the resources as well as the products) or defined shared access (definite sharing arrangement between owner and renter). This may not be the case for access to sweet potatoes and corn, which are mainly used for home consumption. In a parent-child relationship, access to sweet potato and corn involves flexible sharing arrangements. The renter shares whatever is available, based on the needs of the owner, who have the first claim. However, in an owner-nonfamily member relationship access to the same resources involves a definite sharing arrangement.

In conclusion, resources have varying proprietary dimensions which are shaped by a variety of factors, among them are gender, class, and articulation to the market economy. Proprietary dimensions of resources influence intra- and inter-household resource management strategies. Diverse kinship systems, for example, structure access to and control over property and resources. Users may not always act in the interest of the household, but that user-related actions are shaped by class and gender relations. In Agbanga, there are a number of distinct household resource allocation systems associated with different set of gender relations, class relations, and networks (for example, familial) that are evident when analyzing who has control of resources and how households manage their resources.

CHAPTER EIGHT

COPING STRATEGIES, SEASONAL STRESS, AND RESOURCE DEGRADATION

Households adapt to risks by employing a variety of coping strategies to ensure food security. Walker and Jodha (1986) offer two important concepts to classify household coping strategies. These are routine risk-minimizing practices and loss-management mechanisms. Risk-minimizing practices are adaptations in production activities, which involve a variety of resource management techniques that households or their members employ before and during a production season. These include crop diversification, such as planting crops with different maturation periods and responses to environmental stresses as well as a multiplicity of uses that can be derived from end-products. Another strategy is to make adjustments in the vertical, horizontal, and temporal dimensions of the natural resource base. Vertical adjustments involve planting in different agroecological zones. Horizontal adjustments involve use of different cropping techniques, such as intercropping, relay-cropping etc. in the same microenvironment. Temporal adjustments involve staggering planting schedules.

Loss-management mechanisms are farmers' responses to lower-than-expected crop productivity caused by natural calamities (Walker and Jodha 1986). To make up for the crop loss, households sell productive assets such as livestock, encroach on marginal or private lands, hire out their labor, migrate to other areas or borrow cash particularly from informal sources.

While Walker and Jodha's framework (1986) can be credited with offering researchers the core concepts to analyze household coping strategies, it falls short in extending the analysis towards understanding intra-household relations and response to food shortage. Chen's (1991) work, which places gender relations central to her analysis of household strategies to cope with seasonality and drought in the State of Gujarat in India, fills the information gap. To examine strategies, Chen 1991:22) considers the following variables: 1) the type of strategy (i.e., whether it involves adjustments in work, consumption, assets or social relationships); 2) the level at which the strategy is negotiated (i.e., whether within the household, between households, at the village level or with the government); 3) the degree to which the strategy is reversible (i.e., whether the household can recover after the drought is over); and 4) the sequence or timing of household strategies (i.e., who adopts which strategies in what

sequence, and why). Chen's (1991) and Walker and Jodha's (1986) frameworks inform the analysis of household coping strategies in Agbanga.

I. A Risk-Prone Environment

Agbanga is a risk-prone environment. Located along the typhoon belt, its residents have not been spared of the destruction caused by typhoons. Some recall events by remembering the name of the typhoon that visited them. They can easily recall catastrophic events like Typhoon Amy in 1949. A year later, a ten-month drought occurred. Typhoon Besing visited the area in 1982, Typhoons Nitang and Undang in 1983, and Ruping in 1990.

Typhoons occur between October and December. The dry season starts from February to May and the rainy season between June and July, followed by a short dry spell between August and September.

II. Coping Strategies

The activities analysis shows that Agbanga households have adopted a variety of routine risk management strategies to cope with seasonal stresses and a declining resource base. They make vertical adjustments by synchronizing farm

and off-farm activities across the landscape with seasonal variations (See Figure 4. Seasonal and Activities Calendar). Since the lowland is primarily monocropped, horizontal or spatial adjustments are implemented only in the upland areas. Some farmers relay corn with sweet potato. Vegetables and root crops planted are usually on the sides and at the home gardens.

Productive activities are carried out in such a way that they complement rather than conflict, and, more importantly, ensure household food security. Towards the end of the rainy season between November and December, farmers who have access to lowland areas prepare the land and the rice seedbed. While waiting for the rice harvest, farmers engaged in upland cultivation prepare the land to plant corn in March, which they call the panuig season. In April, they harvest their first rice crop and prepare the land in May, which is the end of the dry season, for the second rice cropping season. Between June and July, corn is be ready to be harvested. Before the short dry season begins in August, upland farmers prepare the land to plant sweet potatoes. Between September and October, they harvest their second crop of rice.

A. Extended Harvesting Technique for Sweet Potato

Around November, while the men work in the lowland, women and children harvest sweet potatoes.[51] Sweet potato harvesting involves forward planning to ensure the household against food scarcity. Women and children use a method called bukad-lubong in which they dig (bukad) the ground with a metal gadget to look for tubers. After harvesting the tubers, they cover (lubong) the roots with soil so tubers will grow again. Children learn this technique from their mothers at an early age. Bukad-lubong enables them to extend the harvest for another two to three months on a staggered basis. Considering that rice would not be harvested until April, the sweet potatoes gathered by women and children provide a vital source of subsistence from January till March, which the villagers revealed is the hunger season (tinggutom). Most of the harvested crops are used for home consumption, substituting for either rice or corn, while some are sold to buy basic household necessities. For some households, however, their supply of sweet potatoes may not last until the next harvest. When

[51] Traditional varieties are grown in Agbanga. The most popular is Manobo for its eating quality.

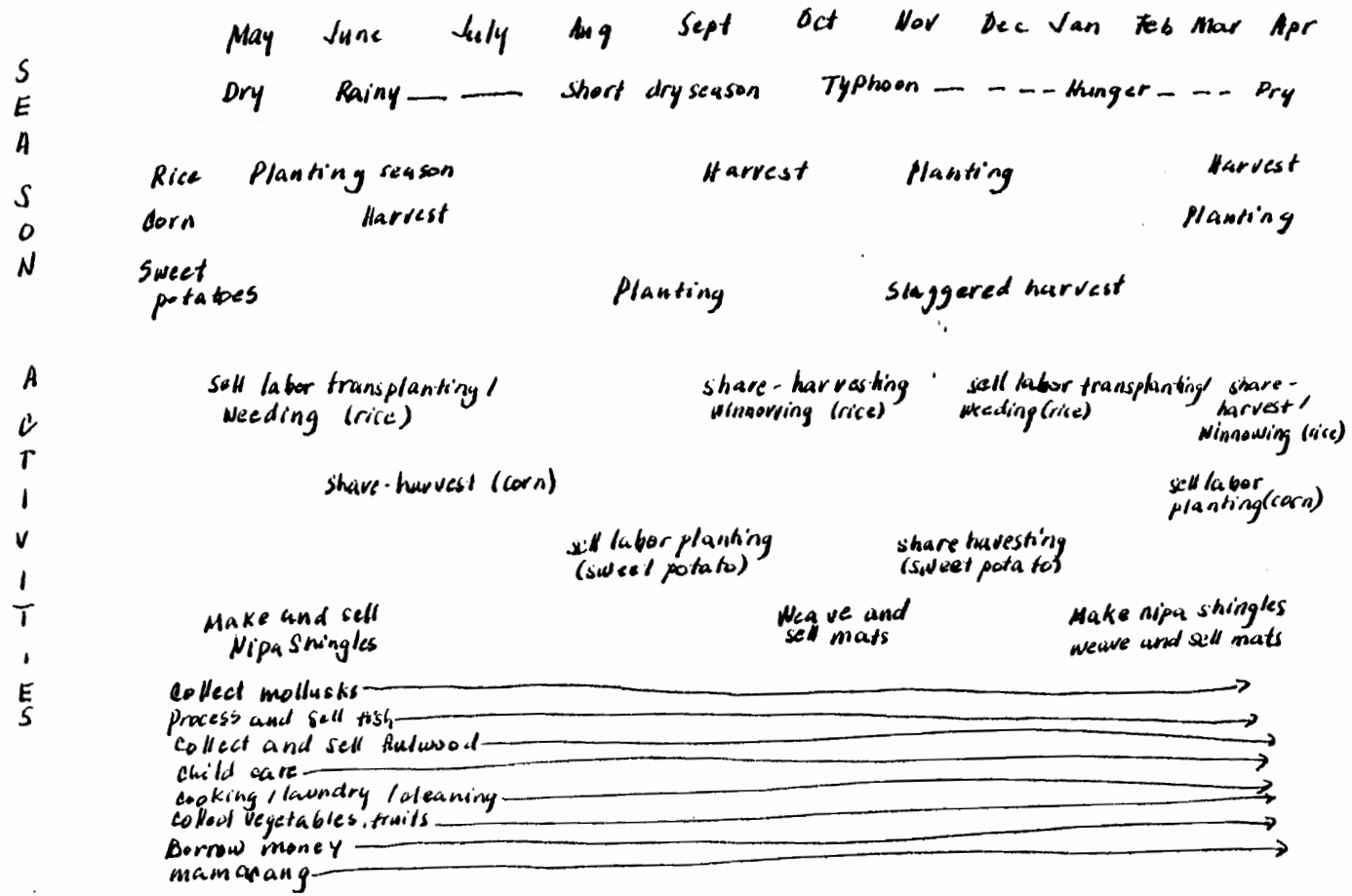


Figure 4. Seasonal and Activities Calendar

such situation emerges, children, especially from low income households, are deployed to glean (manurok) on private lots.

The pre-harvest crisis is much more pronounced for farm-dependent households than for fishers. Fishers at least have the possibility of getting a good catch and the option to sell, exchange or consume part of their share.

B. Coconut as Insurance Against Food Scarcity

Staggered harvesting of coconut is another routine risk-minimizing strategy that households with access to coconut trees employ. Nuts are harvested about every three months, especially around the time when household cash income is low. The men do the harvesting while women and children perform most of the postharvest activities, including selling copra to the market.

Negotiating access to resources, such as harvesting coconuts, is done either internally (i.e., within the nuclear household) or externally. External negotiation is required if the property is commonly owned by siblings or relatives (komon). For instance, one of the women from a key informant household shares ownership of an upland farm planted to coconut trees with her siblings. She said that while all of them have the right to harvest the nuts, they have to ask permission from the oldest sibling.

In general, because of the networking responsibility that has been socially expected of women, they learn to negotiate to gain access to resources.

C. Interhousehold Loans

Resorting to interhousehold loans is common in the community. Loans consist of cash, food, and planting materials. Households in need first approach siblings and relatives before taking out a loan from non-kin households or getting credit from the local store with which to purchase goods. Women usually negotiate to obtain a loan. A woman from the poorest key informant household said that she survives by borrowing money (nabuhi sa utang). Although she borrows money from several individuals in the community, she mostly depends on her neighbor. In return, she transplants her neighbor's rice seedlings and does much of the postharvest activities. She uses the money she earns or the share she gets to pay her debt. She makes sure that her debt is paid up to maintain a good relationship with her neighbor. She will pay with nipa shingles that she was making the other two persons who she borrowed money from. Following her computation, she would end up paying them more than the amount that she borrowed. She said that this is fine because goodwill needs to be reciprocated.

Being continually in debt binds the borrower and moneylender in a patron-client relationship. In the case of this poor woman and her money lender friend, the former depends on the latter for "right to subsistence" (Scott 1972). The money lender, on the other hand, depends on her client's labor especially during peak seasons in farming. By continually being creditors, money lenders can easily mobilize the poors' labor power on demand.

D. Betting

The same woman revealed that she bets in card games to make a little bit more money. She plays cards with her neighbors and bets twenty-five centavos per game. She said that at a wake that she attended she won forty pesos which she used to buy corn grits. Her grandson also deals the cards and gets twenty-five centavos for each game.

E. Share-Harvesting

Share-harvesting is another routine risk minimizing strategy employed by low income households in Agbanga. Share-harvesting enables them to stock up on either rice or corn. Negotiations are made between the landowner and either the adult men or women in the household. Usually

men, women, and children participate in the harvest to gather a substantial share for the household. As mentioned in an earlier chapter, there are two ways of participating in a rice harvest: tabang and ambo. In tabang, the harvesters participate only during the harvest, while in ambo the harvesters participate in weeding, but without any remuneration, to guarantee their entry in the harvest.

F. Community Reciprocal Relations

Relationships of mutual obligations afford some households the flexibility to cope with seasonal stresses. However, it is often cited that community support is likely to disintegrate under severe crisis situations.

During the period of study, the community did not experience any extreme seasonal stress, but about two years ago a major typhoon hit Agbanga which destroyed homes and livelihood activities. One of the victims was a key informant household. She lost her home, and government social services got her relocated on a government property along the coastal area. The government agency provided her with a week's supply of rice, cooking oil, dried fish, and two kilos of construction nails. Her son and daughter-in-law helped her make the walls of her new house. She hired three men to construct the house in three days at fifty

pesos per day for labor. She had to feed them breakfast, lunch, and a snack. Since she is too poor to pay the workers their wages on the spot, she paid them cash and in kind on an installment basis.

