



ECOGEN CASE STUDY SERIES

Gender, Class, Ecological Decline,
and Livelihood Strategies:
A Case Study of Siquijor Island, The Philippines

M. Dale Shields
Barbara P. Thomas-Slayter
Clark University

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Ecology, Community Organization and Gender (ECOGEN) is a joint project of Clark University and Virginia Polytechnic Institute and State University established for the purpose of examining the role of gender in rural livelihood systems.

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Launched in June, 1990, Phase I of the project explored this topic in Kenya, Phase II focuses on the Philippines. This case study of Siquijor Island is the first of two such studies in the Visayan region of the Philippines. The second explores these issues on the island of Leyte.

The Visayas State College of Agriculture (ViSCA) and the Philippine Department of Agriculture (DA), joined Clark and VPI & SU as partners in the Philippines case studies. We are grateful to Dr. M. Villanueva, President of ViSCA, and Dr. Ly Tung, Director of ViSCA's Farming and Resource Management Institute (FARMI/ViSCA), for their leadership and support. We thank our ViSCA colleagues, Dr. Dolores Alcobar, Ms. Fatima Balina, and Ms. Milagros Casinillo-Bales for helping us formulate our research objectives and methodologies.

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As a United States Peace Corps volunteer on Siquijor from 1987-1989, Dale Shields was able to learn firsthand about circumstances in the communities of Napo and Tubod, but it was the willingness of their residents to share their thoughts and experiences in ways that we could document, that has made this case study possible.

M. Dale Shields
Barbara Thomas-Slayter

Table of Contents

I. Gender Roles, Ecology, and Livelihood Choices: Key Questions	1
II. Resource Decline and Issues of Sustainability: A Profile of Two Communities on Siquijor	5
III. Household Livelihood Systems and Stratification	14
IV. Gender and Class in Patterns of Resource Management	19
V. Community Responses to Challenging Resource Conditions	28
VI. Concluding Observations: Linking Household and Community in Assuring Livelihoods	36
VII. Policy and Research Implications: Building Choices, Equity, and Effective Resource Management in Napo and Tubod	38
Appendices:	
A. Methods for Gender-Focused Research in the Philippines	41
B. Confirmation Survey	43
Glossary	50
Bibliography	51

List of Figures

Figure 1.	Province of Siquijor, Republic of the Philippines	3
Figure 2.	Sketch Map of Napo and Tubod	6
Figure 3.	Transect of Napo and Tubod	7
Figure 4.	Current Location of Some Family Members of Respondents in Napo and Tubod	10
Figure 5.	Percentage of Respondent Households Receiving Remittances in Napo and Tubod	11
Figure 6.	Percentage of Residents in each Socioeconomic Stratum in Napo and Tubod Based on Community Wealth Ranking	15
Figure 7.	Gender-Disaggregated Seasonal Activities Calendar for Tubod (Condensed)	21
Figure 8.	Anhag and Cerna Farm Sketches	27
Figure 9.	Community Organizational Charts	32

I. Gender Roles, Ecology, and Livelihood Choices: Key Questions

The Philippines, once a nation rich in natural resources and fertile land, is now beset by a rapidly growing population, severe environmental degradation, and declining economic growth (Porter and Ganapin, 1988; Flamiano and Goertzen, 1990). Demographers estimate current population growth at 2.4% per year, one of the world's fastest growing populations (Population Reference Bureau, 1992). Over half of the Filipino people reside in rural areas with some 67% of these families living below the poverty line (Putzel and Cunnington, 1989).

Poverty and environmental degradation significantly affect and are affected by gender relations in the countryside. Rural families reformulate historically egalitarian gender relations in order to take advantage of a market economy with differential structuring of men's and women's roles in production, distribution, and consumption. Vastly different opportunities are available for women than for men shaped by gender-differentiated employment as well as the socioeconomic class in which the household is situated (Blanc-Szanton, 1990).

In the context of the struggle to secure livelihoods, rural women and men make difficult choices about roles and responsibilities. As in many parts of the world, they are often forced to make logical short-term decisions

about managing resources, decisions which are not necessarily appropriate for the long-term sustainability of the resource base or of their families

Our focus for this case study is a range of dilemmas in resource sustainability, scale of economic activities, and center-periphery relations which shape life for the men and women of Siquijor Island in the Central Visayas. Underlying our analysis are three central questions:

- 1) What are the consequences of these dilemmas for rural communities on Siquijor?
- 2) What are the coping strategies for the women and men of Siquijor as they struggle to secure their livelihoods, and how are they and the environment affected by these strategies?
- 3) What policy and program options might offer improved economic and social opportunities for these households and communities?

Our findings point to the critical linkages between gender and class formations and suggest that gender and class must be joined conceptually in an analysis of rural communities in the Philippines. In particular, we observe.

-
- 1) a negative impact on gender roles and relations within poorer households, as their members are drawn into the modern cash economy;
 - 2) a reliance on social exchange networks and “safety nets” which are central to household and family sustenance but which may be detrimental to long-term preservation of the natural resource base;
 - 3) the resilience and usefulness of indigenous groups, normally structured around gendered and class interests;
 - 4) the integral role of migration for both men and women in the livelihood systems of the rural communities investigated.

In the pages to follow, this case study explores these and other issues pertinent to generating new hope and opportunity for rural men and women in the Philippines. Restoring and rehabilitating the resource base and assuring more equitable distribution of productive resources are critical issues in the coming decades (Porter and Ganapin, 1988). Analysis of gender roles in rural livelihood systems will clarify the ways in which rural Filipino households and communities are responding to these problems, and it will give direction to future efforts to assist these processes.

Siquijor Island

In many ways, Siquijor, the site of this case study, is characteristic of much of the rural Philippines. Far from the nation’s central power and economic structures in Manila, it is marginalized in its access to politics and the national economy. Nestled among the islands of Bohol, Cebu, Negros, and Mindanao, in the Central Visayas Region (Region 7), it is the country’s smallest island province with 343.5 square kilometers (NSO,

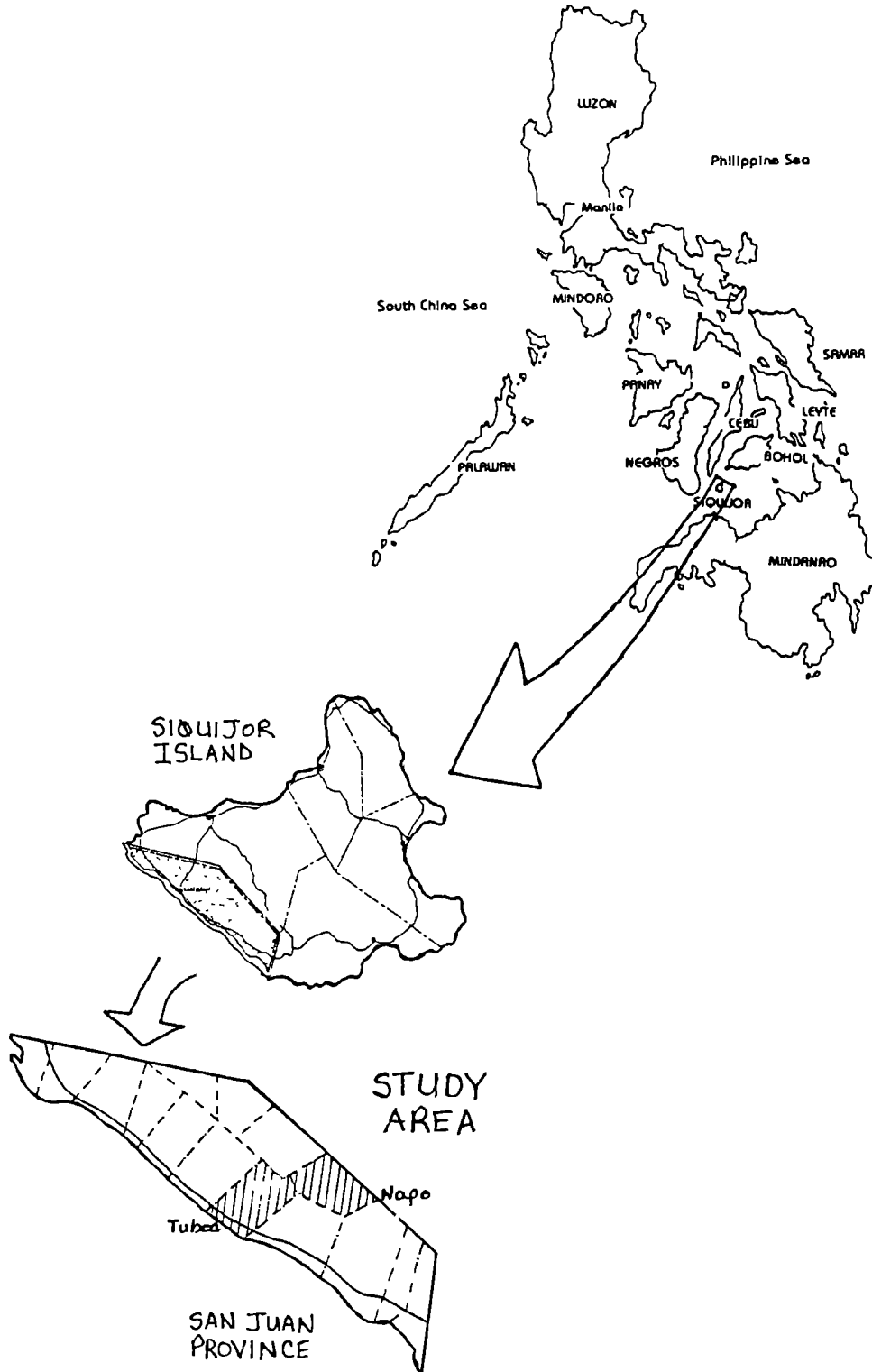
1990). (See Figure 1) Its 80,000 people are culturally and linguistically identified as Cebuanos. Population density for 1990 was 275 persons per square kilometer (NEDA, 1990). In 1988, a survey of Siquijor family mean annual income placed the province last among the nation’s 72 provinces (NSO, 1990)

Yet despite the poverty and isolation, Siquijor has often been a focus of attention from outsiders. Historically, it has been known for, if not been plagued by, a reputation for black magic and talented faith healers. Exploitation of its once rich fishing grounds by Japanese fishermen began before World War II. Manganese was commercially mined from the 1930s through the 1970s (SPDS, 1983). Most recently, the island’s white beaches have become a focus for tourism development promoted with T-shirts touting “Witches and Beaches ”

Over the past century, pressure from outsiders and from the local population has taken a toll on the delicate and limited island ecology. As is true for much of the Philippines, overwhelming environmental degradation is evidenced by the loss of most of Siquijor’s primary forest, declines in soil fertility and stability, as well as reduced quantity and variety in the fisheries (DuBois, 1990; SPDS, 1983). Under such conditions, residents have long been unable to support themselves solely on the fruits of their labor from the land and sea.

There are few economic alternatives for the residents of Siquijor. Local and regional entrepreneurs run a limited number of small-scale businesses, such as tourism or cement-block making. Local and regional middlemen export livestock, dried coconut meat, and small quantities of products extracted from the remaining secondary forest and the sea, such as seashells, seaweed and vines. Islanders have participated in an export economy since the 1750s (Dubois, 1990), but they have been limited by the fact that the island’s resource base does not offer anything unique to fill a special niche in regional markets. The economic

Figure 1. Province of Siquijor, Republic of the Philippines (SPDS, 1983)



opportunities of most islanders have also been exacerbated by problems of access and control. Local and regional entrepreneurs and middlemen have long monopolized the local economy. They hold tight control of both the supply and extraction of the island's export commodities.