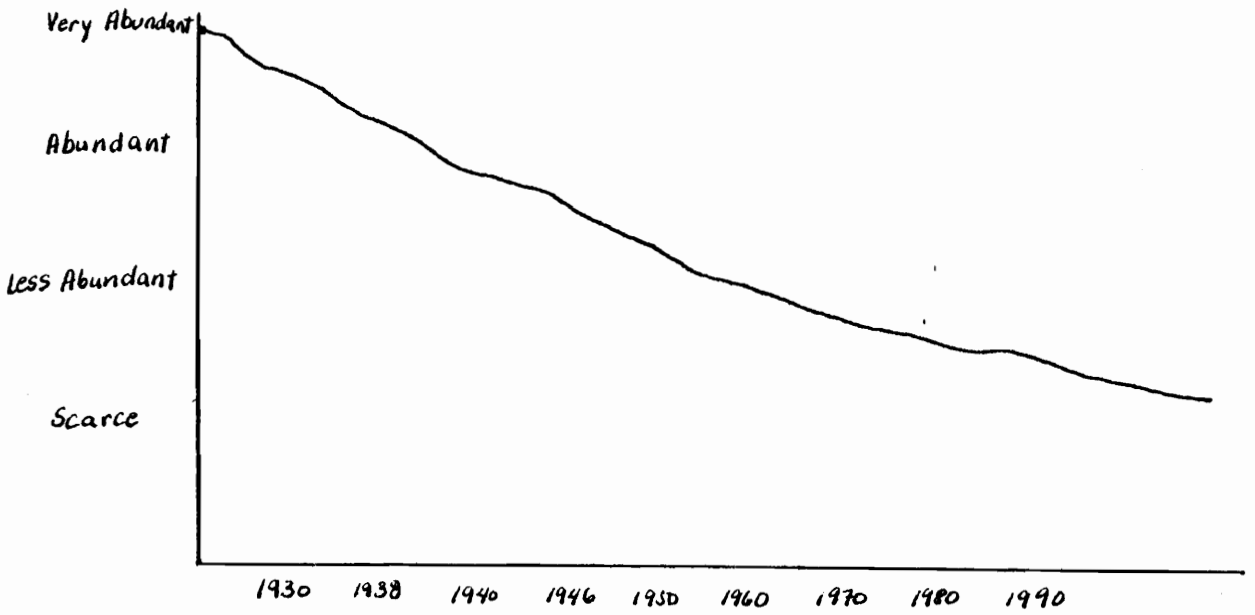
Another household in the coastal area who lost a home was able to build a new one from the donations that they received from outside the community. Unlike the first case, they did not have relatives from the area.

In a risk-prone environment, being poor means being vulnerable. With limited access to resources, poor households need as much support that they can muster. Under severe seasonal stress community support would tend to shrink as other households also struggle to overcome their own losses. Coping mechanisms previously derived from the community now depends to the government with some assistance from close relatives. Considering the sparse resources that the government can offer as well as the bureaucratic hurdle in facilitating efficient and effective flow of aid to the needy, reliance on the public sector constitutes a limited option.

III. Coping Strategies, a Changing Rural Economy, and Resource Degradation

While various social groups, the poor in particular, have been able to develop adaptations to reduce seasonal hardships, some of their strategies have been linked with resource degradation. Continued mining of soil resources rather than using long-term soil conservation measures, excessive harvesting of tree products, cutting down of trees for fuelwood, and encroachment of fragile areas are among the commonly used practices identified to be the cause of natural resource degradation. These practices are typical in Agbanga. They are strategies households and their members use to cope with seasonality as well as a changing rural economy. In the village both micro- and macro-level factors influence local competition for and exploitation of the productive potential of both private and common property resources.

In the trend analysis, key informant households discussed the condition of their resources, focusing on soil, trees, and fish (Figure 5. Trend Analysis). They pointed out that soil fertility is declining due to several factors, such as continuous cropping, loss of trees and cover crops which have facilitated soil erosion. They also mentioned that during heavy rainy seasons, the top soil on



1930 Fishery resources very abundant; fish pens used; fish landings observed.
1938 Dynamite fishing introduced by migrants from Cebu Island
1940s Dynamite fishing continued
1960s Rampant dynamite, compressor introduced in neighboring barangay
1970s Martial law: shoot to kill
1980s Dynamite fishing resumed; compresor introduced in Agbanga

Figure 5. Trend Analysis

the lowland farms are washed out to the sea.[52] Local indicators of low soil fertility that respondents identified include stunted plant growth, reddish (pulahon) soil color, lumpy (bagtokon) texture, emergence of lime (anapog) on the soil surface, low yield, presence of cogon grass (Imperata cylindrica), and dependence on chemical fertilizer.

Trees were cut down as more land, including sloping areas, were opened for cultivation. Also, local people harvested trees (rahaon), including those in the mangrove areas, and sold firewood to bakeries outside the village. A key informant mentioned that when she did not have money, she made charcoal and brought a sack or two to the neighboring Municipality of Hilongos, where she sold them at twenty pesos per sack. She said she stopped making charcoal since she found other sources of income such as selling fuelwood and hiring out her labor.

Towards the late 1980s, there was a demand for tree resources to be used as stakes (ugsok) for the seaweed farm in Dawahon Island. According to an informant household, even young trees were cut down. A hundred stakes were sold for twenty-five pesos.

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[52] While this observation may be possible, siltation measurements should be collected to back up qualitative findings.

Those interviewed regarding the trend analysis indicated that fish population is declining. The residents, especially the fishing households, noted that previously schools of fish would land near the shoreline. A fisher commented that now it is almost impossible to use hook and line along the seashore. Fish species such as sono, mangsi, maya-maya, harawi, anduhaw, dunggo, and saputi are getting rare. Informants also said that they can no longer find seashells such as dugso, bonggo, saang, kutibo, takubo, tapusok, banagan, and litub. Sea corals are sold to outside buyers. Destructive fishing methods have led to the decline in fish population.

A declining natural resource base poses serious threats to the quality of life of Agbangans. While presently there are already manifestations of a widening gap between better off households and poor households from a lack of access to and control over private resources, this situation may not improve if the overexploitation of common property resources, particularly the coastal resources, persists. Breaking off the nexus between poverty and resource degradation in Agbanga does not necessarily require grand public policies or production-oriented intervention. It requires strong local social organization and institutions. The next chapter examines the constraints of facilitating community-based resource management in Agbanga.

CHAPTER NINE

IS COMMUNITY-BASED RESOURCE MANAGEMENT FEASIBLE IN AGBANGA

I. Community-Based Resource Management

A community-based approach to natural resource management is gaining foothold in the development arena as an alternative to centralized and top-down strategy implemented by development practitioners in the past (and still in the present). Some of these community-based institutions have been endogenously structured by the resource users, themselves while others have taken root as a result of appropriate facilitation by exogenous organizations (Kurien 1995; Ostrom 1990). Over time some communities have evolved their own social institutions, made up of interrelated norms and behaviors that serve some socially valued purpose (Uphoff 1986).[53] [54]

Ostrom (1990) presents key "design principles" that self-organized groups have in common. The first principle

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[53] See Uphoff's (1986) differentiation between organizations and institutions.

[54] Norms are shared principles which define access rights and rules pertaining to collection of resources while behaviors are practices which are shaped by norms.

requires the delineation of clearly defined boundaries: identifies who has access rights and what are the boundaries of the resource. The second principle states that there should be congruence between appropriation rules and local conditions, which means that rules restricting time, place, and technology for access and/or the quantity of the resource for use are related to local conditions. The third principle pertains to collective choice arrangements, which means that individuals affected by rules can participate in modifying these rules. The fourth principle emphasizes the importance of assigning individuals from within the community to actively audit resource conditions as well as user behavior. They are accountable to other users and to themselves as users. The fifth principle specifies that violators receive sanctions from officials accountable to the users or from both. Sanctions are based on the seriousness and context of the offence. The sixth principle provides for affordable conflict resolution mechanisms which should be readily available to the users and their officials. The seventh principle indicates that users have the right to devise their own institutions and not be challenged by external government authorities.

Intangible institutional designs emanating from the community are forms of social capital (Coleman 1988). They define use management schemes or practices carried out by

individuals, households, and groups and are congruent with community norms and collectively-embraced values. Institutions and collective action function in synergy (Uphoff 1986). According to Uphoff (1986:14) "institutions embody some kind of 'collective action' in which the interests, resources, ideas, and ideals of many persons are brought together. Institutions serve as channels for collective action that are reinforced by diffused benefits, legitimation, and shared expectations."

In this chapter I will analyze the reasons why collective action, particularly coastal resource management, has not taken place in Agbanga. I will use Ostrom's design principles as a framework for discussion to examine the microlevel factors that undermine the efficacy of a grassroots-based effort to create local institutions to regulate the appropriation of resource units from a fragile natural resource base.

Community-based resource management is both an age-old as well as contemporary experience in the Philippines. In the northern part of the country, the Zanjera provides an excellent example of a century-old, communally-managed irrigation system.[55] Experiences are emerging from the

[55] Described as the most sophisticated indigenous irrigation organization in Southeast Asia, the Zanjera is comprised of federations, with each federation comprising as many as nine organizations (Uphoff 1986). The federations

field, demonstrating successful collaborative schemes between external organizations and community members enabling the latter to craft their own social institutions, aimed at managing common property resources with the facilitation of external agents (Buhat 1994; Pajaro 1994; Cornista et al. 1990). In Agbanga, one would surmise that community awareness of and concern over a declining natural resource base would lead citizens to act collectively to address the problem. In the interviews with households and village-based organizations, informants described how declining resource quality and quantity have affected how women and men organize resource-dependent activities and the overall quality of life in the village. They expressed a critical concern about dealing with the grim possibility of not being able to provide for the subsistence needs of their families if the current trend continues. Other concerns include diminished water supply due to absence of trees, limited productivity of the land, and the loss of other

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jointly operate diversion dams and common main canals. The members contribute their labor and materials towards the construction and maintenance of the systems in proportion to the amount of land they cultivate, without any monetary compensation, that is served by the system. The Zanjera is well-documented by Siy (1982). Ostrom (1990) in her book, Governing the Commons: The Evolution of Institutions for Collective Action, also used the Zanjera as a case example of long-enduring community-managed common property resource mechanism.

resources central to their basic needs. Despite these environmental concerns, village-level organizing to address issues pertaining to the management of a fragile natural resource base has been minimal. There are only silent rumblings in the village. The lack of initiative among the local people to take the problem into their hands brings into question convincing arguments within the development circle regarding the total transfer of responsibility over management of the natural resource base from the government to local communities (Pomeroy 1989). Agbanga offers a case that demands a creative partnership between government and community in addressing issues related to resource management. Socially designing such partnership can be a complicated task considering the various dimensions by which households and individuals within communities are differentiated and the role that government has to take.

II. Local Government

The local government has a major role in coastal resource management. Under the centrally-created institutional arrangement, the Fishery Decree of 1975 or Philippine Presidential Decree No. 704, coastal fishing which encompasses areas within three nautical miles from the shore line is under the jurisdiction of municipal

governments (Galvez 1989; Pomeroy 1989). Municipal governments are also responsible for the management of fish corrals, oyster culture beds, fry gathering, and licensing of boats under three tons. The mayors may assign village or barangay officials to act as deputy fish wardens to implement and enforce fishery rules (Pomeroy 1989). In addition to the municipal governments, the burden of responsibility over fisheries management lies with the Bureau of Fisheries and Aquatic Research (BFAR) of the Department of Agriculture (DA). The BFAR also has jurisdiction beyond the three-mile municipal fisheries boundary, which is designated for off-shore or commercial fishing activities.

Presidential Decree No. 704 awaits full and consistent implementation in Matalom. The municipal fishery is unregulated and unmanaged (Pomeroy 1989). The current state of municipal fisheries shows the absence of credible commitment among government officials from both the BFAR and the municipality, law enforcers, and fishers to sustain long-term collective benefits through strict enforcement of externally-mandated laws. The municipal government has not provided leadership in enforcing the ban against dynamite fishing within the three-kilometer boundary. During the period of study, which was some weeks prior to the local elections, dynamite fishing was rampant. The villagers said

that local officials were lenient because they did not want to lose votes. The law enforcers, the local police and the Philippine Coast Guard, are reported to receive bribes from dynamite fishers. BFAR, which holds responsibility in overseeing commercial fishing operations as well as providing support to municipal fisheries, does not have visibility in Matalom. The agency's office is not only far from the municipality, it is also under-staffed and ill-equipped (Pomeroy 1989). Only two staff members serve the entire western coast of Leyte. The agency neither owns a vehicle nor a boat to use for travel or monitoring within the region. It occasionally hires a boat to monitor illegal fishing activities. With dwindling government funds, BFAR's already minimal monitoring activities may face further reduction.

In contrast to the graduated sanctions recommended by Ostrom (1990), the Philippine fisheries law imposes harsh sanctions to violators. For example, persons caught in possession of explosives intended for blast fishing can face from 12 to 25 years imprisonment (Galvez 1989). Penalty for using explosives and causing injury ranges from 20 years to life imprisonment. None of these sanctions, of course, is strictly followed. The mayor told the researchers that he pities the families of the violators...women and children will go hungry if male dynamite fishers are incarcerated.

A local financier, who is also a fish dealer, revealed that she was arrested twice by law enforcers. The first incident was in 1978. She sold 40 kilos of dynamited fish, reportedly not anchovies, at the market in the Municipality of Bato. She was brought to the stockade. According to her, by law the authorities would have sprayed chemicals on the fish before burying them. Fearing that she would lose God's grace, she pleaded that authorities take the fish and distribute them to the people. She said that the prisoners, motor cycle drivers, and police got a share. Two kilos were also sent to the local hospital. Before she was released, she was made to sign an affidavit not to sell dynamited fish again. In 1990, she said that an agricultural technician reported to the authorities that she was using a compressor. She had an audience with the mayor, whom she promised not to engage in dynamite fishing again.

III. Failure of External Intervention

An attempt was made in the mid-1980s to rejuvenate the community's coastal resources through the Local Resource Management (LRM) program initiated by the municipal government and the local Department of Agriculture. The LRM was primarily targeted to coconut farmers, subsistence farmers and landless workers to develop self-help efforts

toward livelihood development. Loans were extended for fish vending and hog raising. A carabao dispersal program was also carried out. Local fishers submitted a proposal to obtain loans to support long line (palangre) fishing, but it was disapproved because program managers found that long line fishers obtained baits from dynamite fishers. In 1987, however, program managers initiated the establishment of an artificial coral reef. Local residents, even non-fishers, participated and contributed their labor as well as construction materials such as bamboo, coconut fronds, and nails. Their participation was motivated towards procuring a loan from the program. One resident mentioned that for a while dynamite fishing stopped in the area where the artificial reefs were constructed, although it was not clear whether or not fishers were dynamiting other areas. The project, however, did not survive. It was destroyed by a typhoon that hit the community. Since then, no follow up activity has been made by program managers from the Department of Agriculture. Along Agbanga's coastline, one can find a pile of lumber which fishers said was supposedly going to be used for the artificial reef. Residents who took part in establishing the reef, reveal that they feel cheated. According to a woman, who lives near the coast, the people lost interest in the program because their

efforts were not compensated. A fisher said that it was an ilad-dream or the project was an "untrue dream".

The failed LRM program suggests that technology alone cannot solve the problem of resource degradation. The program failed not only because no follow up activities was implemented but that although the program generated interest and participation among the people in establishing the artificial reefs, it failed to work towards a process of social transformation particularly among the target clientele. While in reality people may have just participated in the program to obtain a loan, this initial and primary interest in obtaining a loan could have potentially been converted, over time, to interest in pursuing the artificial reef program even after implementors had pulled out. This would have required considerable dialogue between outsiders and local people prior to implementing the artificial reef and enabling the people to craft their own institutions to protect and maintain the reef.

IV. Barangay Initiative

Barangay-based organization regulating the use of destructive fishing technologies or acting as a monitoring group is nonexistent. Only the barangay government has gone

so far as to create local ordinances banning dynamite fishing. However, in a conversation with the barangay capitan he expressed pessimism that the ordinance will get implemented. He thinks that the law should be enforced by the municipal government and the police.

V. Persistence of Dynamite Fishing

Dynamite fishing is tolerated and accepted as a livelihood strategy for various reasons. First, dynamite fishing benefits a cross-section of Agbanga's population. When dynamite fishers land on shore, other fishers, men, women, and children, whether they are related to the returning fishers or not and regardless of their social class, gather around the dynamite fishers and get a handful of fish from each fisher, especially if the catch is plentiful. Even community leaders, who say that they are against dynamite fishing, partake in the bounty.

Second, dynamite fishing has created a culture of internal dependency. Villagers know, for example, that they can count on receiving dole outs from dynamite fishers. Compared to the other fishers, dynamite fishers dole out the biggest share to fishers and non fishers. A Class III household member says that she sends her children to the coastal area to buy fish. Sometimes the children bring home

fish given away by dynamite fishers. She thinks that probably the fishers take pity on the children.

Villagers wait by the shore for the dynamite fishers early in the morning and around dusk. There are those who are there to ask for free fish (mamarang) while others buy fish (manabo) and sell them within the village. Getting a handful of fish from the early morning catch can amply provide a decent breakfast for a household and, depending on the household size may be even sufficient for several more meals.

Third, dynamite fishing supports the livelihood of long line fishers and local fish vendors. Long line fishers use dynamited anchovies for bait. If the catch from dynamite fishing is bountiful, they will not have to spend time looking for bait. Households from low socioeconomic groups generate capital, however small it may be, from buying dynamited fish and selling them within the village.

Fourth, dynamite fishing has many free riders (manugok), who include among others long line fishers. Free riders stay close to the dynamite fishers, and after an area has been dynamited, they dive into the sea with their scoop nets. Other dynamite fishers may rush to the site with their scoop nets. Free riders turn in a portion of the catch which ranges between one-half to one-eighth to the dynamite fishers. Sometimes, if the catch is plentiful,

they keep the entire catch from their scoop nets. On good days, free riders, equipped with compressors, can harvest up to six and a half baskets, locally called takal, filled with anchovies.[56] One basket costs from 140 to 200 pesos, depending on the season. That week, a basketful of anchovies sold for 150 pesos. A woman bought from her free-rider son half of a basket of anchovies for 75 pesos. She sold the anchovies at eight pesos per can, earning about 21 pesos excluding her labor. She said that during the previous week, a basket of anchovies sold for 200 pesos. She sold them retail at 12 pesos per can. She processes fish that are left unsold.

Of the 45 fishers who admitted that they are free riders, 17 or about 38% mentioned that portions of their share are exchanged for other commodities, used for home consumption, given away to neighbors, and sold. Only six free riders mentioned selling their entire share.

In the survey, 100 out of the 176 persons interviewed mentioned that dynamite fishing persists in Agbanga because it provides easy and fast cash, while 46 answered that dynamite fishers do not have other sources of livelihood.

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[56] In the community measurement for buying fish is by kilo, basket (takal), or empty Caltex oil can. A basket holds 24 Caltex oil cans filled with anchovies. When selling on retail fish vendors use an empty Caltex oil can which holds about a kilo or 2.2 pounds of anchovies.

Fishers mainly engaged in dynamite fishing have shorter working hours compared to other fishers. They go out to the sea around 5:30 in the morning and return about three hours later. The next schedule is around 4:00 in the afternoon and finishes before dusk.

VI. Dynamite Fishing: A Culture of Dependency and a Form of Social Control

While it is true that dynamite fishing provides immediate benefits to fishers, who have probably not explored other sources of livelihood because the present situation enables them to generate subsistence and capital, a critical analysis of the relational dynamics between dynamite fishing and the community is that dynamite fishing has persisted because its redistributive mechanism has served as a form of social control in the community. This social control is evidenced by the culture of dependency that is being cultivated by dynamite fishers with the local folks. It has socialized the people to perceive dynamite fishing as an enduring reality, where everyone benefits, not just the fishers and financiers. A financier mentioned that dynamite fishing persists because it is what people are used to, or maoy naandan. This implies that the culture of dependency has been rooted and internalized, strengthened

through extensive gift giving (mamarang) that it recreates almost on a daily basis. A few individuals question dynamite fishing, but feel unempowered or a minority to act on it. Dynamite fishers are another person's neighbor, sibling, relative and acquaintance. Disengaging the fishers from a destructive practice could mean a loss of livelihood for several people, not only the fishers but also fish dealers, discontinuation of the flow of gift giving, and destabilization of social networks.

Dynamite fishing has exploited the culture of gift giving by using it as an ideological force to justify support for a destructive enterprise. It legitimizes hierarchical social networks based on dependency and helplessness among those who have less access to productive resources. This is demonstrated by the fact that although people are very aware of the consequences of their actions, i.e. mamarang and selling dynamited fish, they view them as a way of keeping up with the market economy with few resources.

VII. Role of Law Enforcers

Social control is further legitimized by the indifference of the municipal police. For example, some policemen were observed present in a fiesta-like celebration

that followed upon the fishers return at the house of the financier. Financiers have to maintain a good relationship with local enforcers. This entails feeding them when they are visiting the area.

Local people reported in conversations that law enforcers can be bribed. The dynamite fishers' fear is not only being caught by the coast guard and possibly imprisoned, but having to pay considerable amounts of money to bribe law enforcers to release them. During the time of the study dynamite fishers working for one of the key informant households were caught by the coast guard. Nobody was reported jailed, but a few thousands pesos were paid to the coast guard. It was reported that fishers also gave away their a pack of cigarettes.

VIII. Curbing Dynamite Fishing

There are three key groups in dynamite fishing: the financiers, fishers, and fish vendors or dealers. As described earlier, dealing with financiers and dynamite fishers has not been very effective in curbing dynamite fishing. Financiers have the capability to mobilize capital either by bribing law enforcers or integrating them into the financiers' social web, which are enough to deter the latter from performing their duty. Law enforcers, however, have to

some extent succeeded in their campaign against the fish vendors, mostly comprised of women who buy fish from dynamite fishers. Targeting the campaign on fish vendors is designed to discourage them from buying dynamited fish and therefore deprive dynamite fishers of markets. Fish vendors risk being caught when they sell anchovies at the municipal markets. They have to be canny about the quantity that they put on display. However, while selling of anchovies is observed and sanctioned at the municipal market, this is not the case at the village. Dealers openly sell dynamited anchovies within Agbanga and the neighboring barangay. Also, dealers can either salt or dry the anchovies and sell them at the municipal markets. In fact, financiers were observed processing their catch rather than selling it fresh at the market.

IX. Subverting Social Capital Formation

As mentioned in the earlier part of this dissertation, dynamite fishing was controlled during martial law because of the "shoot to kill" order from the government. In the survey, residents deem that the only way to control dynamite fishing is to tighten the law. This implies intensified deployment of trained and armed law enforcers who will not succumb to bribery. The use of force as well as imposition

of centrally-created laws rather than enabling local people to craft their own institutions and assisting them to implement these institutions signifies a decline in social capital (Putnam 1993). As social capital progressively erodes in Agbanga, so does the natural resource base.

Recapitulating the seven design principles designed by Ostrom suggests a major challenge in implementing a community-based resource management strategy in Agbanga. While laws governing resource utilization are in place, they were crafted outside the sphere of local participation and control. Local legitimation and ownership of such laws does not exist; hence, their enforcement relies on external rather than local agents. This further implies a potential incongruence between laws created at the national level and specific local conditions. In summary, under the current institutional structure found in Agbanga, implementing a community-based resource management program is not feasible, where people are removed from participating in key decision making processes which regulate the utilization of resources.

CHAPTER TEN

CONCLUSION

Natural resource management involves choices, compromises, decisions that households make to fulfill their needs as well as aspirations. Experiences of class and gender, of power and marginalization in a changing rural economy shape households' resource management strategies. Several themes emerged from this study that could potentially help advance our understanding of the complex set of factors that constrain resource sustainability or have the potential of promoting it.

Many of the changes in the resource management strategies taking place in the community and within households can be linked to the radical transition towards the market system. Capitalist expansion in the village economy has facilitated the privatization of resources as well as the capitalization of resource-dependent livelihood strategies, concentrating the control of resources and key livelihood strategies, primarily lowland farming and fishing, by a few households while developing a large group of low income households who have to rely mostly on hierarchical networks and various forms of labor participation in production activities to gain access to resources. Tactical access to a variety of resources enable

households, regardless of social class, to diversify livelihood strategies. However, the higher the social class, the more able households can combine livelihood strategies which fulfill the members' subsistence needs and those where they can accumulate capital. Among low income households diversification is necessary for the maintenance and reproduction of their members.

Competition fueled by the new marketplace creates minimum opportunity to enhance the value of the natural resource base because of the importance given to fulfill short-term needs versus long-term management of resources. While decline in the natural resource base impacts more on women, who perform most of the postharvest activities both in the agricultural and fishery enterprises, than men, the burden is heaviest among low income women who have limited access to labor markets and resources to engage in productive activities. Because women's interaction with the natural resource base is closely tied to their social reproductive as well as community management responsibilities, a decline in the natural resource base can negatively affect household quality of life as well as community well-being.

The ethical value of mutual reciprocity persists even with the penetration of market forces in the village economy. Both women and men across social groups seek to

enhance inter-household relationships by recreating the culture of gift giving and exchanges. Horizontal networks, which are formed and reproduced through gift giving and exchanges, are critical social safety nets especially for the resource poor households in the village. Women are instrumental in building horizontal social networks. As observed in Agbanga, horizontal social networks can potentially conserve indigenous resources. On the other hand, when networks are formed to establish social control and propagate a culture of dependency this can lead to systematic degradation of resources. How members of a community relate to each other and to their resources determine how those resources would be managed. The research in Agbanga nicely captures how cooperation between households and collaboration within households as well as strategic class and gender positions influence resource management strategies.

Rural poverty and natural resource degradation cannot be addressed using a technological fix model. Projects fail not because the appropriate technology was not there but because social capital formation was missing in the equation. Building social capital is key in natural resource management. Fundamental to social capital formation is enabling community members to craft their own institutions, which are congruent to community norms. These

institutions define resource management schemes that would be carried out by community members themselves. In some cases these intangible institutional designs are already existent although they may have undergone adaptations as members respond to social, economic, political and cultural changes. In other cases, social institutions may have been historically undermined due to conflicting interests among community members.

Local control of resources and the extent to which this is broadly shared among community members affects how resources are managed. When control rests only on a few households, engendering self-control or determination on a community level is not feasible. Korten (1986:3) states that "in assessing whether a given program is indeed building community management capacity, the test of productivity is necessary but not sufficient. A true community management intervention must strengthen and broaden the local base of effective resource control."