Islanders have thus built their livelihoods on a mix of activities and resource bases such as agriculture, fishing, home-based income-generating activities, local off-farm employment, and out-migration. This mixed economic strategy maximizes income, avoids exhausting any one resource, and reduces risk. Yet keeping such a wide range of options open requires residents to make difficult choices about allocating scarce household resources. Given the nature of the market economy, families must often make these choices along the lines of gender and age. Both women's and men's flexibility to allocate their labor and other resources generally declines with their socioeconomic status.

In the context of resource scarcity and competition, households rely heavily on complex social exchange networks to sustain their livelihoods. Necessarily, such relationships are reciprocal and require households to provide each other access to whatever resources they have. Residents give priority to investments in these networks over investments in the long-term management of the physical resource base. This dynamic seems to be fueling the continued degradation of the island's natural resources.

Napo and Tubod

Together, Napo and Tubod, the two villages studied in this case, provide an opportunity to consider these issues. Napo and Tubod are adjacent *barangay* in the municipality of San Juan, Siquijor. Napo is a hilly interior community of 313 hectares, 160 households, and over 600 residents, Tubod is a slightly larger coastal

community with comparable demographic features. Napo is relatively isolated compared with Tubod due to its interior location. This fact allows us to explore the difference their relative access to the larger market economy makes in their respective household and community resource management.

Our research emphasizes the individuals and institutions which make and carry out management decisions, particularly as distinguished by gender. We analyze the ways in which men, women, households, and the community at large are responding to and affecting their local environments. We explore the ways their decisions are shaped internally and by structures beyond their borders (Thomas-Slayter, et al 1990). Such information is critical to the process of shaping resource management policies to stem the decline of the natural resource base and to improve economic opportunities for residents.

In summary, this case study:

- **analyzes the ways in which people in two communities are managing the particularities of their local environment and economies, using gender as a key variable;**
- **incorporates analysis of the larger social, political, and economic contexts which shape the lives of residents of Napo and Tubod;**
- **examines the consequences of current patterns of access, control, and decision-making for sustainable resource management;**
- **considers the ways in which development policies and programs for rural communities in the Philippines can be strengthened by incorporating gender analysis into natural resource planning and management.**

II. Resource Decline, Livelihood Strategies, and Issues of Sustainability: A Profile of Two Communities

The Landscapes of Napo and Tubod

Napo and Tubod are two of fifteen *barangay* in the municipality of San Juan, one of six towns on Siquijor. Located two kilometers south of the San Juan town center along the National Highway, a predominantly dirt road which encircles the island, is the coastal community of Tubod. (See Figure 2.) It is divided almost equally between a narrow coastal alluvial plain and an upper plain atop an ancient coral cliff. The majority of its residents live on the lower plain where access to the circumferential road, the town center, coastal resources, and irrigated rice fields offer more livelihood options.

The densest concentration of houses is at the intersection in Tubod where a dirt road climbs steeply from the highway onto the upper plain. The relatively deep red soil of this upper plain supports primarily corn and cassava production. This mix of crops continues as the road climbs up into the hills of lower Napo, occupying spaces between black and white coral outcroppings that dominate each field. Within two kilometers, the road passes through the center of Napo and forks; one fork heads into the island's interior, and the other continues a hundred meters before becoming a foot path leading to the farthest neighborhood.

Following this path, one passes into a cool coconut and rice producing river valley formed by three springs originating within Napo. Before flowing into the sea, this river's waters are again tapped to irrigate rice on Tubod's coastal plain. From this valley, one then climbs steeply to another dry, rugged corn-producing plateau. Finally, at 300 meters above sea level, one reaches the farthest boundary of Napo where farms overlap with 81 hectares of what little forest is left on the island. (See Figure 3.)

The People on the Landscape Today

The centers of Napo and Tubod, like those of most rural communities in the Philippines, are marked, first and foremost, by a basketball court, and then a social hall and Catholic chapel. Tubod lacks a social hall, but the basketball court is easily converted into a dance hall and the chapel into a meeting hall. In 1991, village officials constructed a health station for their volunteer health workers. Napo's social hall provides office space for its health workers and government agricultural extensionist. Around these structures are clustered an array of houses built of combinations of wood, cement, bamboo, with *nipa* (sago palm) shingle or metal roofing.

Figure 2. Sketch Map of Napo and Tubod

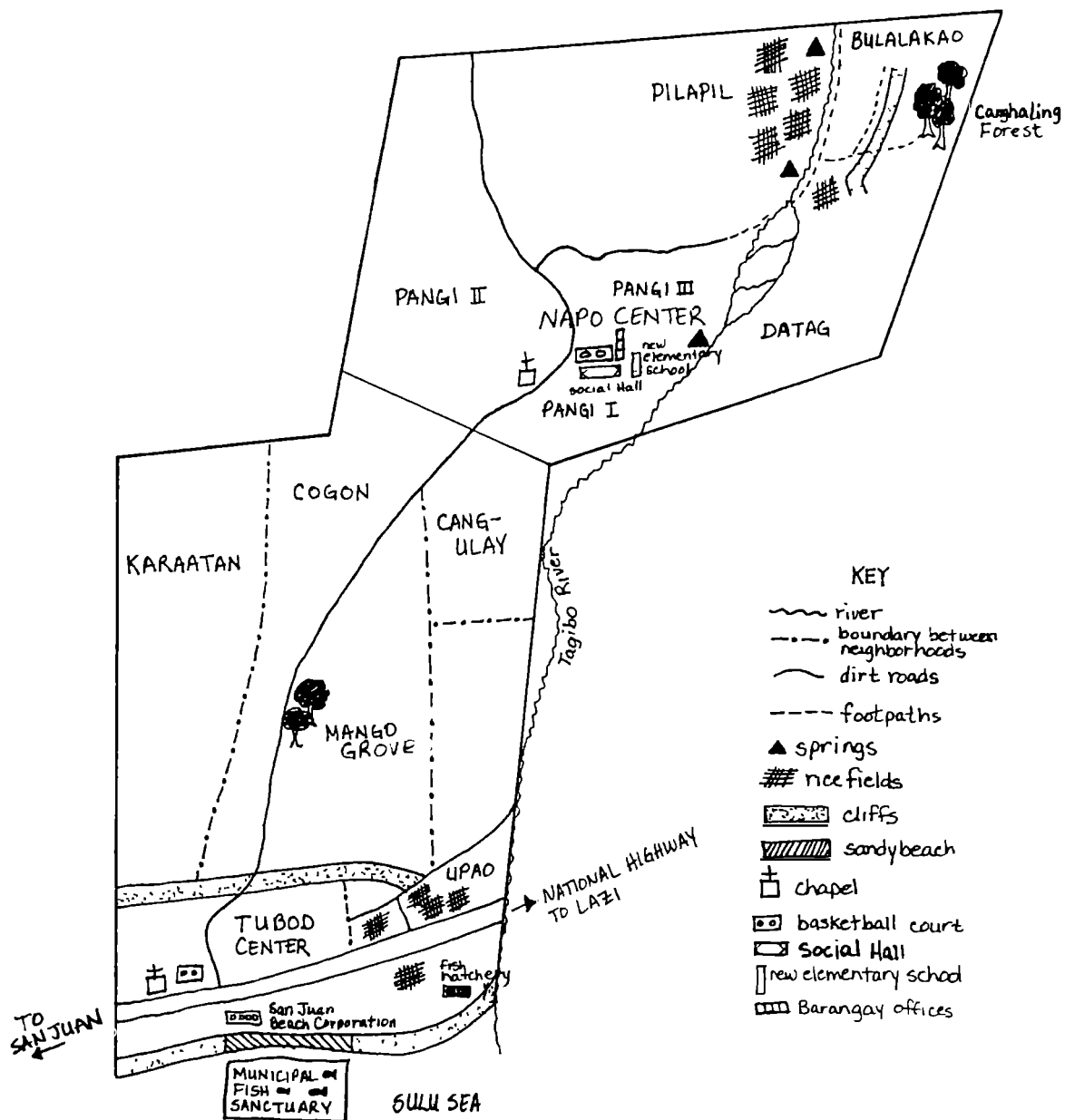
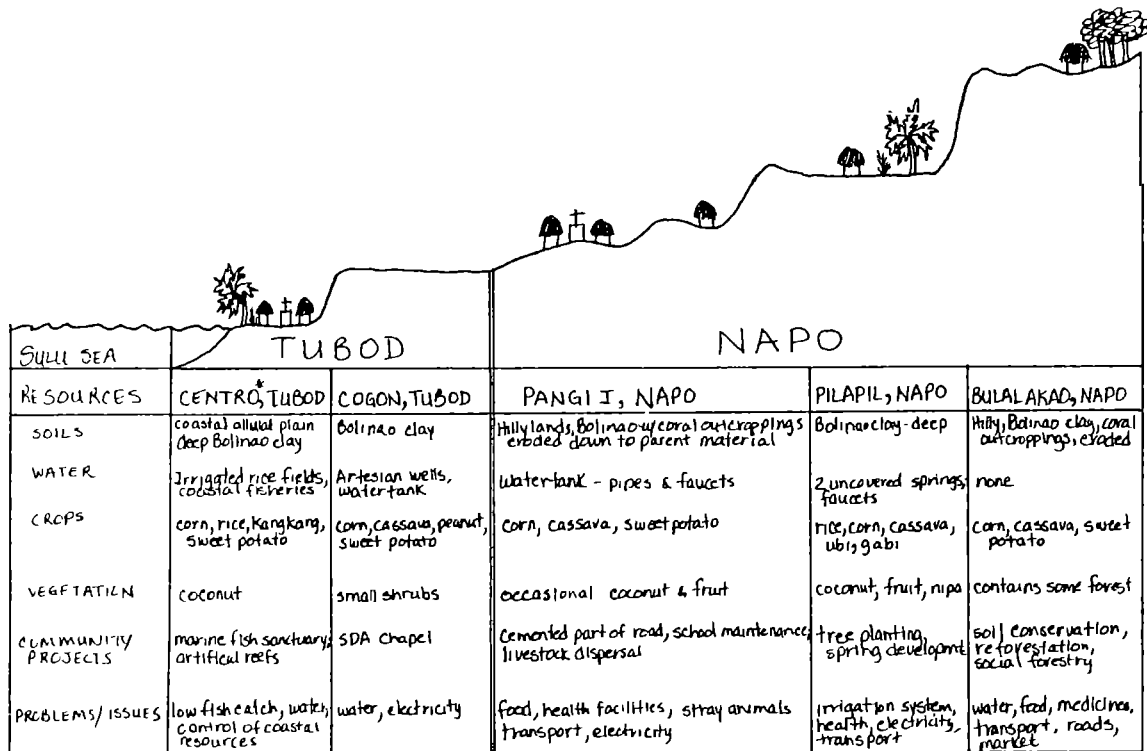


Figure 3. Transect of Napo and Tubod



* names of neighborhoods in villages - see sketch map

In Napo, the village center also includes the only educational institution in the two communities, a public primary school (Grades 1-4). Tubod children go to primary school in San Juan where some Napo children later join them for secondary school. The only high school in San Juan is run by the Catholic Church with a yearly tuition of P650 (\$25) per student. A few residents seek college educations at a vocational technical college on the other side of the island or in the cities of neighboring islands.

Neither community has a formal marketplace. Women sell basic household goods such as bread, cigarettes, matches, oil, salt, soft drinks, liquor, basic medicines, and the locally produced coconut wine, from the fronts of their houses. They also sometimes sell vegetables or fresh fish, but producers usually wait until the Sunday market outside the San Juan cockpit where they can garner higher prices.