APPENDICES

Appendix 1. Formal Survey Questionnaire

QUESTIONNAIRE

ECOGEN: FORMAL SURVEY

Date : _____
Interviewer : _____
Purok : _____
Household Rank: _____

1. Name: _____

2. Wife [] Husband [] Child []
   Others, specify _____

3. Age of adult male _____

4. Age of adult female _____

5. Marital status: Married []
   Single []
   Separated []
   Widow/Widower []

6. Type of household:

   a. Female-headed (specify) _____
   b. Male-headed _____

7. Highest educational attainment:

   a. Adult male _____
   b. Adult female _____

8. Number of children _____

9. Live in relatives: yes [] no []

10. Livelihood activities of live in relatives: _____

11. Do you receive remittances? yes [] no []

12. Uses for remittances:

Purchase livestock	[]
Purchase farm implement	[]
House repair	[]
Pay for children's education	[]
Purchase household needs	[]
Capital for business	[]
Pay farm labor	[]
Others _____	

13. Sources of livelihood and rank: (1=highest)

		Rank
Regular job	[]	___
Upland farm	[]	___
Lowland farm	[]	___
Fishing	[]	___
Harvest coconut wine	[]	___
Sell labor	[]	___
Others _____		

FARMING ENTERPRISE

14. Access to land:

LAND	SIZE	PURCHASED		INHERITED		SHARE TENANT	PAWNED TO RESPON-DENT	PAWNED TO OTHERS BY RESPONDENT	PUBLIC LAND	OTHER
		1	2	1	2					
LOW-LAND										
#1										
#2										
#3										
UP-LAND										
#1										
#2										
#3										

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1 Owner-cultivated
2 Tenanted

15. Land pawned to respondent:

a. About how many years have you been farming this land? _____
b. When is the owner going to pay back his/her loan? _____
c. Why did the owner choose to pawn his/her land to you?
   c.1 Relative []
   c.2 Pawned land to use in the past []
   c.3 We had available cash []
   c.4 We know how to take care of the land []
   c.5 We will not seek assistance from the Department of Agrarian Reform to maintain control of the land []

d. Who is cultivating the land? _____
e. Before this land was pawned to you, was it cultivated by a tenant? yes [] no []

16. Respondent's resources pawned to others:

RESOURCE	YEAR	REASON FOR PAWNING	PROPERTY RETRIEVED OR NOT

17. Share tenant - Landowner Relationship

A. Lowland

a. Where is the landowner located? _____
b. Relationship with landowner _____
c. Number of years cultivating the land as a share tenant _____
d. Relationship with previous tenant _____

B. Upland

a. Where is the landowner located? _____
b. Relationship with landowner _____
c. Number of years cultivating the land as a share tenant _____
d. Relationship with previous tenant _____

18. Parcels respondent was a tenant and no longer cultivates yes [] no []

19. Reason why respondent relinquished tenancy

a. Owner got back the land []
b. Owner pawned the land []
c. Respondent decided to work for another owner []
d. Respondent did not want to be a tenant anymore []
e. Land was already infertile []
f. Others []

20. Hillside Farming

a. Are you farming along the hillside? yes [] no []
b. Are you using any soil conservation techniques? yes [] no []
c. If yes, which of the following techniques do you use?

c.1 Rock walls []
c.2 Natural vegetative strips []
c.3 Contour Hedgerows []
c.4 Leave area uncultivated []
c.d Others _____

d. Land on fallow yes [] no []
e. Years on fallow _____

FISHING ENTERPRISE

1. Type of fishing gear and financing

Fishing Gear	Self-Financed	Collective Kompaniya
Net		
Long line		
Dynamite		
Hook and line		
Fish trap		
Others 1. 2.		

2. Ownership of fishing boat

Type of Fishing Boat	Number
Nonmotorized	
Motorized	

3. Collective fishing:

   a. Use of share from collective fishing:

      a.1 Home consumption []
      a.2 Sell []
      a.3 Give away []
      a.4 Exchange []
      a.5 Others _____

   b. Frequency share is sold:

      b.1 Often []
      b.2 Always []

   c. Average weekly earning from collective fishing _____

4. Self-financed fishing:

   a. Use of fish harvested:

      a.1 Home consumption []
      a.2 Sell []
      a.3 Give away []
      a.4 Exchange []
      a.5 Others _____

   b. Common use of fish harvested: _____

5. Reasons why dynamite fishing persists in the village? Rank answer. 1=highest.

   a. Cannot rely on farming ____
   b. Presence of supplier ____
   c. Law is lenient ____
   d. No alternative livelihood ____
   e. Others_____

6. Do you harvest dynamited fish? yes [] no []

7. Common use of dynamited fish the you harvest:

   a. Home consumption []
   b. Sell []
   c. Give away []
   d. Exchange []
   e. Others _____

8. Based on our observations, dynamite fishing is destructive to marine life. What do you think can we do to control it? _____

OTHER PRODUCTIVE ACTIVITIES

1. Is anyone in your household engage in the following activities?

Activity	Who Does the Activity			
	Child	Wife	Husband	Others
Daily wage labor				
Weed and harvest				
Contractual labor				
Harvest				
Exchange labor				
Manage sari-sari store				
Local medicine				
Sell fish				
Weave mat				
Knot abaca				
Raise hogs				
Make nipa shingles				
Make fish traps				
Others 1. 2.				

Appendix 2. Vignettes

SOCIAL CLASS I

CELEDONIO and PRESCILLA PARKO

Prescilla, 49 years old, and Celedonio, 50 years old, were born and raised in Agbanga. Prescilla has four siblings in Agbanga while Celedonio's siblings had moved out of the village. She had some years of college education while her spouse completed secondary level education. The couple has lived in their current house since 1954. It was originally owned by Celedonio's brother, who moved to Matalom. In 1971, they bought it from him. The title of the property is still under Celedonio's brother's name. Celedonio's name is on the declaration documents, indicating that Celedonio is the rightful cultivator of the land.

Located along the main road, the Parko's spacious residence is made of concrete materials. The roof is constructed with galvanized iron sheet. They have modest furniture. The living room is adorned with a family picture and a picture of Prescilla's niece, who worked in Japan and married a Japanese. At the house's main entrance, Prescilla maintains a small collection of orchids which she asked from her friends. Celedonio, she says, finds them useless, but she insists that the flowers are beautiful. She waters them twice a day, using an improvised sprinkler. Their backyard

is with filled with vegetation, banana, cacao, and coconut trees that they planted. They also have a young baganga tree and a couple of romblon plants which Prescilla planted.

Close to their house is a faucet, where they get drinking water. Prima does the laundry at the irrigation canal. Celedonio washes his own clothes around dawn at the canal and comments that the water is clear and cool.

A sari-sari store connects to the main house. Opposite the store is a make-shift hut, where the Parkas entertain visitors whenever it is too hot to stay indoors. This is also the place where men who buy coconut wine from their store come to socialize. Prescilla manages the store, but says that Celedonio also watches the store whenever he is at home. A farmer from San Isidro supplies them three to four gallons of coconut wine every week. Prescilla pays him 16.00 pesos per gallon and resells coconut wine at 25.00 pesos per gallon.

Investing on Children's Education

Prescilla and Celedonio have five children: Alfredo, 25; Jose, 23; Raymundo 21; Antonio 19; and Pedro 16. Through the couple's own efforts they were able to finance Alfredo and Jose's college education. Alfredo completed an undergraduate degree in agriculture. Jose's degree is in

way of keeping the property. One can trust that relatives will not turn over the owners to the agrarian reform office.

The second parcel was inherited by Celedonio from his parents. They only have a declaration of the property which is under Celedonio's name. They cultivated this land since 1958.

The third parcel was inherited by Prescilla from her father. The title is still under her father's name.

The fourth parcel was inherited by Celedonio from his mother. The title is still under his mother's name.

They plant alternately two modern rice varieties locally known as mestiza and aklan of all the parcels. They trade seeds with their neighbors and use chemical inputs recommended by the agricultural technician, who is their neighbor.

Both Celedonio and Prescilla actively participate in lowland farming activities. At the start of the rainy season in June, Prescilla contacts her brother, who has access to a tractor, and hires him as contractual labor (pakyaw) to prepare the land. Prescilla and Celedonio prepare the seeds. Celedonio makes the seed bed. Prescilla sows the seeds. They hire daily workers, who they have special relationships, such as godchildren, to uproot and transplant the seedlings. Celedonio buys fertilizer in Matalom, takes charge of fertilizer application, and makes

sure that water is sufficient. To make sure that the rice crop is not attacked by birds, Prescilla visits the field regularly. She drives birds away by beating two wooden boards. Male and female share harvesters (ambo) are hired to weed. Celedonio and Prescilla also hire other share harvesters (tabang) when rice is ready to be harvested. The first rice crop is harvested in November. The share harvesters thresh the rice and takes the palay to the house. Prescilla takes of charge of the sharing arrangement with the share harvesters. She does a lot of the postharvest activities, such as drying the palay in their front yard, winnowing to remove dirt, and taking the palay to the mill in Matalom. If the weather is favorable the following month, they begin land preparation.

Upland Farm

They own two parcels in the upland; the total size for both parcels is less than a hectare. The first parcel was inherited by Prescilla from her parents. The land title is still under her parents' name. Her brother-in-law acts as the share-tenant. The land is planted to corn, sweet potato, squash, and peanut. Luceaena, a leguminous tree locally known as ipil-ipil, can be found along the border. Banana and coconut trees as well as bamboo are also grown in

the area. The couple has sole rights to the bamboo and banana trees. They get half of the crops. Prescilla and her siblings have sole rights to the coconut trees. If a sibling wants to harvest coconuts, the oldest sibling has to be consulted. The siblings contribute money to pay for property tax.

The second parcel was inherited by Celedonio from his parents. The declaration is under his name. He has sole right to the land and pays the taxes. The couple has a share-tenant, who their godchild. Land is planted primarily to coconut and bananas. The tenant has planted corn, sweet potato and yellow squash. The Parkas have sole harvesting rights to coconut and bananas. The sharing arrangement for the other crops is one-half. The Parkas do not interfere with the tenant's farming practices.

Uses of Farm Produce

Their share of the crops harvested from their lowland and upland farms are mainly used for home consumption. Prescilla sends her sons milled rice if there are villagers travelling to Cebu or Manila. Sometimes neighbors borrow palay from them. Both Prescilla and Celedonio decide when to loan palay and to whom.

Celedonio and Prescilla manually remove the kernel from the cob. Prescilla keeps the cob for fuel and takes the kernel stored in sacks to the mill in Matalom. She saves the bran to feed to her hogs. She occasionally harvests sweet potato leaves to feed to the hogs. She also prepares them for meals. Prescilla sells the yellow squash in their store. Copra from coconut is sold in Matalom. She keeps the money and uses it for household needs. She also harvests banana blossoms and prepares them into a dish. When there is more than enough of the banana blossom for the household, she sells a portion and gives the rest to neighbors and relatives. She also uses the banana leaves for cooking. She saves the cacao seeds and processes them into chocolate, used for home consumption. She also sends her sons processed cacao seeds.

Celedonio uses the bamboo to make small fish pots or panggal. He also sells bamboo poles at 10.00 pesos a piece. He sells the base, which are used as stakes for the seaweed farm in Dawahon Island, at 3.00 pesos a piece.

Livestock

Prescilla raises hogs and participates actively in the alima system, a livelihood niche she found which does not entail direct supervision. She owns two boars. One is used

for breeding while the other is still young. Prescilla gets a piglet, as her share, whenever her boar is used for breeding. She also has 10 hogs distributed in Agbanga and the neighboring barangay of Tab-ang under alima system. She does not interfere with the feeding practices of the caretakers, but she is very much concerned that the hogs are given the right medication and supplement. She is known to be meticulous in demanding her share, which she distributes to other women to raise when the piglets are about two months. If she needs cash, Prescilla would sell the piglets. She sells the hogs when they are six to eight months old. Usually the hogs would weigh between 50 to 60 kilograms and sell at 40.00 pesos per kilogram. Twice a year, Celedonio would butcher a hog. Prescilla keeps a portion for the meat for home consumption. She sells a portion in their sari-sari store and gives some to her siblings.

Prescilla takes charge of feeding the hogs. She buys feeds at the local store and also uses sweet potatoes and sweet potato leaves, rice bran, and corn bran to feed the hogs. Every afternoon she prepares the hogs' feed at the hut adjacent to the store. She skillfully cuts a whole banana trunk into thin slices while carrying on a conversation with villagers who drop by. She uses vitamin

supplements and treats the hogs with antibiotics if they get an infection. These practices she learned from the agriculture technician.

Fishing

Celedonio owns five non-motorized boats. He uses one boat and rents out the rest to relatives and friends. Two boats are rented for long-line fishing, while the other two boats are rented for hook and line fishing. The sharing arrangement is one-half the catch either in cash or fish. He used to own a motorized boat, but decided to sell it in 1993 for 2,000.00 pesos because it was costly to operate and maintain. He stores his gear inside a small hut that he constructed at the coast.

Celedonio has 30 small fish pots panggal which he manages by himself. Early in the morning, if the weather is good, he sets out to the sea to check the fish pots. If the harvest is abundant, they sell a portion in their sari-sari store and sell the rest to their suki in Matalom. Prescilla chooses the fish which they sell in the village. Celedonio delivers the rest to Matalom. If the harvest is few, they either sell the fish sari-sari store or process them.

Credit

Prescilla gets credit with which to buy goods from another local sari-sari store. She does not have problems obtaining credit because she pays her debt on time and probably because of her household's dominant class position in the village.

SOCIAL CLASS II

NENITA AND SERAFIN PLANAS

Nenita, 52 years old, is from Matalom, while Serafin, 53 years old, is from Agbanga. They were married in 1958, shortly after Nenita returned from Surigao in Improved Island where she worked as a domestic helper for a year. Nenita is from a farming family; none of her siblings live in Agbanga. Serafin comes from a family, who is actively engaged in fishing. His parents, who are net fishers, and most of his siblings live in the sub-village of Puting Baybayon (coastal area). They live close to each other. The land where their concrete house stands is owned by Mr. Palina, a friend of Serafin's brother-in-law, who now lives in Surigao. They pay a rent of 12.00 pesos per year to his brother-in-law.

Nenita and Serafin have four daughters and 4 sons. Two daughters are working in Manila, while one daughter is a teacher in Matalom. The fourth daughter, who has her own household, lives next to their house and helps her parents in the fishing activities. Two sons are married and live separately from their parents. They, too, are actively involved in fishing. Two sons live with Nenita and Serafin:

one is a college drop out, while the youngest is in grade school.

Upland Farm

The Planas's and Serafin's siblings have joint access to the upland farm owned by Serafin's parents. The land measures about a quarter of a hectare and is located near the water source in the sub-village of Tubod. The land is planted to coconut, palaw (rootcrop), romblon, bananas, and gabi (rootcrop). Serafin planted the coconut trees and bamboo, while the rest of the crops were planted by Nenita. Because of their activities in lowland farming as well as time demands in fishing, Serafin and his siblings have not devoted time to upland farming. Every three months, Nenita hires somebody to harvest the nuts which she processes into copra. She sells copra in Matalom and gives a share of the sale to Serafin's parents. Palaw, she says, is available the entire year. She planted it can be used as substitute for rice, especially during long dry season. Nenita rarely harvests romblon leaves from their upland farm because of the distance. She harvests romblon leaves from her relative's plant. Serafin does not use much of their bamboo plant because it is unproductive and cannot be used to make fish traps.

Lowland Farm

They have access to a lowland farm for about 23 years already as share-tenants of Mr. Macario Mata, who now lives in Improved Island. His sister, Gloria, acts as the farm administrator. It was through Gloria that the Planas's gained access to the farm. Gloria did not get along well with the previous tenant. She and the Nenita had been friends since they were teenagers. They were neighbors. Their spouses knew each other, too. So every time Gloria visited her brother's farm in Agbanga, she would spend siesta at the Planas' home. Through connection with the administrator transfer of the tenancy to the Planas' was facilitated. They said that at that time the owner replaced the old tenant, the government's agrarian reform program was not yet strictly implemented so the process was "relatively easy".

The size of the land is about three quarters of a hectare. The owner and the Planas's drew up an agreement at the Department of Agrarian Reform Office that stated the latter would pay a fixed rent of five sacks of palay every cropping season. In reality, however, this was not implemented, because the owner insisted a 50% sharing arrangement. The Planas's, too, felt guilty that their landowner would receive only a small portion of the harvest

if they followed the agrarian office's arrangement. While keeping the 50% sharing arrangement, the owner, through his administrator, contributes 600.00 pesos each cropping season to cover part of the production expenses.

They grow rice between December and April and between May and October. Household members, including married children, help out in all rice production activities especially when they are not busy with fishing activities. Previously, Serafin used to hire daily wage farmer-laborers (pasuhol) to prepare the land, but found that this was a little more expensive and time consuming than contractual labor (pakyaw,) because Nenita would have to prepare meals and snacks for the laborers and in many cases provide them with coconut wine at the end of the day. Hence, Serafin decided to contract a tractor operator to prepare the land and just worry about finding money to pay for labor. He also hires somebody from the village to spray the rice field after the fruiting stage. Either Nenita or Serafin hire share-harvesters. They say that finding share-harvesters in Agbanga is never a problem because only a few residents in the village have access to rice farm. Nenita insists that rice straws should be left to decompose in the field rather than be burned. One can always find unthreshed palay on some straws, and burning the straws can bring bad luck.

According to Serafin, he remembered planting native rice varieties: lubang, pinutjucan, lucan, bukas, and moco. These varieties grew well even without chemical application. They also planted them in the uplands. He said that farmers changed to new varieties because the yield is higher than their native varieties. Native varieties take about five months to grow, while the new varieties only take about four months. Farmers prefer to harvest rice about the same time. If they are late in harvesting, there is a good chance that the crop will be attacked by rats and birds.

Livestock

They own a carabao which is taken cared for (alima) by Serafin's friend. The couple raises chickens but used mainly for home consumption. Nenita does not raise hogs, but she helps take care of her daughter-in-law's hog. She supplies her with rice and corn bran as well as banana trunk.

Fishing

The Planas family is very much involved in fishing. Their son manages the pumpboat and non-motorized boat. With his father's supervision, he also handles the family's

fishing enterprise. They own a compressor, which they bought in Hilongos in 1990 for 2,500.00 pesos. According to their son, the whole set up cost his parents about 4,065.00 pesos to assemble. The same gear would now cost 8,000.00 pesos. Serafin and Nenita finance long-line and dynamite fishing. They have fishers who work for them (kompaniya). Nenita keeps track of the fishing expenses and pays fishers their share at the end of the week.

During our fieldwork, some of their fishers, who were out dynamite fishing, were arrested by the coast guard. That same evening, Nenita and her husband attended the elementary school's closing program. Everything seemed normal. We chatted about the incident for a while, indirectly convincing her that we had nothing to do with the arrest. We learned from another source that she paid a few thousand pesos to bribe the coast guard. She was lucky to have some money with her, although it was mentioned that she had to borrow money from her spouse's sibling. The following day it was business as usual. Dynamite fishers continued with their activity, although probably extra careful in detecting the slightest presence of the coast guard.

Unlike farming, where postharvest activities are done mostly by women, everyone in the Planas's household is actively mobilized when dynamite fishers come home with

their catch. One of the days we went out to visit them, the fishers had just returned from dynamite fishing. Everyone helped out washing the fish, arranging each fish on the bamboo mat before they would be dried under the sun. Another portion of the catch was stored in huge basins and salted. The whole activity seemed very well-coordinated. Everyone moved fast, careful that the fish would not spoil. We observed that while Nenita was busy with the postharvest chores, she was also giving away handful of anchovies to by-standers. We commented on the amount of fish that she was giving away as we were working with her and the members of her household drying the dynamited anchovies. She responded: "If we don't worry about and take care of each other, who will?" (Buenavista and Flora 1992).

Nenita sells processed fish in Matalom or in Bato. She sells fresh fish harvested from long-line fishing in Matalom. According to her, farming and fishing are equally important enterprises because they are sources of income and enable Serafin and her to send the children to school. Farming is good for home consumption only and is hardly sufficient to meet their other needs. Fishing provides them with cash income, provided the weather is good.

Off-farm Activities

Serafin buys split bamboo (tunokon) from local sources and delivers it to Dawahon Island. Fishers from the island buy split bamboo to construct small fish traps (panggal). Serafin sells the bamboo at 80.00 pesos per bundle, twice the price that he originally paid for.

Remittances

Occasionally, her children in Manila would send her money. Nenita uses the remittances to pay for tuition, fees, and other home expenses.

SOCIAL CLASS II

ROLANDO AND ROSINA MORAS

Rosina, 41 years old, is a native of Agbanga. After finishing elementary school, she moved to Surigao, Improved, and lived with her brother, who supported her until her second year of high school. When her brother got married Rosina returned to Agbanga to help her widowed mother. Her mother is now 80 years old. An unmarried sister takes care of her. She has three brothers in Agbanga, all with separate households. Three other siblings live outside the village.

At the age of 21, she left Agbanga again to work as a domestic helper in Manila. During one of her visits to the village she met Rolando, who at that time was also working in Manila. Rolando and Rosina got married in 1984 and settled in Agbanga. In 1991, the couple returned to Manila. Rosina found a job as a house cook and Rolando in the picture lamination business of his sibling. A year later, Rolando convinced Rosina to return to Agbanga. Since then, the couple has stayed in the village. They do not have any children.

Rolando is 41 years old, also from Agbanga. His parents passed away when he was still in elementary school. His

oldest, married sister, Dorina, raised him and two other siblings. These siblings still live with his sister and remained unmarried. One sibling lives at the coast while the other two live in Manila and Dawahon Island.

Rosina and Rolando's home is located about two meters from Dorina's house. Their house is made of light materials. The land where their house stands is owned by a Mr. Masino from Matalom. They do not pay any rent to the owner.

Upland Farm

Rosina and Rolando have access to the quarter of a hectare farm owned by Rosina's mother. Rosina's brothers also have access to the farm. There are no set schedules about who has access to the land for a particular season. According to the couple, this is very flexible. Whoever wants to cultivate the land will have access to it. So far, they have not had any conflict with Rosina's siblings. Rolando cultivated the farm after they returned from Manila. Only recently he turned over the land to his brother-in-law because his carabao had a caracalf and could not be used to plow the field. Rolando commented that they had not introduced improvements on the farm because of the couple's employment opportunities in Manila.

Except for land preparation, Rosina and Rolando are both actively involved in all upland farming activities. They rotated corn with sweet potato. Corn is grown from March till July. Rosina is in-charge of securing corn seeds. She bought seeds at 25.00 pesos per ganta in Bato. When they were low in cash, she borrowed seeds from her neighbors and paid them with an extra can of seeds for interest. Sweet potato was planted from August till December. Rosina gets cuttings from the portion of the field that Rolando left unplowed. But when they do not have enough cuttings, she buys cuttings from other farmers or in Bato. Rosina and Rolando do not hire harvesters, although Rolando's siblings sometimes help out and are given a share of the harvest.

There are several coconut trees on the land. Rosina's mother has sole access to the trees.

Lowland Farm

Rolando and Rosina have access to a lowland farm as share tenants. This land, which measures about an eighth of a hectare, was previously cultivated by Rolando and his brother, Andres. After his sibling's marriage to Rosina, Andres gave the couple sole access to the land. The landowner lives in Matalom. Rosina recalled that the land was brought before the local Department of Agrarian Reform.

She did not explain how this happened, but said that under the agrarian reform program, they would have to pay a fixed rent to the landowner every season. The landowner asked them to maintain the old arrangement. Fearing that they would lose access to the land, Rolando and Rosina agreed to continue the one-third sharing arrangement with the landowner.

Rolando prepares the land for planting. Rosina takes cares of planting the seeds and transplanting the seedlings. They use chemicals recommended by the agricultural technician to control pests. They check the field before deciding to spray the field. If they observe that pest occurrence is high, they hire somebody from the village to spray the field. Spraying is done when the rice plant reaches fruiting stage. They only spray in the morning when the flowers are still closed. They learned from the agricultural technician that spraying during noontime when the flowers are already open will contaminate the seeds and can cause indigestion to the consumer. They pay the local sprayer 20.00 pesos per visit.

To avoid postharvest loss, Rolando and Rosina hire share-harvesters, most of who are Rolando's siblings and relatives. Rosina takes care of all postharvest activities.

Livestock

Rolando and his siblings jointly own a female carabao which they bought from the sale of their parents' home. He takes care of the carabao, which already had three caracalves. Rosina and Rolando own one of the caracalves. Rolando uses the carabao for land preparation. He shares pasture area with Rosina's brothers at her mother's upland farm. Sometimes right after harvest, Rolando brings his carabao to the lowland to graze on the rice straw (dagami). He also collects napier grass at the river near Barangay Itum. He does not grow his own napier grass.

Rosina manages hog raising. She owns a sow, which she bought when it was still a piglet for 250.00 pesos in the neighboring village of Calumpang. The sow has had six piglets. She plans to sell four piglets when they reach two months for 350.00 pesos per head. She will keep one piglet for the coming fiesta and give the other piglet to the boar's owner.

She feeds the sow twice a day with rice bran, pollard (she buys from the local store), banana trunk, leafy vegetables,and root crops. She uses antibiotics and medication for deworming. She collects the manure and uses it to fertilize her vegetable plots.

Rosina also raises chickens. She buys the feed at the local store for 8.00 pesos per kilo. She uses medication for the chicken and buys them at a pharmacy in Matalom. She says that she gets advice on which medication to use from the store's pharmacist.

Fishing

Rolando occasionally goes fishing with Rosina's relative, who owns a pumpboat. They use fish traps which they themselves make. A resident in one of the upland sub-villages supplies them with bamboo poles. In return, Rolando and his partner give her 50% of the harvest. The pumpboat owner gets two shares while Rolando gets one share. Rolando collects branches from the mangrove trees which he uses to support the bobo.

Rolando keeps his share of fish for home consumption. Occasionally, Rosina would process fish and send them to her friends and relatives in Manila. In return, they send the couple assorted goods from used clothing to bath soap.

Off-Farm Activities

Both Rosina and Rolando engage in off-farm activities. Before his carabao farrowed and when he was not too busy

with land preparation, he hires himself out to plow other farms at 50.00 per day including snacks and meals. Rosina and Rolando work in other farms to transplant seedlings and get paid at 40.00 pesos per person per day. They also work as share-harvesters.

Rosina's experience as a house cook has given her opportunities to earn extra income from food catering. Rolando, on the other hand, is engaged is picture lamination. He is the only person in the village who has the lamination skill. He also has his own materials. Rosina borrowed 5,000.00 from her sister in Manila as start up capital. The couple is currently paying their debt.