Since 1984, electricity has been available for Tubod along the National Highway, but most households cannot afford the base price of P40/month (US\$1.53). Access to electricity has allowed some of Tubod's small store owners to buy refrigerators, and two local entrepreneurs have opened carpentry shops specializing in furniture making. Electricity has also made Tubod more attractive to outsiders who have recently established a prawn hatchery and a tourism facility.

Water development began in the 1940s. It includes spring water piped to tanks in the village centers and to faucets in other central locations, protection of the spring's source to prevent contamination, and wells with manual pumps. On a daily basis, the various systems are maintained by the village councils, but funds for major repairs, renovations, or development must come from the municipal government. This system has led to less than ideal maintenance or distribution of available water resources around each village. Households distant from the center rely on seasonal, uncovered springs, on deep

wells with troublesome pumping mechanisms, on leaky and unreliable pipes, or, as in the farthest reaches of Napo, on cows to carry water from sources up to a kilometer from their houses.

Livelihood Options

Household livelihood strategies in Napo and Tubod today are fashioned around the necessity for mixed economic activities, including farming, fishing, home-based income-generating activities, and paid employment. Almost all families are involved to some extent in **farming**. Average farm size in San Juan is .56 hectare (Department of Agriculture, 1987). There are no farms which exceed 10 hectares on the entire island (Deang, et al 1984). Farms in Napo and Tubod as well as around the island are highly fragmented, with an average of 4 plots per family, usually spread out on the landscape. The average plot size is an incredibly small .14 hectare.

The main subsistence crops are corn and cassava. Farmers usually intercrop the two, with one planting per year. Ordinarily, they also plant small amounts of beans, sweet potato, and other vegetables in the same fields and use them for home consumption. Cassava is dried for food and pig fodder. Corn is the staple food crop in both communities. Families with access to irrigation grow rice. Corn and rice production are so low that only a handful of families in each community report producing enough to feed themselves year round. Most families must purchase corn or rice at some point during the year. Families with crop surpluses first sell, loan, or exchange them within the community and then sell to middlemen.

The major **cash crop** in both communities is dried coconut meat. Producers sell to local middlemen who in turn sell to regional producers of coconut oil. Men tap coconut palms daily for their sap and sell it as wine through local vendors. Those without coconut palms gain access to this source of cash by working as laborers.

to harvest coconuts and collect sap, earning cash or a share of the product which they then sell themselves. Minor cash crops include peanuts and *kangkong* (green leafy plant). Families produce bananas and papayas and, more rarely mango, and avocado for home consumption or use in ongoing inter-household exchange.

Despite the long trek down to the coast, survey results found equal numbers of men from Napo and Tubod (36%) engaged in **fishing**. While residents of Tubod consider fishing equal to farming in its importance to their livelihoods, Napo residents consider it secondary to farming. Fish are traditionally caught from small, paddled outriggers using nets. Other fishing methods include spear fishing, fish pots, cyanide, dynamite, air compressors, and *moro-amu*. During *moro-amu*, groups of men bang chains or rocks against delicate corals and herd frightened fish into waiting nets.

Most fishermen own their own nets and spears, but do not own their own outriggers. Both boats and gear can be rented from a few of the more well-off families in lower Tubod. Fishermen can also borrow a boat or fish with the boat owner or someone with gear, usually for a share of the catch. Households generally consume what they need of the catch and sell or exchange any surplus within the community or to middlemen.

Income-generating activities are undertaken by virtually every member of a household. They include major activities such as ownership of a store, or providing taxi service with a motorcycle and sidecar. There are also small-scale activities, such as mat weaving, making *nipa* roofing shingles, or selling seashells, seaweed, and baked goods. Every household depends on some combination of livestock (chickens, pigs, goats, cattle, and an occasional water buffalo) as an important source of cash income and food. Cows and water buffalo are used for plowing. Although none of these activities by itself supplies much cash, each is a valuable contribution to household incomes.

Finally, members of almost every household **seek paid employment**, either locally or through regional or international migration. The most prized local employment opportunities are permanent positions with the government, because they promise regular salaries and benefits. Obtaining such a position requires a high level of education as well as political connections. Contractual or short-term positions do not require much education, but are almost always distributed according to familial or political connections, and are vulnerable to changes in national and local politics. Government development projects, such as soil and water conservation or reforestation projects, have also provided income in the form of small cash incentives.

Outside of the government, few employment opportunities exist in these two communities. Private entrepreneurs offer a few jobs but competition for these jobs is so high that employment often goes to those with familial connections. Local businesses generally hire men as drivers or laborers, and women as accountants or clerks. Larger landowners tend to do the most hiring. They need laborers to work their farms, to operate their small businesses and to help run their households. In such cases, men are hired for carpentry, sawing, driving or plowing; men, women, and children weed and harvest fields; older children work as maids or houseboys. Children are compensated with combinations of room, board, cash and education.

Because local employment opportunities are so limited, residents, particularly young adults, search for work beyond their communities. Between 1975-1980, women migrated from the island in larger numbers than men. Out of the 2,827 people who moved out of Siquijor, over half (53.7%) were female. Most out-migrants went to the island of Mindanao (NSO, 1990).

Migration from Napo and Tubo, is permanent, temporary, and seasonal. Temporary and seasonal migration occur in response to seasonal "pulls" or to

“natural” events at home such as drought. Over 57% of the households interviewed in Napo and Tubod had young adult children working outside the community. An average of 60% or 3 out of 5 children had migrated. As Figure 4 shows, most migrants from Napo and Tubod head to other islands within the Philippines. Carefully constructed networks of extended family and friends are used to find work as maids or houseboys, crew members on cargo and fishing ships, nurses, and workers in factories and on plantations. A few qualified migrants make their way to the United States, the Middle East or Japan to become nurses, laborers, domestic helpers, or clerical workers.

Approximately 45% of households with children working outside the community receive remittances, in cash or in kind. (See Figure 5.) For most families, however, remittances are small, sporadic, and only received for a limited time. In general, parents expect to receive remittances only from their single children. Once married, children are perceived to have their own

responsibilities and are expected to help the family only in emergencies. The salaries of single migrants, however, are often large enough only to meet their own basic needs. In fact, new migrants often require support from their parents in the form of food or cash.

Jorge and Cecilia have watched their four children, now all in their thirties, leave Napo to seek their livelihoods in cities around the country. One daughter is in Manila working in a garment factory. The other three children are on the island of Mindanao. Of these three, two daughters are married, one to a pedi-cab driver, the other to a welder. The last is a son who is looking for work. All send small amounts of money to their parents to help support them in their old age.

It is rare, therefore, for migrants to send remittances large enough to affect a family’s socioeconomic status significantly or relieve subsistence pressures for any

Figure 4. Current Location of Some Family Members of Respondents in Napo and Tubod

Family Members	Total	In <i>Barangay</i>	Elsewhere on Siquijor	Elsewhere in Country	Outside Country
Parents	100	62	22	15	1
Siblings	759	344	83	318	14
Children	356	208	12	136	0

Figure 5. Percentage of Respondent Households Receiving Remittances in Napo and Tubod (N=80)

<i>Barangay</i>	Receiving Remittances	Not Receiving Remittances	No Answer	Total
Napo	47.5%	40%	5	100
Tubod	42.5%	57.5%	0	100

length of time. Monies received are used for a variety of purposes, depending on the household's needs and the amount. Some are used for consumer goods, such as clothes or food; other remittances are used to improve production, such as hiring labor or purchasing agricultural inputs, or for long-term investments such as land, livestock, education, or the migration costs of other household members. Remittances come primarily from working sons and daughters to their parents and are sent more or less equally by both sexes.

Migration, therefore, serves to provide employment to islanders who cannot find employment at home and do not have access to sufficient agricultural or fishing resources to make a living.

A History of Mobility, Resource Alienation, and Decline

The livelihood strategies of the people of Napo and Tubod require a high degree of mobility by both men and women. Men from Napo regularly fish along the coast of Tubod. Tubod families gather fuelwood and fodder freely from the river bed or forests of Napo. Water sources in Napo provide drinking water and irrigate rice fields in Tubod. Residents of both communities own and

seek access to land in the other village. The search for paid employment brings people from Napo down to Tubod and spurs residents to build social networks off the island to facilitate migration.

In one sense, this movement is not surprising given the proximity of the communities, the degraded condition and complementary character of their respective resource bases, the marginal local economy, and the kinship ties which extend beyond the community. Yet, such movement also represents the efforts of the population to piece together some kind of livelihood in a situation where the best quality natural resources and the local economy have long been monopolized by a local elite and somewhat regulated by the government.

Oral histories describe how, in the late 1800s, Napo was permanently settled by a handful of families who moved from the Tubod coast and claimed the few small tracts of flat fertile land on the upper plateaus and in the river valley. Most of these families still occupy these lands. Few families followed them, but those that did had to farm the more delicate and less productive hilly lands. It was during this time that families built the few erosion-controlling rock walls which can still be seen on the steep hills of Napo.

Elders recall how, in 1927, the forest resources of Napo first came under centralized resource management by the American colonial government. The government inventoried forest resources within Napo and declared some of the first laws against cutting and burning. So began a history of forestry legislation that has given little recognition to the customary rights of the indigenous community, and placed control of these resources in the hands of colonial and then republican government agencies. Deforestation has continued throughout the century, indicating that these centralized agencies lack either the will or the means to manage the forest in a sustainable manner

Residents point to World War II and the Japanese occupation of the island as the period when pressure on the uplands intensified manyfold. During this time, out of fear for their lives, many lowland dwellers fled to Napo and initiated a period of intense cutting and burning in order to farm the hills. In the 1970s, another period of deforestation for farmland took place when many migrants were forced home by the intensification of the civil war in Mindanao.

As farmlands have become less fertile, households have increasingly turned to the sea for sustenance. Yet even off-shore, they have had to compete among themselves and with outsiders for access to limited and deteriorating resources. Before World War II, Japanese fishermen began fishing in the area using *moro-ami*. Large trawlers drag nets through the shallow waters around the island. Their small gauge nets and close proximity to the coast are often disputed by local fishermen and officials. Corals are destroyed and few fish escape these methods. Although illegal, *moro-ami* and the large trawlers continue to be used today, effectively unchecked. They are widely known to be financed by some local businessmen and politicians. Pressed for their livelihoods, some local fishermen work for these businesses; still others use cyanide, small gauge nets, and dynamite when they fish alone

Tubod fishermen now face a new kind of pressure on their coastal resources. Since 1978, when national legislation declared Siquijor a tourist zone, Tubod's beaches and coral reefs have attracted several private developers (Presidential Proclamation, 1978). Although the legislation was designed to spur local economic development, very few Tubod residents have benefitted from the initiative. Tubod community leaders recently won government assurance against a move by developers to restrict public access to the beach, a move which would have prevented fishermen from launching their boats and women from gleaning shells and seaweed

Fight or Flight: Resource Competition and Migration

Low island population growth rates throughout the century suggest that Siquijor's residents have long understood the dismal nature of a future tied to competing among themselves for the scarce resources on the island. Census figures for the island between 1903 and 1990 show that the population grew from 50,156 to 73,790, an annual growth rate of only 0.4%, or 5.5 times slower than the 2.5% rate recorded for the nation as a whole during the same period (NEDA, 1990). With island birth rates close to the national average, these figures point to a high dependence on out-migration as a major livelihood option. Elders in both communities confirm this observation. A review of government policies provides insights into the mobilization and resettlement of rural people to fill larger national development goals.

Prior to the 1960s, most out-migration was rural-rural by men or whole families in search of more fertile land. Residents took advantage of a government-sponsored 24-hectare homestead program in Mindanao in the 1920s (Krinks, 1974). Residents also recall how the government ignored the movement of Tubod families to the large neighboring island of Negros, where

they cleared public forest land and planted upland rice. The government also encouraged international migration. In the 1920s, the American colonial government designated southern Visayas as a labor surplus area, allowing the Hawaiian Sugar Planter's Association to recruit in the region (Lee, 1985, Griffiths, 1988). A small number of men and women from Napo and Tubod responded and went to work on Hawaiian sugar plantations. After becoming American citizens, many returned to Siquijor. They and their relatives are now some of the wealthiest members of these communities.

Since the 1960s, migrants have been discouraged from settling rural areas on neighboring islands by the decline in the availability of fertile lands and the escalating violence associated with conflict over these lands and other inequities. At the same time, urban opportunities have been on the rise. Migrant flows have turned urbanward since the 1970s (Eviota and Smith, 1979, Eder, 1990)

III. Household Livelihood Systems and Stratification

Resource decline in Napo and Tubod is indicative of Siquijor's condition as a whole and also of many rural communities throughout the Philippines. These two communities illustrate the diverse coping strategies of rural populations in the face of livelihood opportunities limited by environment and economy.

Regardless of socioeconomic status, the livelihood strategies of households in Napo and Tubod today are characterized by mixed economic activities. The actual mix and scale of activities each household undertakes is shaped by the economic, social, and political resources to which members have access. The key determinants of household well-being are land ownership, cash income, family structure, and social exchange networks

Land ownership confers wealth if it is productive land. In Napo, the wealthiest families own the rice and coconut land of the river valley and the flat corn land of the uppermost plateau. In Tubod, they own or have long-term rights to irrigated rice land on the coastal plain and beach front properties which the potential for tourism has recently turned into prime real estate

No one in Napo and less than 20% of the families in Tubod hold legal title to their land. Instead, long-term rights to land are based on occupancy and payment of taxes. Land is inherited; it is bought and sold, and municipal property taxes are paid on it, all purely on the basis of occupancy and previous tax receipts.

A second source of differentiation among households is **cash income**. Those with salary or remittances from family abroad fare well. Those dependent on local, small-scale, income-generating activities or wage labor have precarious positions within the cash economy and to those goods, services, and investments which money can buy.

The third indicator, **family structure**, distinguishes households by their human resources. It acknowledges the roles that the age, gender, wealth and status of each household's members play in its ability to generate a livelihood. Households generally consist of two or more generations of extended family members. Extended households, though, are not necessarily made up of consecutive generations because young married people must often migrate and leave their children behind in the care of grandparents.

Households are most clearly differentiated by the number of adults present: whether there are two adults present in the household, or whether it is single-headed, by a male or female, either *de jure* or *de facto*. The majority of households (73%) are jointly managed by a husband and wife. Both contribute to the maintenance of the household often with the assistance of teenage or young adult sons and daughters.

In Tubod, almost a quarter of the households (22.5%) are headed by females. In Napo, a full quarter

of the households are headed by single adults, evenly divided between females and males. Some are widows or widowers; some have been deserted; and some are single by choice. Rarely are any of these households economically or socially self-sufficient. Most seek additional support from extended family members.

For the men and women managing households alone, there are particular difficulties. Generally, they are responsible for the day-to-day management of the household as well as the long-term decisions which are normally made with input from spouses. While most can depend on the support of extended family and on financial support from their spouses, many women found this financial support too little or too sporadic. In addition, sometimes a husband's migration, initially part of the family's livelihood strategy, develops into desertion or a situation where the husband creates an urban family which he then must also support.

The fourth factor is **social exchange networks**. In the context of resource scarcity and competition, households rely heavily on complex social exchange networks to gain access to resources beyond what their own members possess. Both men and women are responsible

for cultivating social, economic, and political relationships which open up opportunities for the family. Links are established with neighbors and with extended family members and friends in rural and urban areas around the country and abroad. Usually these are two-way networks. Local networks provide daily access to resources such as land, livestock, or jobs which can help families diversify or strengthen their livelihood. Networks outside the locality can provide contacts for employment or business or shelter for children when they go to school or seek employment in urban areas. Both kinds of contacts can provide a safety net for food if the family runs short, and for loans in case of emergency or for investments, in livestock, housing, or land.

A wealth ranking exercise (see Appendix A) was used to gain insight into the socioeconomic differentiation within each of the villages. Villagers ranked a random sample of approximately one-third of the families in each village, yielding five categories of households in each community. While the communities have some categories in common, some are unique to the particular community, pointing to important differences in their resource base. Figure 6 shows the breakdown in each community.

Figure 6. Socioeconomic Strata in Napo and Tubod Based on Community Wealth Ranking

<i>Barangay</i> Strata	Napo	Tubod
Most Prosperous	15%	11%
Upper Middle	20%	18%
Working Class	-----	24%
Middle Class	40%	22%
Poor	22%	25%
Poorest	3%	-----

Most Prosperous Households

Using the indicators noted above, survey data showed 15% of the households in Napo and 11% in Tubod to be relatively prosperous. Rosita and Remedios (all names used in the case are pseudonyms) are representative of a prosperous family in Napo, while Fe and Elvis are among the most prosperous in Tubod. Rosita and Remedios farm five parcels of her aging father's rice, corn, and coconut land in the fertile river valley of Napo. Of their four children, the only son, his wife, and child now live with them. Three grown daughters have all married or migrated off the island. The family is one of the few in Napo which harvests more than enough for its needs. With so many plots to farm, Rosita and Remedios tap the local labor pool in a myriad of ways. The extra grain is used to pay workers to harvest the corn. Neighbors help them weed and harvest their rice, and receive a quarter share of the harvest in return. Their major sources of cash are from the sale of coconut meat and money sent home by their daughter working as a sales clerk on another island. It is used first to stock the household with basic commodities and then to hire laborers to harvest coconuts and thresh rice.

Fe and Elvis live at the crossing in Tubod with their three young children. They share their newly built cement house with her mother-in-law and her sister and her two children. Elvis, college-educated, is a policeman. Fe completed secondary school. She is responsible for the children and for managing their small farm of corn and beans. She hires laborers to do the agricultural work, while she herself raises pigs and chickens in the yard for both income and household consumption. Her responsibilities have expanded with two recent developments. First, they built a small store on the front of the house which she manages, and second, she was elected to the *Barangay* Council. She says her busy schedule "makes it difficult for me to do my public service work, but I must try because I am trusted. I am willing to help others."

As these two cases illustrate, wealth in Napo is based primarily on access to agricultural land and strong family networks; wealth in Tubod is shaped, in addition, by access to permanent employment and the ability to take advantage of the limited opportunities of the local market. Surplus income is invested in small businesses, in becoming middlemen for agricultural or fishing products, and in purchasing and renting fishing gear.

Upper Middle-Income Households

Both Napo and Tubod have an upper middle-income group of households. Representing 20% of all households in Napo and 18% in Tubod, these families are also landowners, but not of the best land. They do better than other families, however, because they skillfully use their social exchange networks to gain access to the surplus resources of the most prosperous. They also tend to receive remittances from relatives elsewhere in the country. Access to land and cash crops is gained through a multiplicity of means such as ownership, tenancy, or other sharecropping arrangements. Most of these families are able to meet their food needs throughout the year. Remittances may therefore be invested in a wide variety of livestock, high school and sometimes college educations for their children, small businesses, and fishing or agricultural activities. In short, these families are perceived as the hardest workers and the most clever at diversifying their resource base to ensure a more than adequate livelihood for their members.

Working Class Households in Tubod

Unique to Tubod are households (24%) which seem to be gaining a toehold in the cash economy. Their members work as temporary, low-paid government workers, or employees in local businesses. Access to these jobs is not necessarily gained through higher education, but through the personal initiative of the

entrepreneur or, most often, through social networks within which personal skills, family connections, or political dues are clearly understood.

Families in this category are generally perceived as better off than middle-income households. Regular salaries, no matter how small, are thought to relieve families of the worry of food production, a major constraint for poorer households. This perception, however, has proven deceptive in Napo and Tubod. The extent to which this is true is linked to a household's family structure and who receives the job.

It is sometimes difficult to tell whether a household is better off with or without wage earner in the family. Salaries are often very low and positions tend to come and go with changes in the economic and political climate. Families cannot depend on the income, but must continue to farm or engage in other livelihood activities. In households where the wage earner was a major source of subsistence labor, a labor shortage is often experienced. Household production must often be curtailed in light of this shortage.

These circumstances are found in their extreme in households where the husband becomes the wage earner, leaving a wife and small children with household production responsibilities. In order to maintain household production, wages must often be diverted from purchasing food to hiring farm labor. The family's capital base such as land or livestock may then have to be sold to buy food. Such households can end up dependent on uncertain wages and more vulnerable than they were before a family member took the job. In the end, immediate household security may be jeopardized for what may turn out to be short-term income gain.

Middle-Income Households

In Napo, 40% of the households fall into a middle-income level. In Tubod, 22% occupy this position.

These households are a mix of landowners and tenants. The quantity and quality of the land they have access to is substantially less than that of the more prosperous households. Their plots tend to be sloping, eroded, less productive and spread out on the landscape. Many of these families must buy corn or rice for several months of every year. Usually they cannot afford to own large livestock. Their social networks are limited and remittances are small, irregular, or non-existent. Family members may be working elsewhere in the country, but generally they are able to meet only their own needs. Members left behind use their local networks diligently to gain access to livestock, coastal resources, and wage labor, and to sell the products of their income-generating activities.

With five children at home, Rosella and Alberto struggle to make ends meet in Tubod. Drought, poor soil conditions, and pests constantly frustrate their efforts to feed their family from their two small, degraded plots of land inherited from their parents. Usually, they can feed themselves for only nine months from their harvest. One parcel has coconut palm on it, which brings in some income, but it is not enough. Likewise, they dare not rely on the money which trickles in from one of their sons who works in a motel on a neighboring island or from Rosella's siblings. Alberto used to supplement their livelihood by fishing, but had to stop because of his health. He and the children now gather seaweed once a week; he and Rosella continually make and sell *nipa* shingles; he sells his labor to saw lumber; and the whole family weeds other people's fields for a wage or for a share of the crop. They raise a goat, a pig, and a cow for their neighbors for a share of the offspring. Alberto also uses the cow to plow other people's farms for a wage.

The Poor in Napo and Tubod

Cadusali and Charles are elementary school graduates. They have 8 children ages 1 to 19. The only land they own is their small house plot, given to them by a grandmother. There is no land to cultivate. Charles is a fisherman and a laborer on other people's farms. With so many young children, Cadusali's time is dominated by childcare. Her one income-generating activity is pig raising. Household income has never been enough to educate the children past the elementary level. Instead, the two oldest children quickly sought employment. A daughter works as a housemaid on a neighboring island. A married son just began working for six months at a time on a large fishing boat. Before he left, he went into debt to leave two sacks of corn for his parents and his wife and son. He now alternatively sends money and corn.