She is also engaged in outwork activities when farm work is slack. She assembles small metal pieces, which are supplied by one of the houses in the coastal area, into earring sets. Usually, she and her neighbors gather in one of the houses and chat while skillfully hooking the metal pieces together using a pair of pliers supplied by the dealer. Rosina can assemble 300 earring sets in one day and is paid $.60 per day.

Rosina keeps the income from off-farm activities. She usually uses it for home consumption needs, buy materials for Rolando's lamination business, and clothes for her spouse.

Credit

Rosina obtains credit from the local store with which to buy goods. She says that she does not have problems securing credit from the store because she makes timely payments.

SOCIAL CLASS II

MILAGROS PADRINO

Milagros was born and raised in Agbanga. She is 62 years old, a widow since 1971. Following her husband's death, Milagros decided to move her household from Mt. Antipolo, where her deceased husband owned some land that he purchased from his mother, to Right Superhighway. She wanted to be near her siblings and mother with whom she could leave her with four children while she engaged in livelihood activities. The youngest child, a boy, was then only a month old. Her oldest daughter was 19 years old. Milagros realized she had to do everything by herself. She was a single breadwinner and initially did not feel confident because when her husband was still alive, she primarily took care of the children and helped out in the farm whenever she could. The year after moving her household, her oldest daughter, Delia, married, a resident of Agbanga, who operates a pedicab. This was a relief to her, because she now had one mouth less to feed and besides Delia had married somebody who seemed to have a stable income. Indeed, Delia helped her mother survive financially. She gave Milagros capital to start a sari-sari store. Realizing, however, that the income from the store

was not enough to raise the three children, Milagros started sewing clothes for others. She had her own sewing machine and used to sew clothes before she started having children. On Saturdays, she prepared snacks, using crops produced from the farm. She bought fish from the local fishers and smoked them. Milagros sold the food she prepared at the market in Matalom on Sundays while Delia or her mother took care of the children. Since she did not want to rent a stall, she sold her goods along the aisle. If there were goods left unsold at the market, she went house to house at the poblacion. During the week she sewed clothes specifically ordered by her customers while attending to her sari-sari store. She also managed the upland farm that her husband had left her. Milagros sewed clothes and sold goods at the market until her children were old enough to take care of themselves. She stopped sewing clothes because of some eye problems that she started experiencing about three years ago.

Presently, Milagros lives by herself in a two-room house made of light materials. In the evenings, Delia's 12-year old daughter accompanies her. Delia lives near her mother. Her husband still operates a pedicab. They also manage a small irrigated farm. Milagros' second daughter works as a domestic helper in Manila. She previously supported her younger brother's high school education until he decided to

quit school. He went to Manila to look for a job. Unsuccessful, he returned to Agbanga. He resides in San Isidro, on his mother's farm, and is married to an elementary school teacher. He farms and fishes. He does not give cash to his mother. Instead, he supplies her with fresh fish. His brother is a factory worker in Manila. Milagros thinks that he is probably not earning enough because he has not sent her any money.

The lot where Milagros' house presently stands is owned by Crisanta, who lives in Barangay Tab-ang. Crisanta allowed Milagros to build her house there without rent, provided that she would watch over her coconut trees. After the trees were damaged by a typhoon in 1990, Crisanta asked her to pay rent at 10.00 pesos each month to help her pay the property tax. Milagros says that the trees no longer bear nuts.

Sari-sari Store

One side of Milagros' house opens into sari-sari store. The main items she sells include coconut wine and fruits and vegetables from her farm. Every day her suki from Mt. Antipolo, Leonarda, delivers to her store one to two gallons of coconut wine, which Milagros buys for 17.00 pesos per

gallon. Milagros resells the coconut wine at 24.00 pesos per gallon.

Upland Farm

She manages two parcels of land. The first parcel is located in Mt. Antipolo and the second parcel in San Isidro. The first parcel, located near a creek, is about three-fourths hectare. One-quarter, which is planted to rice, was pawned to her by her mother in the 1982 for 1,500.00 pesos to pay for her sister's hospital bills. Since then her mother, who is old and lives near Milagros, has not gotten back the land. Following her parents' farming practice, she continuously plants rice, using varieties such as IR 60, 64, 66, and 46 every season. These varieties were recommended by the agricultural technician. During the season the study was conducted, none of the rice that she planted survived because of a long dry season.

Milagros saves her own rice seeds. Sometimes she exchanges milled rice for seeds with her sister. She uses malathion and endrin to control pests and hires a local person to spray the field at 10.00 pesos per visit. She learned from the agricultural technician that it is advisable to spray the field early in the morning when the flowers are still closed so as not to contaminate the seeds

with chemicals. Contaminated seeds can cause indigestion to the consumer.

The other portion of the parcel, which she inherited from her mother, is planted with coconut and sweet potato rotated with corn. The coconut seedlings were given to her by her daughter-in-law, who is a member of a cooperative in Matalom, formed by the Philippine Coconut Authority. Milagros buys corn seeds at the Municipality of Bato at 20.00 per ganta.[57] She applies fertilizer only. She grows native sweet potato variety, manabo, and buys cuttings from her neighbors at 10.00 per sack. When cuttings are abundant, she just asks cuttings from them. She does not use any chemical input even if the tubers are infested. The land is still under her mother's name.

The second parcel in San Isidro was inherited by her husband from his parents. The declaration was transferred Milagros' name following her husband's death. Coconut trees and two kinds of bamboo plants, tunokon, which is used to make fish pots, and butong, which is used for house construction, grow on the land.

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[57] One ganta is equivalent to 2 kilos or about 4.4 pounds.

Hiring Labor

Since none of her children work fulltime on the farm, Milagros must hire farm hands. She says that as much as possible she hires people that she knows. Most of the time her son helps her find farm workers. Her brother and brother-in-law do the land preparation on the parcel where she plants rice and corn. She pays them 50.00 pesos per day plus breakfast, lunch, and snacks. She also hires coconut harvesters and share-harvesters (tabang) to harvest corn ears. She says that so far, she has not had trouble dealing with the workers although she is a woman. She trusts everything to God.

Family Assistance

Milagros relies on her children, who now have separate households, to help her continue cultivating her small upland farm. Her son helps her hire workers. He also helps her with corn postharvest activities. Her daughter handles the financial aspects of the enterprise. She confesses that most of the time her daughter acts as her financier and equally shares the harvest with her after deducting all the production expenses. Her daughter also takes care of her hog under alima system, although Prescilla regularly

provides sweet potato tubers and leaves, and grated coconut to feed the hog. After having rice or corn milled, she collects the bran and gives it to her daughter. She gives her son a sack of unmilled rice after each harvest. He has access to the bamboo plant, which he uses to make fish traps. Although there is no defined sharing arrangement between Milagros, as the owner of the bamboo plant, and her son, he supplies her with fish after each harvest. Her daughter in Manila sends her money twice a year, but Milagros says that whenever she needs money, she can always count on her daughter. She uses the remittances to pay hired labor, debts, and deposits some in her savings account at the Matalom Credit Cooperative.

Farm Produce

She sells some of the fruits and vegetables in her sari-sari store. She also sells bamboo poles at 10.00 pesos a piece for the tunokon and 5.00 pesos for the butong. The rest of the crops harvested from her farm are mainly used for home consumption. She says that although harvest is not always bountiful, she tries to share whatever she has with her siblings, neighbors, and children.

Membership in Organization

Milagros was a member of the Farmers' Association for about a year. She withdrew her membership because she already had many activities to attend to and besides she felt that her physical condition made it difficult for her attend the meetings. She is a member of the Matalom Credit Cooperative since 1978. She has deposited 2,000.00 pesos in the coop. In 1991 she loaned 4,000.00 pesos to help finance the construction of her son's house in San Isidro. Her son, who is not a member of the coop, is the paying the loan.

SOCIAL CLASS II

BEATRIZ AND RODRIGO CAVAN

Beatriz was born in San Isidro in 1939 to Maria Paz and Juanito Giling. She was the seventh of 12 children. Five of her siblings died at an early age. In 1988, two died of beri-beri. A sibling suffered from nervous breakdown after a typhoon that hit the village damaged her household's property. An unmarried female sibling lives with her 82-year old widowed mother. They live near the Beatriz and Rodrigo's house. Her other siblings also live in San Isidro. Beatriz finished sixth grade in Matalom. When she was about 20 years old, Beatriz travelled to various places. The farthest she visited was Improved, where she worked as a domestic helper. After about a year, she returned home and never left Agbanga again. At the age of 25, she married Rodrigo, who is also from San Isidro.

Rodrigo, an illegitimate child, was born to Susana Cavan in 1940. His maternal aunt adopted him, but she died when Rodrigo was only a young boy. His mother, who had then married, took Rodrigo and raised him. After finishing sixth grade in Matalom, he left school and worked on his mother's farm.

Beatriz and Rodrigo were married in 1964. She is now 53 years old and her spouse is 52 years old. They have seven children. Beatriz says that all were delivered by Caridad, the village herbalist and midwife. The first child, Luz, is now 28 years old, finished grade school, and works as a domestic helper in Manila. Fe is 26 years old, a high school graduate, and works as a domestic helper in Manila. Rey is 25 years old and finished grade school. He used to work in a bakery in Manila. He recently returned to Agbanga. He now lives with his parents and wants to start his own business. Evangeline is 23 years old, finished the second year of high school, married, and living in Manila. Lorna is 19 years old, finished the second year of high school, and works as a domestic helper in Manila. Antonio is 16 years old. He is a high school student and lives with his parents. Miguel is 7 years old and lives with his parents. He is not yet in school.

Shortly after they got married, Beatriz and Rodrigo moved to their own house, a small nipa hut. They raised the children in the small house and in 1989 they moved to a new house built adjacent to their nipa hut, which is now used for storage. Designed by the children working in Manila, the walls and floor are constructed with concrete materials. The roof is made of galvanized iron. A few meters from their new house is Beatriz's sari-sari store.

Upland Farm

About a quarter of a hectare, this farm is owned by Beatriz's mother. Beatriz and Rodrigo have access to the land as share-tenants. Beatriz says that this is her share from her parents' property, but it has not yet been turned over to her because her mother is still alive. Part of this land is where the Cavans' new house now stands. The rest of the land is planted with sweet potato rotated with corn, romblon, three bamboo plants, and coconut trees.

The Cavans grow corn from March to July. Rodrigo prepares the land before the seeds are sown. Beatriz secures the planting materials. She usually exchanges palay for corn seeds from her neighbors. Sometimes she buys seeds at the Municipality of Bato. She does not store seeds because they usually get attacked by corn weevil even if she places the seeds in a bag and hangs the bag right above the dirty kitchen. Beatriz prefers the catorza variety because it is resistant to diseases. Before sowing the seeds she dips them in kerosene to protect the seeds from being eaten by insects. Rodrigo learned this technique from his parents and passed the information to Beatriz. Previously, Rodrigo used to apply pesticide called gama when the corn seed reaches seedling stage. He found it expensive so he switched to the practice which he learned from his parents.

Beatriz and Rodrigo do not hold rituals; they merely wait for the rain to begin sowing the seeds. Household members participate in the harvest and postharvest activities, but Beatriz dries the kernels and stores them in sacks, before taking them to the mill in Matalom.

They plant sweet potato in October and harvest the tubers in March. The couple and their son take charge in securing sweet potato cuttings. Sometimes they obtain cuttings from their own farm if the plant grown on portion of the land that Rodrigo leaves unplowed does well. They also ask from other farmers. But during long dry season, Beatriz goes to the Municipality of Bato and buys a sack of cuttings for 20.00 pesos. Rodrigo prepares the land and together with Beatriz and her son plant the cuttings. Beatriz and Rodrigo weed the field. Her son helps her harvest the tubers using the mamukad and lubong technique. The youngest son helps his mother and brother gather the tubers. Beatriz sells some of the tubers in Matalom. She gives tubers to her mother only when her mother asks for some.

While waiting to harvest corn or sweet potato, Rodrigo tends the coconut trees. He has 11 trees which he planted in 1970. He obtained the seedlings from the old trees, owned by Beatriz's mother. One tree was damaged by a typhoon. He had not planted additional trees because he had

not found time. Besides, he does not have seedlings because they process the nuts into copra.

Beatriz says that in addition to her "regular" work in the farm, she maintains her own vegetable garden which is located close to the house. She grows a variety of crops: beans, tomatoes, eggplant, ginger, and green onions. She also tends fruit trees and romblon. Although she sells part of her produce in her store or at the local store located along the highway, she says that commonly they are intended for home consumption or given away to her siblings and neighbors. She occasionally processes cacao seeds into chocolate to send to her children in Manila. She also sends them dried fish and milled rice.

Romblon provides additional cash income to the family. She planted 7 romblon suckers in 1971. She got the suckers from someone else's farm without permission. She hastens to add that probably it was okay then to indiscriminately harvest suckers, but now owners may be watchful because people can generate income by selling romblon leaves. Beatriz herself sells the leaves. Buyers from the village and neighboring villages come to their house to purchase leaves. She sells them for 10.00 per 100 pieces. She keeps the 7.00 and gives 3.00 to her mother.

Rodrigo confesses that the only property that he brought into the household are the bamboo plants that he inherited

from his mother. They were planted by his grandfather. When his mother moved to Improved island, she sold her land with the exception of the bamboo plant. Rodrigo harvests poles and makes them into fish traps. During one of our visits to his house, we noticed that part of the bamboo was badly burned. We later learned that a distant relative of Rodrigo accidentally burned the plant while clearing his field. His relative never apologized. Rodrigo himself did not reprimand his relative. No one in the house talked about the accident.