A step deeper into poverty are those families which have access to productive resources only through complex social arrangements with relatives and other households in the community. Life for these households,

whether in Napo (22%) or Tubod (25%), is a precarious matter. They have access to land or harvests, for instance, through tenancy or other sharecropping arrangements. Some have a claim to use their family's common land, but it is often eroded and there is much competition for its use. The livestock they raise is most often owned by someone else. In Tubod and lower Napo, they may fish regularly, but must rent or borrow someone else's fishing gear and give a share of their catch. Wage or exchange labor by both adults and children is a necessity. Little time, energy, or cash are available to invest in income-generating projects, small businesses, livestock, or the education of children

The Poorest in Napo

Finally, people in Napo identify a few households (3%) among them which struggle on the very edge of survival. These are old people who live alone or families who struggle under the burdens of too many children, health problems, or a member with a bad habit, such as gambling, which exhausts the family's resources. This group remains virtually dependent, in a variety of ways, on the local community for subsistence. Residents of Tubod did not identify such a group within their community.

IV. Gender and Class in Patterns of Resource Management

Four central observations emerge from analysis of gender roles in rural livelihood systems. First, important external influences shape the nature of gender-based access to and control of resources. Second, families generally are flexible in the ways they allocate household resource management responsibilities. These practices vary, however, according to socioeconomic class. Flexibility and complementarity diminish as affluence declines. Third, women bear major responsibilities for the management of household resources. Fourth, class position shapes the significance of migration as a livelihood strategy, its impact on sustainable resource management practices, and ultimately the gender relations in the household.

Access and Control as Shaped by Systems Outside the Community and Household

Household-level resource management decisions are not made in a vacuum; they are shaped by formal and informal systems at broader levels than the individual or the community. Legal, educational, and economic institutions are among systems which shape decisions.

Legally, men and women in the Philippines have equal standing in political, social, and economic spheres. Philippine law affords both men and women equal chances to own and/or inherit land and other parental

properties. Traditional Cebuano and legal inheritance practices give equal rights to all siblings. Couples also jointly control conjugal properties

While legally, women, whether single or married, can enter into a formal contract with a bank or other institution, in practice rural women rarely do so. Men, not their wives, are considered full-time workers by lending institutions and, therefore, are awarded credit. Rural women generally subscribe to informal credit systems in spite of high interest rates, since they do not have to worry about prohibitively formal procedures and arrangements for collateral (NCRFW, 1989)

Evidence from Napo and Tubod reveals that boys and girls have equal access to formal education. This value is both mandated by law and supported by the attitudes of respondents across socioeconomic categories. Most parents think daughters have as much right as sons to be educated. Should household finances limit the number of children who can be educated, most parents will support the children, male or female, with demonstrated aptitude, interest, and a willingness to apply themselves. Access to indigenous knowledge and skills, such as healing and midwifery, is also provided equally to both men and women

Households in Napo and Tubod are affected by the gender-defined job specialization as it is reflected in the

local labor market. Men consistently have more success finding local wage labor than do women. Within Napo and Tubod, men are involved in weeding, plowing, harvesting, and, depending on their skills, carpentry, sawing, and driving. Women and older children engage primarily in seasonal weeding and harvesting for a daily wage. In Napo, 22% of the men and only 8% of the women work on other people's farms. Similar trends are apparent in Tubod. Women who cannot work outside the home because of insufficient opportunity, education or the presence of young children, design enterprises which can be readily integrated with their household management responsibilities.

Although men and women have equal access to resources under Philippine law, the reality is that women have better access to and control over resources through informal, rather than formal, means. Formal access is not always egalitarian despite the laws. In contrast, men are able to gain access to resources through both formal and informal channels.

Flexibility and Complementary Gender Roles as they Interact with Class

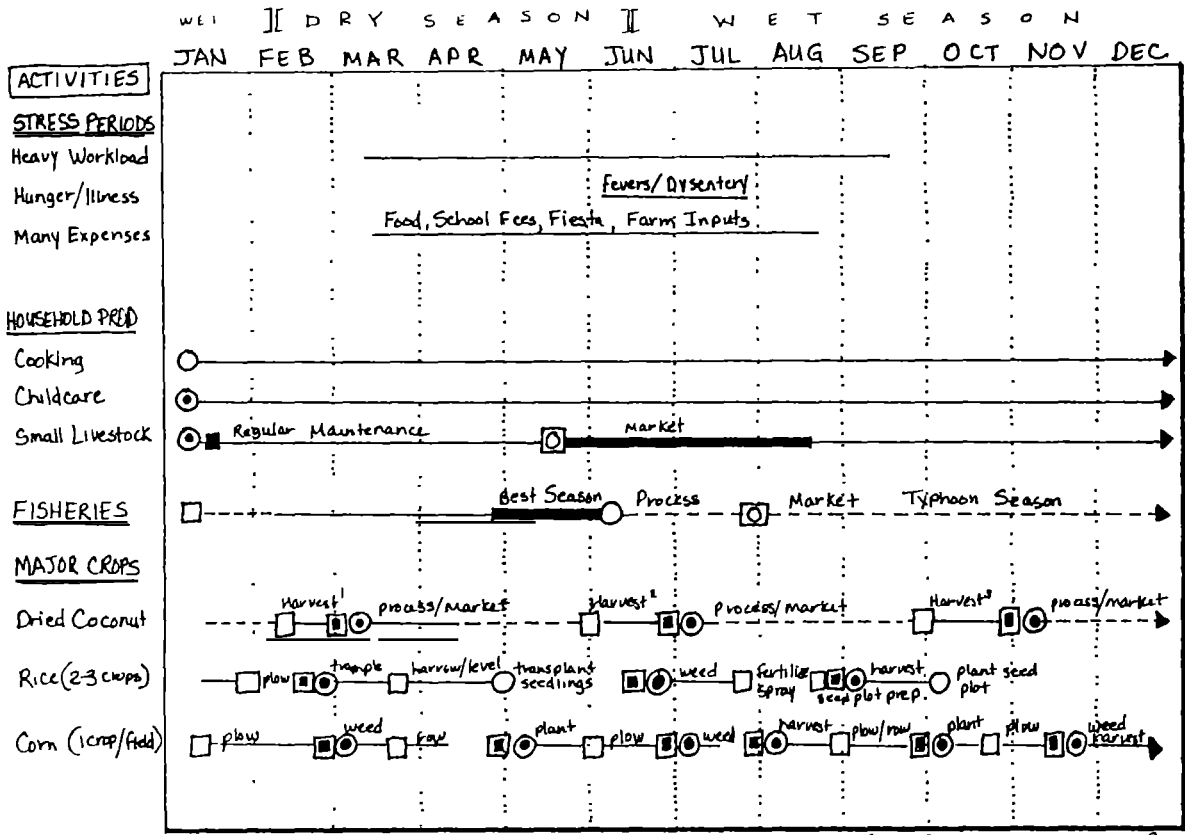
Generally, there is fluidity in the ways in which families in Napo and Tubod allocate roles and responsibilities for their members. Within the range of household responsibilities, there is considerable crossover and sharing, both between women and men and between the old and young. Older adults and young children help with household work while young adults are usually keen on seeking employment to support themselves and contribute cash income to the household. Lines are not sharply drawn between heavy and light work. Arrangements between the sexes often seem somewhat ad hoc, dependent upon the schedules and responsibilities of household members rather than their gender and age. Although the final responsibility for household chores is a woman's, all members of the household tend to help accomplish them. All members,

for instance, weave firewood and water collection into their daily schedules. Both men and women may share cooking and laundry responsibilities.

There are, of course, some activities which are clearly gender specific. Women, for example, do not gather coconut sap or fish, men do not bake and sell foodstuffs. Generally, heavy tasks are undertaken by men, including plowing and managing large livestock, women care for the small livestock and manage the household. Circumstances do exist which can cause considerable crossover, even for these tasks. Male off-farm employment or migration, for instance, can force women to plow their own fields. Figure 7 is a condensed version of a Gender-Disaggregated Seasonal Calendar created by focus groups in Tubod. It illustrates the division of labor by gender and age for several major household activities.

Often the efforts of men and women of all ages are closely integrated around a single productive activity. An example is the harvesting of coconut products. No other plant has as many uses or users. While men are responsible for planting and maintaining the palms, many family members are involved in harvesting and processing the palm's products. Men and young boys tap the palms for sap for wine. The trunk is a favorite building material. Women use the leaves to make toothpicks, brooms, and other handicrafts. The wood, dry husks and fallen leaves, as well as other parts, are used for firewood. Men cut down the nuts from which the water is a favorite "thirst-quencher;" the mature meat is used by women to make soup and for pig feed. Three times a year, during the coconut harvest, men, women, and children of all ages carry out the tasks of opening the nut and removing and drying the meat. The drying process is usually carried out by women, with assistance from children.

Figure 7. Gender-Disaggregated Community Seasonal Activities Calendar for Tubod (Condensed)



Source: Based on Hilary Sims Feldstein & Susan V. Poats 1989 Working Together Gender Analysis in Ag. Kumarian Press

- Adult Male
- Male Child
- Adult Female
- Female Child
- Continuous Activity
- - - - -→ Sporadic Activity
- more intensive Activity

While gender and age are critical variables in the capacity of households to manage their resources both effectively and sustainably, these variables correlate with household socioeconomic circumstances. The higher the family status, the greater the flexibility of roles along the lines of gender and generation. More prosperous households are able to hire labor whenever it is needed. Hired labor can be allocated to the farm, household, or to other livelihood activities in ways which free all family members to be as productive as possible. Frequently one spouse is employed outside the home and the other is responsible for the daily management of the household, sometimes including several small businesses, spouses may work side-by-side on the farm or in home-based industries; sometimes they are both employed outside the home.

Teresa and Petronio, both college educated, have four children, ages 7 to 18. Petronio works for the Provincial Department of Environment and Natural Resources (DENR). Neither Teresa nor Petronio inherited land from their parents, so they have worked very hard together to invest his salary in ways to expand the family's resource base. They have bought nine parcels of land over the years, seven of which they plant with corn and rice. The other two are planted with hardwood trees. They also raise livestock, rent out fishing gear, run a store out of the house, and act as middlemen for shells, fish and charcoal produced in the area. Teresa coordinates the laborers who carry out all these activities, although she and Petronio make major decisions together.

As socioeconomic circumstances deteriorate, households must allocate family labor more strictly, and gender and age-defined roles become more rigid. Middle and lower income families, pressed to meet their yearly food needs, must maximize each family mem-

ber's productivity. While straining to take advantage of the few cash earning opportunities in the local economy, men and women experience declining flexibility in their work routines.

Corazon and Leandro of Napo struggle to raise their five small children, one of whom is blind, making a living from three parcels of virtually unplowable, degraded land. The harvest feeds them for only two months. A myriad of income-generating activities are necessary for them to feed themselves for the rest of the year. Leandro alternates farming, fishing, and selling coconut wine from his parents' trees. Their only property is Leandro's outrigger which saves them from renting one and having to divide the catch with the owner. Corazon contributes what she can to their income by processing and selling any extra catch to neighbors; weaving and selling mats; and raising two sows for a neighbor from which she keeps half of the offspring after giving one to the owner of the boar. Critical to improving their situation is gaining access to better land. They plan to buy land soon by borrowing money from Corazon's siblings who are professionals living elsewhere in the country.

Wage labor draws men as well as young people away from the household, decreasing their day-to-day involvement in food production, and other household tasks. Men engaged in local wage labor find their involvement in agriculture reduced to the heaviest farm tasks, such as plowing. Women and young children are left with responsibility for most tasks. These circumstances cause declining flexibility and complementarity of gender roles within households.

When women assume the major agricultural tasks because of this labor shortage, they do not perform them in the same way they would with the complementary

support of men or their young adult children. Often they are forced to cultivate the most productive or most conveniently located plots without adequately allowing fields for soil regeneration. Families in this position lack the labor power to avoid using land management practices which hasten soil erosion and exhaust soil fertility.