Lowland Farm

The Cavans also farm in the irrigated lowland. The land measures about a quarter of a hectare. It is owned by the agricultural technician, who had pawned (prenda) it to Beatriz's mother in 1977 for 2,000.00 pesos. Beatriz's mother gave Rodrigo and her access to the land as share-tenants. The agricultural technician has not paid back the money loaned from Beatriz's mother. The couple expressed interest to Beatriz's mother to seek assistance from the Department of Agrarian Reform to transfer ownership of the land to them since they have been farming the land for over 10 years. Beatriz's mother declined because she did not

want trouble. So, for as long as the loan is left unpaid, Beatriz and Rodrigo will continue farming the land.

One-third of the rice harvest is given to her mother. Only Rodrigo works on the rice farm, because Beatriz develops some type of skin allergy whenever she steps into the paddy. Rodrigo hires other farmers to plow the field and uproot and transplant the seedlings. He hires share harvesters and pays them one-eighth of the harvest. He reveals that the soil quality of the lowland farm is soft and muddy (binogon). He does not think that the irrigation canal is the problem because he has no difficulty controlling the water flow. He observed that the adjacent farms have a similar problem so he thought that there is nothing he could do about it. He had not consulted the agricultural technician about this problem. He just makes sure the before applying fertilizer, he removes the excess water so that fertilizer will be absorbed easily into the soil. Along the border of the farm, Rodrigo planted some coconut and banana trees.

The rice they raise is mainly used for home consumption. Beatriz mixes rice and corn grits to make their supply last until the next harvest. She says that their supply usually last enough that they would not have to buy rice. However when their children come home, Beatriz

has to buy rice at the local store. The children like to take with them the family's supply of milled rice to Manila.

Livestock

Rodrigo and Beatriz raise chicken. They sell chicken when there are buyers, but usually use them for home consumption. They also own a carabao which Rodrigo mainly manages. They bought it as a caracalf for 2,000.00 pesos in 1986 from another villager. Rodrigo uses the carabao for land preparation and also transporting agricultural produce. Their carabao now has two caracalves. He plans to sell one caracalf for 6,000.00 pesos and use the money to buy a pumpboat. Beatriz manages hog raising. She has a sow which bore seven piglets. She sold 5 piglets in Matalom and used the money as starting capital for their sari-sari store. She is reserving the other two piglets reserved for her male son, who she thinks will be getting married soon. She had wanted to butcher the sow and sell the meat because she noticed that it was losing weight. However, her relative volunteered to take care of the sow under alima system.

Beatriz feeds the hogs with rice or corn bran, sweet potato tubers, and banana trunk. She does not give away bran to her neighbors because her supply is limited.

Fishing

Rodrigo has one non-motorized boat which he constructed. He says that he fishes for home consumption so they do not have to ask for food from their neighbors. After he and Beatriz married he started fishing. He began with hook and line fishing and then changed to fish traps. He constructed his own fish trap by observing other fishers. He acquired a non-motorized boat by exchanging eight gantas of rice for tipolo wood from a relative. He finished the boat in a week. He did not have any knowledge about making boats, so he relied mainly on his friends for information. Rodrigo's subsistence fishing activity may soon change. His son, who returned from Manila, is interested in upscaling his father's fishing activity. He bought an engine for a pumpboat, which will be provided by Rodrigo. His son plans to venture into long-line and spear fishing. He is getting experience on both fishing practices by working with his relatives.

When the harvest from bobo fishing is abundant, Rodrigo sells fish to his suki. He thinks, however, that he is being ripped off by his suki. His suki pays him even on the kilo. For example, if the total weight of the fish is 3.4 kilos, the suki on pays him for only three kilos.

Remittances

The remittances that their children working in Manila send are particularly important for Beatriz and Rodrigo as a source of non-farm income. They were able to remodel their house from the remittances sent by their children working in Manila. Through their children they acquired capital goods to start new productive enterprises. Two daughters each bought a sewing machine and plan to start a tailoring business while the oldest son bought a pumpboat engine, using his personal savings. He also plans to open a bakery in Agbanga.

Credit

Beatriz obtains credit from another local store with which to buy goods for consumption. She and Rodrigo borrowed money from the local credit association to finance their son's pumpboat project.

SOCIAL CLASS III

LOLITA and ABELARDO ANOD

Lolita, 36 years old, was born and raised in the neighboring Barangay of Hituog, where she finished sixth grade She was only 20 years old when she and Abelardo got married and settled down in Agbanga. Abelardo is 38 years old, born and raised in Agbanga. He completed fifth grade in Matalom and has been working on the farm since he dropped out of school. Lolita and Abelardo have four children, three of whom are boys. The eldest is in high school. Their house is made of light materials, constructed on the land owned by Abelardo's mother. The houses nearby their home are mostly Abelardo's siblings or maternal relatives. Abelardo's mother is from Agbanga; in fact, his mother's family is one of the oldest families in the village. His mother's siblings are among the few landed households in Agbanga. Abelardo's large, local social network is key to Anods' access to productive resources.

Upland Farm

Lolita and Abelardo have been share-tenants of Pilar Pano, Abelardo's maternal aunt, for about ten years. Prior

to working for their Tia (aunt) Pilar, the couple were share tenants of Marina, Pilar's sister. When Marina pawned (prenda) her land to another villager, who is not related to them, Abelardo's lost access to the land. The new cultivators wanted sole access to the land. Aside from feeling bad about losing his tenancy rights, Abelardo found that the new cultivators plowed the mura grass that he planted to control soil erosion. He said that there are no more mura grass growing on the land. He has not planted mura grass on his Tia Pilar's farm. Instead, he constructed rock walls on the hillsides to control soil erosion.

Lolita and Abelardo alternate corn and sweet potatoes. They use the native corn variety, mimis. Lolita secures the corn seeds by exchanging milled rice for corn seeds. Sometimes their Tia Pilar provides them with seeds. They dip the seeds in kerosene to prevent pests from eating the seeds. They learned this practice from their parents. Lacking in household labor, Lolita and Abelardo hire people, mostly their relatives, to sow the corn seeds. The same people participate during the harvest. They give the workers 50 corns ears each for sowing the seeds and another 50 corn ears for harvesting. One-third of the harvest goes to Tia Pilar. Right after harvest, Lolita manually separates the kernel from the cob, while Abelardo prepares the land to plant sweet potatoes. Lolita does not store

kernel because they only have a limited supply; besides pests feed on the kernel. She immediately brings them to the mill in Matalom.

Both Lolita and Abelardo secure sweet potato cuttings from their neighbors. Abelardo remembered only one occasion when he went to the interior villages to buy sweet potato cuttings at 10.00 pesos per sack. He says that usually during summer there is a limited supply of sweet potatoes cuttings in Agbanga. They plant the native variety, manobo, because it produces good tubers three months after planting. Lolita harvests the tubers using the mamukad-lubong harvesting technique. One-third of the harvest goes to their Tia Pilar. When the harvest is abundant, Lolita sells a portion of the tubers in Bato or Matalom and keeps the money for household needs.

Abelardo also tends his Tia Pilar's coconut trees and gets 50% of the sale of the copra.

Lowland Farm

Tia Pilar owns the land that the Anods farm in the irrigated lowland. Previously, Abelardo and Lolita were share-tenants of a landowner with whom they were not related. Their relationship with the landowner was not congenial. The landowner mistrusted them and suspected that

they would seek assistance from the Department of Agrarian Reform to gain control of the land. Because of this situation, Abelardo decided to give up his tenancy and worked as tenant for his Tia Pilar. Although he received two-thirds of the harvest from the first landowner, he prefers working for his relative because he knows that he has secure access to land. His Tia Pilar also contributes 300.00 pesos per cropping to pay for hired labor. Abelardo contracts a tractor operator to prepare the land. He prepares the seedbed and helps Lolita sow the seeds. Usually, they hire relatives to help them transplant the seedlings from the seedbed into the field. Lolita, Abelardo, and their son weed the field. Abelardo takes cares of the other production practices until the rice is ready to be harvested. Lolita and Abelardo do the harvesting themselves. Their son helps them thresh the rice and the rest of the postharvest activities. They give half of the harvest to their Tia Pilar.

Lolita sometimes exchanges palay for fish. When she runs out of cash, she sells palay to the local store and uses the money to purchase goods. Either Lolita or Abelardo give away milled rice to their neighbors.

Livestock

Abelardo used to own a carabao which was his share after taking care (alima) of his relative's carabao. He was forced to sell the carabao to his cousin for 3,500.00 pesos to get the money to fix their house which was destroyed by a typhoon. According to Abelardo, someone would have bought the carabao at a higher price than the amount paid by his cousin. Despite the possibility of making a little bit more of money, he chose to sell his carabao to his cousin so he would still have access to draft animal under alima system. His carabao has had one caracalf which is his share. The next offspring will go to his cousin.

Both Abelardo and Lolita manage hog raising activities. They feed their sow rice and corn bran, banana, sweet potato tubers and leaves, and feed which Lolita buys from the local store. The sow had produced piglets which they sold to Abelardo's relative for 400.00 pesos per head. His relative sold the piglets in Dawahon Island at 500.00 pesos each. Abelardo collects the pig manure and spreads it on Lolita's vegetable garden. She does not particularly like this practice because of the foul smell that she has to deal with since she stays home more than Abelardo.

Their son helps them raise chickens which are mostly intended for home consumption. However, when they are in need of cash, Lolita sells the chickens locally.

Fishing

Abelardo goes fishing with his brother. They use fish traps, built using the bamboo that his brother owns. They do not have a definite sharing arrangement. Abelardo takes home his share for consumption.

He also buys and sells fish (manabo), especially anchovies. He usually buys a basketful (bukag) of anchovies and sells them in the neighboring upland villages outside Agbanga. During low tide, he and Lolita gather seashells for home consumption.

Off-Farm Activities

Abelardo hires out his labor mostly to his relatives for plowing the field, harvesting, planting, and transplanting. He also chops firewood, harvests coconut, and does simple construction work.

Lolita is also engaged in outwork activities when farm work is slack. She assembles small metal pieces, which are supplied by one of the houses in the coastal area, into

earring sets. She also knots together abaca fiber (monos) She buys abaca from her friend in the neighboring village of Elevado at 40.00 pesos per kilo and sells the knotted fiber at 117.00 pesos per kilo. Sometimes her father would supply her with abaca fiber to knot.

Credit

Lolita handles the family's credit needs. She is a member of a credit cooperative in Matalom. She made an initial deposit of 600.00 pesos and took out a loan of 1,002.00 pesos with a 15.00 peso annual interest. She used the money to pay for their child's hospital bills. She also borrowed money from the capitan. According to her, they have to pay a sack of palay each cropping season for the interest. There was a cropping season when they were not able to pay the interest. Hence, they had to pay double in the next season. Lolita also practices butang. She borrowed 100.00 pesos from Abelardo's sibling and will pay the lender 16 gantas of palay during the harvest.[58]

[58] The price of palay per ganta is about 7.00 pesos. Sixteen gantas would be about 112.00 pesos.

SOCIAL CLASS III

MARIANA AND BERNARDO CANSADO

Mariana was born in 1945 in Esperanza, Matalom and Bernardo in 1941 in Plaridel, Bato. She finished fourth grade while Bernardo completed sixth grade. Mariana was 18 years old and Bernardo, 20 years old when they were married. They lived in Plaridel with Bernardo's parents until they built their own house. In 1982, the first house they owned was destroyed by Typhoon Besing. Distraught, the couple decided to move to Agbanga, where Maria had several relatives. The Cansados have ten children, two of who are deceased. Four sons work in Manila: two are unmarried and are caretakers of a poultry farm while the other two are factory workers. A daughter, 15 years old, is a domestic helper in the nearby Municipality of Bato. The rest of the children ages eight (boy), four (girl), and twelve (girl) live with Mariana and Bernardo.

The couple established their dwelling in the sub-village of Tubod, on the land owned by Mr. Palina's sister. Mr. Palina is the designated farm administrator of his sister, who had moved to Manila. The land measures two hectares. About 1.25 hectares is uncultivated. Mariana's three siblings built their houses on this area in addition to the

other households who had been there long before the Cansados moved to Agbanga. None of them is authorized to cultivate the land. Only Mariana and Bernardo were given permission by Mr. Palina to farm the land. According to Bernardo, Mr. Palina is restricting access to other farmers for management purposes. He does not need more share-tenants since the land is unproductive. Bernardo and Mariana have access to about three quarters of a hectare. Mariana's siblings provide labor only when hired. Mr. Palina does not interfere with their farm management practices. All he cares for are the coconut trees: nuts should be harvested at least every three months.

Before the Cansados moved to Agbanga, Mariana's parents were the share-tenants of Mr. Palina's sister. When they moved to Bato, they passed their tenancy to Mariana's uncle, Tio Pepe. He did not stay long in the area. He relocated to Improved Island and left the land with his child to manage. The couple learned from Mr. Palina that he was not pleased with Pepe's son because the coconuts were stolen. So, Mariana and Bernardo decided to approach Mr. Palina and expressed their desire to farm the land. When Mariana's siblings heard that she and her husband were given share-tenancy rights, they followed Mariana to Agbanga. Mariana and Bernardo have been cultivating the land for about ten years.