The additional responsibility of food production also makes it exceedingly difficult for women to manage their normal workload. They may find it difficult, especially in the dry season, to find enough fodder for livestock or to rotate the areas where they pasture animals. They may even be forced to let their goats or cows roam free, potentially putting their neighbor's crops and therefore their relations with these neighbors in jeopardy. They may have to sacrifice some of their household enterprises, the income from which is critical to meeting the family's basic needs. In the race to extract a livelihood from a delicate resource base and limited economy, they may also overexploit the products they gather from forest and sea.

In households pressed to generate cash in order to meet year-round food needs, the loss of family labor to the cash economy decreases the flexibility of household relations. With men and children pulled off the farm into

Anita and Marlon have five children, ages 2 to 12, in Tubod. They used to depend on farming and livestock production for their livelihood, but for the past few years, Marlon has taken semi-permanent positions with the municipal government. At first, he maintained a municipal mango plantation located near their home. He now works with a grounds crew in the town proper. Since he took these jobs, Anita has assumed responsibility for the daily management of the household and the farm. With small children to care for and without Marlon's labor, she has had to scale back their farming.

wage earning positions, women's responsibilities for household maintenance and food production increase. The increased workload for women often means abandoning some labor-intensive tasks essential to sustainable subsistence agriculture and natural resource use and, in some cases, means risking critical local social networks. Women in resource poor households can lose their ability to manage both their natural and social resource base when their husbands and older children work elsewhere or are absent. The environmental degradation and social dislocation which result can send such households into impoverishment which is nearly irreversible.

Women as Managers of Financial and Other Resources

Women have substantial control over household financial resources. They serve as household bankers, receiving and holding income turned over to them by other family members and overseeing the disbursement of funds for daily expenditures. They have complete control, however, only over the cash they earn themselves. Men usually cover most of their own personal expenses before handing their incomes over to the

They have reduced both the number of plots they farm and livestock they raise. Marlon farms only on the weekends. During the weekdays he tries to help out by collecting firewood and water while tethering livestock on his way to and from work. Despite the scaling back and the steady income, Anita still feels overworked and sees the family's economic situation as worse, not better. Now, instead of buying food for 2 months of the year, they must buy it for 10 months. Marlon's salary is quickly exhausted by expenses for food, schooling, and farm labor.

household fund. In most cases, decisions about large expenditures and long-term planning on budgetary allocations are made jointly. The negative side of this arrangement is that women tend to be more aware than other household members of any deficits, and often feel personally responsible for filling them (Illo, 1988).

Negotiating Access to Land and Other Resources

Women also have significant power to negotiate the household's access to resources. In households across the socioeconomic spectrum, women as well as men, negotiate access to land. Families seek access to different kinds of land in order to meet household needs. The number, size, quality and location of the plots are balanced against the needs of the family and the labor pool available to work them. In tenancy arrangements, owners usually receive a one-fourth share of the harvest. Arrangements between owner and cultivator may involve specific cash agreements or they may be based on long-standing, in-kind exchange agreements.

Both women and men also borrow parcels of land from their neighbors or relatives on short and long-term bases. Borrowing under these conditions does not usually require formal payment, but it is part of a continuing social exchange between families within the community. An extension of this approach to sharing resources is the generally open access to fodder and fuelwood among neighbors. Rarely do neighbors require formal permission, as long as the source is not depleted.

Women and men also organize access to land or other resources through *prenda*, a local variation on a mortgage or "pawning" negotiation. For example, the owner of a resource, such as a stand of coconut palms, may have a sickness in the family for which the household needs cash. Hospital bills drain the household budget and leave no funds for hiring labor to work the

palms. Family labor is inadequate for the task. Instead of selling the land and the palms, the owner "rents" the stand of coconuts to a neighbor for a set price and, usually, for a set period of time.

Maricel of Tubod is an unwed mother with 2 children, ages 5 and 14. With her parents already deceased, ordinarily her's would be a desperate situation, but she and her remaining sister are doing very well. Their success is based on the corn and coconut land which they inherited from their parents. Instead of cultivating this land themselves, they rent it. They then put their time into two small dry goods stores, livestock production, and lending money. They invest the capital they generate through these small businesses in the temporary acquisition of land through *prenda* and then turn around and rent the land again. They also own a pedicab and split the maintenance and fares with the driver.

Other studies of resource exchange practices in the Philippines have found arrangements similar to *prenda* to be exploitative (Brown, 1990). Households which must resort to *prenda* are usually resource poor to begin with and after "pawning" a productive resource, no longer have a way to generate enough cash to buy it back. In contrast, residents of Napo and Tubod viewed *prenda* in a very positive light. As in the above case, the owner of the coconuts avoids having to sell critical resources, receives cash needed for the health emergency, and maintains the land and coconut palms. The family gaining access to the land and coconut palms through *prenda* temporarily expands the household's productive resource base. Both families benefit from strengthening the informal social ties between them. To reclaim the grove, the owner eventually repays the debt to cancel the mortgage. If a designated time period for buying back the palms lapses, and the owner does not yet

have the cash, the neighbor's right to use the palms and the owner's right to buy it back continue indefinitely. There was no evidence that residents were losing access to resources through *prenda*. In fact, as one woman commented: "When a family member is in trouble with debt, we use our extra money to buy or *prenda* their land rather than watching them sell it. Everyone wins when land is kept in the family."

Grace of Napo is 46 years old with three teenage children. She has been widowed since 1987. With little cash income, Grace must produce as much food as possible for her family. To do so, she works to gain access to as much productive land as possible. She and her children currently farm five plots. She obtained access to one through a *prenda*. A second one she rents for one-third of the harvest. The third piece is held commonly by her and her siblings, but her siblings have given her free cultivation rights. A fourth was inherited from her husband's parents. The last plot was left for them to use when a relative migrated to Mindanao. They give this relative one-third of the harvest from this plot.

Such arrangements exist not only for land and the resources on it. They also apply to other property. Households without the capital to buy their own livestock often contract to raise and breed the pigs, goats, and cows of others using the *alima* system. Those raising the animals are solely responsible for the expenses of maintaining the health and well-being of the animal. Owners usually do not interfere with the care and management of the animals. The arrangement customarily divides equally the offspring remaining after the owner of boar, goat, cow or bull receives one offspring. There are also instances in which the family raising a cow or buffalo receives the right to use the animal for labor instead of getting a share of the offspring. During

times of stress, resource poor households may also use this system to avoid selling their animals, enlisting wealthier families to maintain the animals under similar sharing arrangements

In the middle of an 8 month long drought, Delia needed cash to buy food. She decided to *prenda* one of her female goats to a wealthy neighbor. As it turned out, however, the neighbor needed someone to care for the goat, so Delia agreed, under an *alima* arrangement, to continue to care for her. Under the *alima* they agreed to split the offspring after the owner of the sire received one kid. Under *prenda*, however, Delia has the right to buy back the goat whenever she wants to.

Given the island's history of resource scarcity and competition, it may at first glance seem surprising, if not contradictory, that residents of Napo and Tubod are seemingly so casual about providing access to the few resources they have. In fact, there is no contradiction. One of the most important ways residents cultivate local exchange networks is by asking for and providing access to physical resources such as fodder, livestock, and land. The owner of the resource is making a long-term investment in a relationship with the user

The security provided by this type of exchange relationship is much more valuable for families in both the short- and long-term than the physical resource alone. The unfortunate side effect, however, is that the long-term viability of the physical resources is often sacrificed. In this context, it does not make sense to make long-term investments in the physical resources. Investing in the long-term productivity of land, for instance, could mean building fences or erosion control devices or planting trees. Actions such as these effectively restrict the way the land can be used by others. Severely restricting the use of one's personal resources

cuts off one's access to the resources of others. The cultural value of social exchange networks to the residents of these communities is expressed in a phrase often used to insult a person who does not share-- "*iya-iya, ako-ako*" or "*what is theirs is theirs and what is mine is mine.*"

Gender, Class, and Out-migration in Livelihood Strategies

Out-migration as a livelihood strategy has subtle effects on a household's capacity to manage its resources. This capacity is linked to the social dynamics of out-migration. In most cases, out-migration reduces pressure on scarce household resources and may supplement a family's income through remittances.

Given traditional inheritance patterns with equal rights to all siblings, out-migration is an important way of reducing the pressure to subdivide small farms. Migrating siblings are sometimes encouraged to sell out to those staying behind. Although some siblings do buy each other out, many families choose to hold the whole or part of the farm for "common" use. This can mean a variety of things as far as the access siblings have to the land. Sometimes siblings left behind are given sole use rights; sometimes they are given use rights but must share the harvest with their siblings; or they may rotate the farm between siblings on a yearly or cropping basis. In the short term, these flexible inheritance and tenurial practices relieve the immediate pressure to subdivide already small farms and ensure that all siblings have a safety net of resources to fall back on if migration fails.

In the long-term these arrangements undermine a family's ability or willingness to manage their land sustainably. Without secure and continuous access to and control over the land, family members have little incentive to invest in long-term development or conservation. Rock walls built or trees planted by one sibling

today could be claimed in the future by another. Likewise, even if most or all siblings live on the island, coordinating short-term cropping patterns or long-term conservation efforts, is difficult. Instead, families prefer to plant annual crops, rent out plots, or use the land as pasture. In sum, although migration seems to relieve the immediate physical pressure of too many people on too little land, flexible inheritance and tenure practices effectively maintain the pressure over the long term.

More prosperous households normally do not have to resort to these sorts of inheritance or land use patterns. With the benefits of education and family connections, their children tend to find permanent employment. With economic security relatively ensured, they can take themselves out of competition for family land. The family can afford to give their children who do not find permanent employment or who are interested in farming the family's land and other necessary resources to do with what they wish. These conditions, of course, relate to less than 15% of the households in Napo and Tubod.

With family resources thus freed, wealthier families can make greater investments in their land. They purchase inputs and use new varieties of crops. They implement conservation measures such as fallowing fields, rotating crops, and building rockwalls. They hire labor to improve the care and management of livestock, to apply agricultural inputs, or to reforest parts of the property. Adjustments can also be made as necessary in their choice of livelihood activities to put less strain on household labor or the natural resource base or to relieve the childcare burdens of women.

Thus, class shapes the significance of out-migration to the household. It also shapes the nature and levels of resource management and social networks. In turn, these affect the allocation of responsibilities by gender and age within the household. Figure 8 illustrates some of the issues of resource access and control faced by two families in Napo.

The Anhag family is headed by two unmarried sisters. They are the only two siblings out of seven who still live on Siquijor. The rest live or work off elsewhere. The family has not yet divided the land among the siblings. The sister's major source of income is money they receive from a brother working as an international seaman; second is farm production.