The couple also cultivates a hillside farm, owned by Mr. Diez from Barangay Itum. They are not related to Mr. Diez. Upon learning that the previous tenant had given up access to the land, the couple went to see Mr. Diez to offer their services.

Bernardo does not use the plow to prepare the land because it is steep. The couple's eight year old son helps them in all of the production activities. He weeds the field and harvests the crops. Bernardo continuously crops the land although he has observed that it is severely eroded. Soil is washed away during a heavy rainfall. Despite this problem, he says that he has no plans to integrate contour hedgerows, because he has no information on the technology and does not have planting materials. He and Mariana do not participate in seminars sponsored by the local Department of Agriculture, because they think that attendance at such meetings might subject their landlords to agrarian reform laws, and as a result they would risk losing their tenancy status.

On both farms, Mariana and Bernardo alternate corn with sweet potato. They use the native corn variety, mimis. Mariana secures the seeds. She buys them at 20.00 pesos per ganta (4.4 lbs.). She dips the seeds in kerosene before planting them. Mariana and Bernardo do most of the

production activities. The only time they hire labor is during land preparation.

Mariana secures sweet potato cuttings from her siblings or neighbors. If cuttings are scarce, she buys from her neighbors at 20.00 pesos per sack. Bernardo manages the land preparation. He hires another farmer to plow the field, because his caracalf is still young. The couple performs most of the production activities. The children help weed the field. Mariana and the children harvest the tubers using the bukad and lubong technique.

The sharing arrangement for corn and sweet potato is one-third to the landowner. Mariana takes care of Mr. Palina's share. If the harvest is abundant and she is in need of cash, she sells a portion of their share. She brings the produce to the market.

Bernardo also tends coconut trees. Some trees were destroyed by the typhoons that visited the area. He had not planted additional trees. Mr. Palina provided him with fertilizer which he obtained from the municipal branch of the Philippine Coconut Authority. According to Bernardo he had not had any experience using fertilizer on coconut. He followed Mr. Palina's instruction to clear the surrounding areas before spreading the fertilizer. His son helps him harvest the nuts and process the meat into copra. Mariana sells the copra at the market in Matalom.

Livestock

Before they got married Bernardo's mother gave them a female carabao to help the couple get started. The carabao produced one caracalf, but the mother died because of infection. Bernardo has to wait for another before he can use his caracalf to plow the field.

Mariana's daughter, who works as a domestic helper in Maasin, bought her mother a piglet for 200.00 pesos. After four months, Mariana observed that the piglet did not look healthy. With her daughter's permission, she sold the piglet for 350.00 pesos and bought another piglet for 200.00. Mariana raised the piglet into a healthy sow, feeding it with crops grown in the farm. Whenever she observes that the sow is sick or not eating well, she rubs the animal's body with vinegar. She learned this practice from her neighbors and thinks that it is effective. The sow had continuously farrowed. Mariana gives one piglet to the owner of the boar and sells the piglets at 250.00 to 300.00 pesos per head. She keeps the money from the sale and uses it for household needs.

Both Mariana and Bernardo share tasks in raising chickens. Chickens are used mainly for home consumption. However, if they are low in cash, Mariana sells them.

Off-Farm Activities

Since Bernardo's draft animal is still young, he has limited access to the labor market. The couple had established a suki relationship with Mr. Donato, who is from Matalom and owns a parcel in the lowland. Both Bernardo and Mariana sell their labor to Mr. Donato to weed the ricefield. Mr. Donato pays paid of them 40.00 pesos per day plus meals. During harvest, Mr. Donato hires them as share-harvesters. The couple also weed and harvest (ambo) for a local landowner. Mariana says that they grab every opportunity they have to harvest rice. Even the children are deployed during harvest season. The share that they get is mainly used for home consumption. Sometimes she sells milled rice to buy kerosene, the household's main source of light in the evening.

In the past, whenever she ran out of cash, Mariana made charcoal and hauled a sack or two a jeepney travelling to the neighboring Municipality of Hilongos, where she sold them at 20.00 pesos per sack. Charcoal making and bringing the sackful of charcoal to market is laborious. She says she no longer plans to make charcoal, since she has found other sources of income, such as selling fuelwood and hiring out her labor.

Remittances

The children in Manila occasionally send them money. Mariana collects the money from the post office in Matalom. Remittances are mainly used for household consumption needs.

Credit

When her rice supply runs out, Mariana borrows rice from her siblings. If they, too, are out of rice, she obtains a credit from the local store to purchase rice. Mariana had borrowed 700.00 pesos from Isidra, a capitalist in Matalom, to pay for her son's boat fare to Manila. She pays 20% interest every month. She thought that the interest was high, but she had no other alternative at that time. Isidra knew her because Mariana had borrowed money from her in the past. Two months after her son left the village, he sent money to partially pay the debt. Mariana said that the money sent by her son was barely enough to pay for the interest. Using her savings from the sale of her piglets, she paid 420.00 pesos to pay for the principal. Mariana hopes that her son will send her money again to fully pay her debt to Isidra.

Child labor

The children living with Mariana and Bernardo help out in the farm activities. Usually their son goes out with his parents to the farm, while the older daughter takes care of the youngest sibling. She does most of the household chores when Mariana is gone. The children collect fuelwood mainly for home use. However, when Mariana is low on cash, she sells some of the fuelwood. Mariana occasionally sends the children to the coast to buy fish or exchange their farm produce for fish. She says that sometimes the children take home fish given away by the dynamite fishers. She thinks that probably the fishers take pity on the children. Mariana relates with discomfort that whenever they run out of sweet potatoes and other staple food, she sends the children to glean on private lots (manurok) and harvest tubers. Manurok is a form of stealing. Mariana feels ashamed that the children have to glean on private lots, but rationalizes that this is one way that they are able to cope with food scarcity.

SOCIAL CLASS IV

TOMASA TAYAG

Tomasa was born in 1927 in Agbanga. She is a widow. Her husband, who she was married for 34 years died while dynamite fishing. They have 10 children: four live in Agbanga; one in Dawahon Island; three are in Zambales (in the northern part of the country); and two live in Manila. With the exception of Anselmo, who lives with Tomasa, the rest of the children have their own families. The oldest, Nona, is a widow and does not have a reliable livelihood; Sofronio is a fisher; and Adriano makes a living by selling his labor. Anselmo is 32 years old and a disabled. Some villagers say that he is still in a state of "shock", having witnessed the dynamite which exploded on his father's hand. Others say that a woman he liked jilted him. Anselmo does not do a single chore to help Tomasa around the house. He lies on the floor of their nipa house all day. The only time he goes out of the house is when he has to go to the bathroom, which is the nipa grove behind the house. She had hoped to bring Anselmo to Maasin to see a specialist. She said that one of the candidates of the local election was interested in sponsoring Anselmo's treatment. The elections

passed, the promise to sponsor Anselmo's treatment never materialized.

In addition to Anselmo, Tomasa is also raising two grandsons: Miguel, three years old, and Rodolfo, seven years old. Miguel's mother left him with Tomasa to work as a domestic helper in Manila. He was only 2 years old. She promised her mother that she would send money to help cover for household expenses until she is able to return to the village to take Miguel with her. Miguel is now three years old. Since the day Miguel's mother dropped him in Tomasa's house, she had not sent any money nor written to Tomasa regarding her whereabouts. Rodolfo's mother lives outside Manila. She is married and has five other children. She left her Rodolfo with her mother to run errands for her.

Tomasa, Anselmo, Rodolfo, and Miguel live along Left Superhighway. According to Tomasa their old house, located across the highway, was destroyed by a typhoon. With assistance from government social services, her household was relocated on government property by the nipa grove. The government agency provided her with a week's supply of rice, cooking oil, dried fish, and two kilos of construction nails. Her son and daughter-in-law helped her make the walls of her new, one-room house. She hired three men to construct the house in three days at 50.00 pesos per day for labor. In addition, she fed them breakfast, lunch, and a

snack. Since she is too poor to pay the workers their wages on the spot, she paid them cash and in kind (such as nipa shingles) on an installment basis.

Surviving on Debts

Tomasa is the sole breadwinner in her household. She has no access to land. She says that she survives by borrowing money (nabuhi sa utang). Although she borrows money from several individuals in the community, she mostly depends on her neighbor, Soledad, who is the godmother of on of her sons. In return, she transplants Soledad's rice seedlings and does much of her postharvest activities. She uses the money she earns or the share she gets to pay her debt to her neighbor. She makes sure that her debt is paid up to maintain a good relationship with Soledad. She will repay her other two creditors with nipa shingles which she makes. Following her computation, she would end up paying them more than the amount that she borrowed (which is interest in monetary terms, but good will in social capital terms). She said that this is fine because goodwill needs to be reciprocated.

Access to Resources

Tomasa has very limited access to resources. Her only way to gain access to resources are by selling her labor and asking fishers, particularly those using dynamite, for free fish (mamarang). There are two women in the village with whom she regularly sells her labor to, Soledad and Felisa. Both own a parcel or two in the lowland. They usually hire her to uproot and transplant rice seedlings. She is paid 20 centavos per bundle. In one day, she makes 150 bundles and receives 30.00 pesos or about $.96. She uses her money to buy necessities for the home. She also buys herself a jar of coconut wine for 6.00 pesos.

Recently, Soledad asked her to help harvest rice. Although she had other things to do, she agreed because she wanted to pay Soledad the 50.00 pesos that she borrowed from her last December. Tomasa recalled when Anselmo fell ill and thought that he was going to die. She pleaded Soledad to lend her 50.00 pesos to bring him to the physician. She is indebted to Soledad. She said that Soledad would certainly get mad at her (kaiktan) if she reneges on her promise to her with the rice harvest.

She gets one-eighth of the harvest for share-harvesting. Usually she takes home about 2 gantas (4.4 lbs.) of palay.

Soledad and Felisa also hire her to winnow. She gets a

ganta (4.4 lbs.) of palay for each sack that she winnows. In a single day, she can winnow seven sacks. Usually she winnows 12 sacks for Felisa and 10 sacks for Soledad in one cropping season.

Tomasa used to be a share-tenant of Soledad. But a trip to Manila, where she worked as a domestic helper, led to her losing access to land. Before she left the village, she tried to ensure that she would maintain access to the land by passing the tenancy rights to her son Sofronio. But Sofronio was not interested in farming. He gave the land back to Soledad. When Tomasa returned to Agbanga, Soledad had already gotten another share-tenant.

Soledad also gave her access to a hillside farm. Tomasa planted cassava and sold it at the market in Matalom. When took her grandsons under her care, Tomasa stopped her production activities in the uplands. She said that there may still be hillside farms that she could have access to as a share-tenant, but she is not interested in upland farming because farmers leave their carabaos to graze on private lots.

She helps Soledad plant corn on the upland farm, which takes about half a day, and gets 50 corn ears during the harvest.

In one of the meetings with Tomasa, we found her busy drying palay. We learned that her niece was visiting the

village and would be returning to Manila. Tomasa hoped to send milled sweet rice to Ana, Miguel's mother. We asked her if Ana had sent her money. She said no and added that Ana may not have been aware of her cousin's trip. She personally asked another neighbor, Adora, if she can harvest her field to be able to send rice to her daughter. Her share consisted of 15 gantas (66 lbs.) of rice plus one ganta (4.4 lbs.) of sweet rice.

Tomasa makes nipa shingles. She harvests nipa fronds from the public land behind her house. She finished seven shingles, which were waiting for Leopoldo, from whom she had borrowed money to buy rice, to pick up. She was also in the process of making 100 additional nipa shingles for her son to sell. He would sell them for 100.00 pesos or $3.84.

She bets in card games to make a little bit more money. She plays cards with her neighbors and bets 25 centavos per game. She said that at a wake that she attended she won 40.00 pesos which she used to buy corn grits. Her grandson also deals the cards and gets 25 centavos for each game.

Off-Farm Activities

Tomasa seldom buys fish. She always asks for free fish (mamarang), especially from dynamite fishers. However few the fish that she gets, she processes them. She sells

processed fish or exchanges them for other goods. She also gathers fuelwood and sells it at 5.00 pesos per bundle. She gathers mollusks for consumption and makes mats.

Credit

As long as she is able to pay her debts, villagers will continue lending her money. At the local store, she is allowed to get credit for three kilos (6.6 lbs.) of rice. She has yet to settle her debts with the store owner.

Social Support System

Tomasa relies on local social support system to ensure her households' food security needs. In many cases, this support system is established on patron-client relationships. Because of her poverty, any assistance given to her is perceived as an act of charity. Her daily struggles to pay her debts show her own way of resisting of being a burden to her neighbors or even her own children. One day, she parted with the few pesos that she had to donate her money to the San Augustin Death Aid Association, which she is a member. The association was raising money to buy a coffin for another villager. Tomasa said that whenever possible she would donate money to the association

so that when her time comes, she, too, will have a decent funeral.

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VITA

Maria Gladys G. Buenavista is a Philippine national, born on August 7, 1961 in Cebu City. She completed Bachelor of Arts in Mass Communication from St. Theresa's College, Cebu City in 1983, Master of Science with major in Extension Education from Cornell University in 1988, and Doctor of Philosophy with major in Sociology from Virginia Tech in 1995. Presently, she is the Site Coordinator of SANREM CRSP/Philippines, a research project funded by the USAID.

Ma. Gladys G. Buenavista