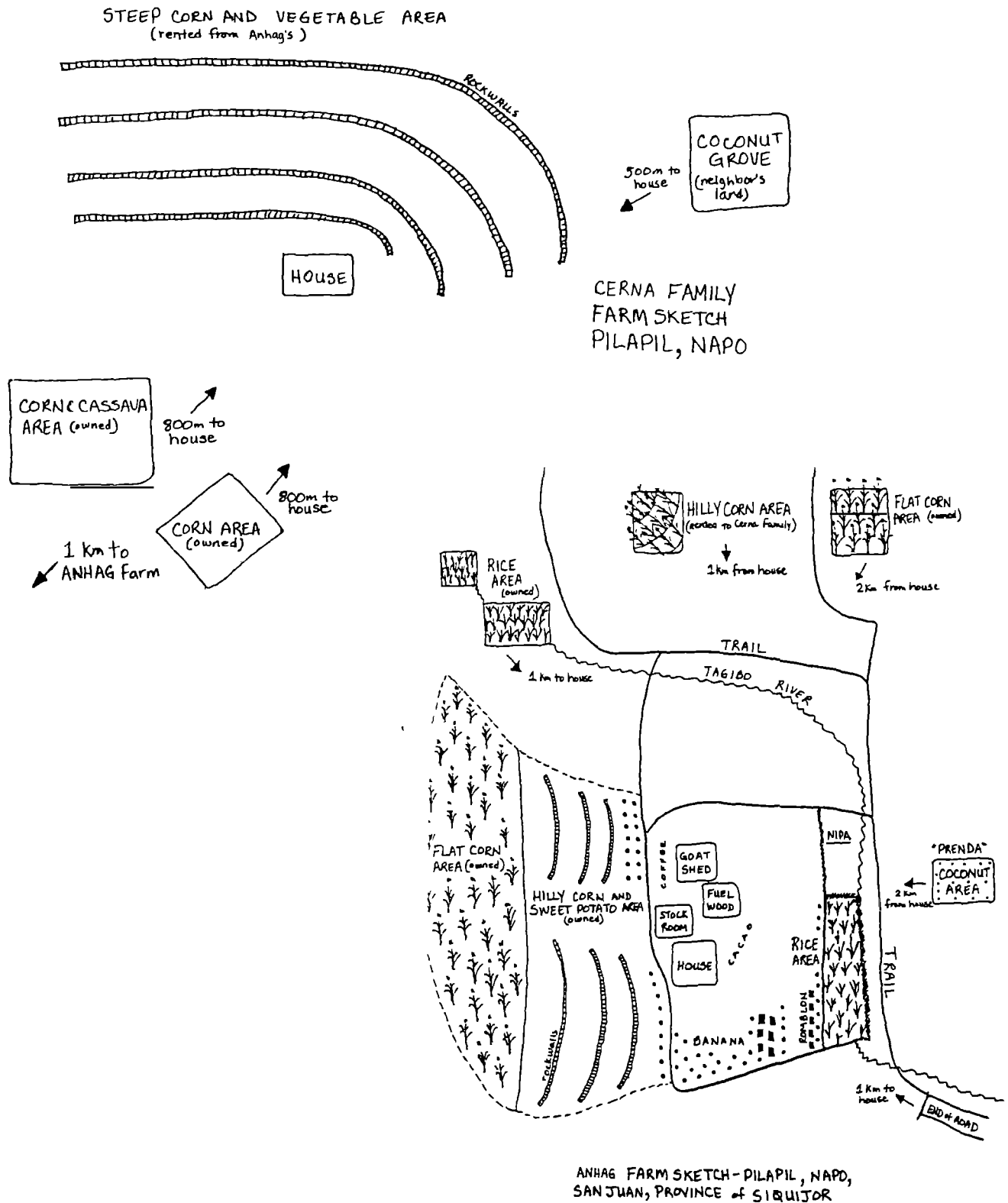
They farm six parcels of land and rent one parcel to the Cernas. The plots are divided between rice and corn. Following the instructions of a government extensionist, they used an A-frame to construct erosion controlling rockwalls on the corn plot near their house. Through *prenda* they harvest a grove of coconuts two kilometers from the house. Around the house, the sisters have planted fruit and forest trees, coconuts, and a few *romblon*. Local mat weavers harvest the *romblon* and give the sister's one mat for every three they weave. Neighbors often borrow money from the sisters and pay their debt with their labor.

The Cerna's have six children, ranging in age from 1 to 10. On top of the steep plot of land they rent from the Anhag sister's, they have built their hut. On the steep slope, they have planted corn and vegetables. They have constructed rockwalls hoping to stop erosion, but the walls were not built on the contour and have, thus, not been effective. They have heard of A-frames, but do not know how to use them.

Several years ago, the husband and his brother together bought two other plots close to the house and planted them with corn. With so many young children, it is crucial to keep plots close to home in order to minimize their time away from home and to maximize the farm work the wife can do. Now that the brother has migrated, the Cernas have full use of the fields. They do not give the brother a share of the harvest, but are responsible for the taxes.

The harvest from these three plots only feeds them for four months, so both husband and wife must generate cash to buy food. Both maintain a neighbor's coconuts (500 meters from the house) for half of the sales of the dried coconut meat. The wife raises small livestock for food and sale and collects coconut shells which the husband sells to local charcoal makers. The husband raises his brother's cow, for a 50-50 share of the offspring, seeks wage labor, and gathers and sells forest products such as vines and the bark of a bush which is used to make paper.

Figure 8. Anhag and Cerna Farm Sketches



V. Community Responses To Challenging Resource Conditions

Residents of Napo and Tubod use both indigenous and externally-initiated organizations to respond to challenging resource conditions. The communities organize themselves in different ways which reflect their respective histories as well as ecological and residential patterns. Tubod residents have more fully developed political and government-sponsored groups while indigenous organizations are the strength in Napo. Community responses, whether indigenous or externally-initiated, are organized around gender and class. Although women may be represented within political and government-sponsored organizations, women and poorer residents often have more voice within indigenous organizations.

Forms of Externally-Initiated Organizations

Political and Social Organizations: Policy and legislative initiatives of the government and its agencies have created a full range of political and social organizations in each community. Local political institutions include the *Barangay* Council run by locally-elected council people, *Barangay* Development Councils conceived as planning bodies made up of the heads of all the formal organizations, the *Lupong Tagapayapa* made up of locally appointed community leaders for resolving local disputes, and *Barangay Tanod*, a security body. The *Barangay* Council oversees social events such as an

annual religious festival, local infrastructure, and other community resource management issues.

Social and economic organizations include the *Kabataang Barangay* which organizes youth in support of *barangay* activities and the *Samahang Nasyon* which began as a nationally mandated agrarian reform group but is now used to organize residents for the town's locally-operated consumer and credit cooperative. Volunteer Pastoral Councils oversee the management of Catholic chapels and a Parents, Teachers, Community Association, organized by the Department of Education for the primary school in Napo, is responsible for fundraising and for integrating the school into the community.

National Agencies and their Local Organizations: Some national agencies have an important "reach" to the local-level on Siquijor. These include the Philippine Coconut Authority which handles the pricing and marketing of copra; the Department of Public Works and Highways and the provincial and local governments which manage drinking water and roads; and the Department of Trade and Industry which gives training and marketing advice to the mat weavers of Napo.

Since 1988, the Department of Environment and Natural Resources (DENR) has collaborated with the

World Bank funded Central Visayas Regional Project (CVRP) to implement reforestation and social forestry programs in public forest lands, some of which fall within the boundaries of Napo. As part of its Community Based Contract Reforestation (CBCR) program, the local office of the DENR pays farmers to plant hardwood and fruit trees in the thin sections of the forest. Farmers receive use rights to these trees. The DENR, through an Integrated Social Forestry program, enters into renewable 25-year Certificates of Stewardship Contracts (CSC) with families with farms on public forest lands. These families are also organized to plant trees and take soil conservation measures on their farms as part of the contractual arrangement of the CSC.

In both communities, by far the most active organization in resource management and conservation is the Department of Agriculture (DA). Since the 1960s, field extension agents have organized farmers and fishermen's associations, women's rural improvement clubs, and youth 4H clubs to carry out the research and development agenda of the DA in each community. In Tubod, the DA has supported an Irrigators' Association originally organized by the National Irrigators' Association in the 1970s. Between 1987-1989, the DA combined efforts with CVRP to mobilize Tubod fishermen for coastal resource management. Their projects included the establishment of a Municipal Marine Fish Sanctuary and instruction for Tubod fishermen in using artificial reefs and fish pots.

Issues of Gender and Class In Externally Organized Groups

Political and Social Groups: The women involved in local politics are generally from upper income households whose resource base is adequate to offer some freedom from childcare, house management, or income-generating activities. The result is that only a few women can be found in leadership of these types

of organizations. In Napo, two women have just recently been elected to the *Barangay* Council; in Tubod, there are three women officials. In each case, the woman has stature within the community and is respected for personal attributes and achievements. Yet the formal position of each is one of conventional "female" roles in organizations such as secretary and treasurer. This same trend applies to most social organizations, with women dominating the ranks of the volunteers for political or social events as well as membership in educational and religious organizations.

Government Development Organizations: Most government projects are conceived of and articulated as "gender-neutral." They refer to the "household as a unit," and target the "poorest of the poor," yet they are primarily geared toward men and mainly attract participants from the middle and upper middle socioeconomic strata. Despite a majority of female extensionists, rosters for agricultural, fisheries and forestry projects carry primarily the names of male "heads of households." The only exceptions are cases of widows, single women, or occasionally a woman who holds title to land or manages a farm in the absence of a man. Leadership of all except a few token "women-only" projects is also male.

Actual participation in agricultural projects, however, is dominated by women. Although men may lead the meetings, women show up on workdays. Given the economy and the gender division of labor in most households, male labor is perceived as better invested in wage labor. Male members tend to show up for these projects only when they are out of work or when their absence might jeopardize relations with government representatives. Women must integrate participation in government projects into their other substantial responsibilities. Participation in such programs can bring direct benefits such as food, drink, free planting materials and livestock, and sometimes even wages and cash incentives; it can also bring indirect benefits such as

gaining political favor or access to other government programs. In the social forestry case in Napo, residents must participate in order to retain some access to and control over public land they have long farmed. Participants are motivated to join externally-initiated groups first for access to resources and only secondarily to take advantage of new information or technologies.

Agencies organizing coastal resource management projects also tend to target men. Their approach generally ignores the roles of women and children in fisheries. Male participation in these projects has an impact on gender relations in their households. When male labor is diverted from the household in this way, women report a substantial increase in their workload. The extra work is deemed worthwhile by most male and female participants because of the benefits accrued through participation. With this incentive, some women even consent, now and then, to increase their personal workload and cook food provided by the agencies for the group during long workdays.

Women's participation is consciously sought only for projects or project components specifically designed for women. Such "women only" organizations include the Rural Improvement Clubs and volunteer *Barangay* Health Workers. These groups, in Napo and Tubod as elsewhere in the Philippines, consistently focus on "female-oriented," non-threatening projects, such as beautification of the *barangay*, nutrition, cottage industries, youth development, arts, and culture, rather than on women's full economic and political participation (Blanc-Szanton, 1991:374).

In sum, both gender and class are factors in participation and leadership. Project participants tend to be from middle and upper-middle households which have the time and financial resources to allow them to attend meetings and work groups. These households can afford to integrate participation in such programs into their livelihood strategies. Only a few households from the lowest end of the socioeconomic spectrum, strapped

for time in their struggle to make ends meet, can afford to become members. Fewer still find the time to participate physically. In these cases, membership can be maintained only if there is a patron-client relationship with the local leadership of the project. With this sort of connection, they may be excused from attendance or other requirements and still have access to information or materials distributed through the project.

The Effectiveness of Externally-Initiated Programs

Overall, it is difficult to find successful resource management projects in Napo and Tubod. Napo's forestry program is much too new to judge. Tubod's fishing families were quite encouraged by the joint DA/CVRP fisheries program through 1989. Since then, they have become discouraged by losses of World Bank funding, of their fish traps to a typhoon, of local leadership to the ranks of the off-farm employed, and of DA leadership due to a staffing shortage. Community support for the Municipal Fish Sanctuary has wavered as residents have struggled to protect it without the promised support of the Municipal Government. Official recognition of the sanctuary, with its promised funding, has been bogged down in politics and red tape of the national government. The irrigation system and livestock dispersal programs of the DA, among the oldest of these programs, are among the few projects helpful to these communities.

To some degree, the lack of success of these government-sponsored projects is linked to problems of longevity and vacillating levels of participation. Projects are organized as if participants have little else to do with their time. They are often carried out on a scale which requires immense time and labor commitments from participants. They are rarely organized in ways that recognize the difficult decisions most households must make regarding allocation of labor between subsistence agriculture and the cash economy.

In addition, project planning and management are carried out in a top-down manner, giving residents little ownership of problems or solutions. In the cases of the forest of Napo and the shoreline of Tubod, residents have felt deprived of access to and control of the natural resources which have been theirs for centuries.

Projects are conceived at the regional and national levels and administered locally in a top-down fashion. Over time, this has resulted in an attitude of dependency on government agencies in Napo and Tubod. Residents look to such agencies to initiate and supply materials for projects, rather than as partners in solving local problems. Local government agencies lack a process for directly incorporating community perceptions of problems into their rural development plans. It is not uncommon to hear residents say "I wonder what project the government has for us to do this time?"

This top-down planning also creates a set of constraints for local government agents. DA extensionists, for instance, are required to implement a set of projects in three villages at one time as well as meet the administrative and training requirements of their positions, often with non-existent or delayed government resources, no reliable transportation, no way of communicating with their offices during the day, and little leeway for compromising with communities on project goals and implementation.

Overall, residents of Napo and Tubod are motivated to join externally-initiated groups primarily to increase their access to resources and only secondarily to acquire new information or technologies or to join in conservation or rehabilitation efforts.

Indigenous Forms of Community Organization

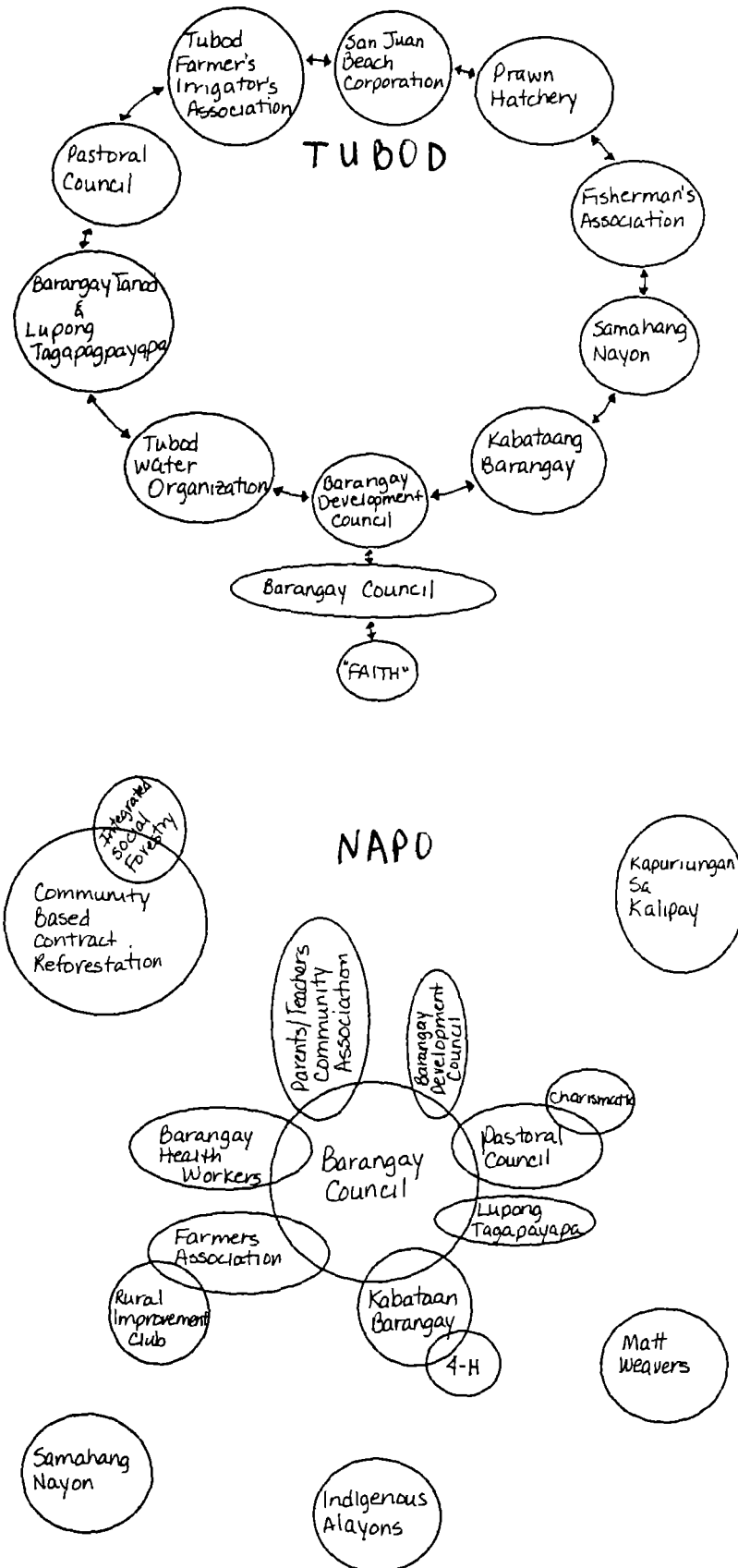
Local Exchange Networks: Residents of both Napo and Tubod build local exchange networks. These

networks are based on long-standing relationships with neighbors, patrons, and local merchants and often link families of different socioeconomic strata. Often relationships are carefully maintained over the course of generations. They exist in the form of complex patron-client relations within which the poorer household provides agricultural labor and services, while the wealthier household provides food, loans, and other forms of security as needed. More prosperous households rely on such networks for business connections or to maintain their control over resources, while poorer households depend on them to satisfy daily needs. For the latter, these networks provide regular and emergency access to scarce resources such as wage labor, food, and funds (Kerkvliet, 1990). Both men and women in all socioeconomic classes are expected to develop and maintain these exchange relationships.

Resource Exchange Groups: A common arrangement for exchanging labor or sharing other resources, such as tools or draft animals, among resource-poor households is the formation of work groups or *alayon*. Originally organized around kinship or family lines, today they tend to be formed among neighbors with common interests. Services of the *alayon* are rotated among all members. Most groups do not have regularly scheduled workdays but are called together by members according to the season or need. Some groups are established only temporarily to meet specific short-term needs; others have a long tradition, characterized by a history of cooperation carrying out a wide range of activities.

The size as well as the gender make-up of groups varies with the task at hand. Men form *alayon* to plow and saw logs, for house-raising and maintenance and also, in Tubod, for fishing. Mixed groups or groups of women form *alayon* to expedite farm-related activities such as weeding and harvesting. Women-only groups often supplement their labor with that of their children and unemployed males. Groups formed for these purposes are small with five to ten members.

Figure 9. Community Organizational Charts - Napo and Tubod



There are signs that the traditional *alayan* system is evolving. In response to their pressing need for cash income, men and women from Napo have developed a new form of *alayan*. They now organize themselves into groups of 10 to 20 people, usually a mix of men and women, and sell their labor as a group for agricultural tasks. For instance, they may weed a large corn field and receive payment either as a group or as individuals. This trend indicates a change in the traditional *alayan* in Napo from a revolving labor power exchange association to one with a clear income-generating goal.

On a daily basis, leadership of *alayan* is vested in the person, male or female, upon whose property or project the group is working. In the case of long-standing *alayan*, however, leadership is also developed to oversee the general welfare of the group. In same-sex groups, the gender of the leadership follows from the gender of the group, while in mixed groups, leadership is most often male. Decision-making in the general running of the *alayan* is by consensus with consideration given to the opinions of all members, regardless of gender. In this way, women have more decision-making power and opportunity to exercise leadership in indigenous *alayan* than in externally-initiated organizations.

Even though both men and women support the idea that women should be involved in activities outside the home, they still prefer to see leadership of most externally-initiated forms of community organization vested in men. Women and poorer residents often have much more voice through indigenous forms of organization than they do through externally-initiated groups.

Community Organization and Long-Term Resource Management

Figure 9 illustrates some of the more subtle differences in the community organization of Napo and Tubod. Created by mixed groups of male and female community leaders, the charts illustrate how the leaders

conceptualize relationships between the organizations in their respective communities. Tubod's chart reveals their leadership's strong inclination to coordinate and centralize resource management and development planning through the *Barangay* Development Council. In Napo, while some organizations appear to be under the direction of the *Barangay* Council, others remain separate, appearing almost as satellites on the chart.

Overall, Tubod residents have most fully developed their political and government-sponsored organizations, while in Napo, residents have found strength in their indigenous organizations. Although Napo has a wide range of political and government-sponsored organizations, some are inactive or exist in name only. In contrast, many of these organizations in Tubod are quite active. Likewise, although *alayan* do exist in Tubod, their leadership did not think to include such organizations in their chart. Napo residents, on the other hand, needed no prompting to include *alayan* in their sketch.

In part, differences in the community organizations of Napo and Tubod can be explained by Tubod's greater proximity to the island's political center and comparative accessibility to outsiders. Residents of Tubod have had significantly more opportunity than those of Napo to develop skills for negotiating relations with outsiders. In the last few years, Tubod residents have been challenged as commercial interests have sought access to fresh water and shore front property to support a prawn hatchery and a tourist enterprise. Residents have been eager for employment opportunities, yet concerned about the increased pressure on precious water resources, the potential loss of control of the shoreline, and the long-term implications of an influx of tourists.

In the search for appropriate and equitable responses to these intrusions, Tubod residents have found the political institutions of their village most effective. In particular, they have used their *Barangay* Development Council to discuss issues, make plans, and negotiate terms of access, control, and management with outsiders.

ers. When dealing with these issues, village leaders have begun to think about long-term resource management for the village as a whole. Differing perceptions over present and future interests of Tubod's residents have become apparent as the Council has grappled with defining a course of action. The community has risen to the challenge of organizing a collective response

In contrast, Napo's political structure is decentralized and power relations are diffused. In part, this is the case because relative distance from the coastal towns, difficult terrain, and separate residential patterns have fostered neighborhood solutions to problems. In part, it is because there has not yet been an issue which has aroused the entire community to address a common challenge in a larger political context.

Napo is organized politically and geographically into neighborhoods with boundaries that closely follow the agro-ecological zones of the village. There is no nucleated settlement as in Tubod. Homes are situated either on family farms or in small clusters in each neighborhood. Ecological and residential patterns thus encourage residents to deal with resource management as well as other issues on a neighborhood level. Indigenous forms of organization and leadership have therefore become much more dominant than in Tubod

There is, for example, a large gap between Napo and Tubod in *alayon* male participation, 50% and 16.5% respectively. This difference is best explained by the greater availability of off-farm employment for men in Tubod than in Napo, making wage labor more highly valued than exchange labor. More isolated from the local island economy, men from resourcepoor households in Napo must continue to rely heavily on *alayon* to gain access to needed resources.

Not surprising, however, given the pervasive lack of off-farm opportunities for women throughout the island economy, the rates of female participation in *alayon* are similar in Napo and Tubod, approximately

14.5%. Women's low participation, compared with men's can be explained by constraints faced in participating in activities beyond the household. Women in the poorest households might benefit greatly from participating in an *alayon*. However, their diverse and often unpredictable work schedules limit such participation. Most women who use *alayon* come from the middle of the socioeconomic spectrum

Over time, residents of Napo have developed strong leadership, especially through the *alayon*. These leaders negotiate with outsiders and are often elected to represent their neighborhood at the larger village organizational level. Despite their positions as elected representatives in the village, most Napo officials have little incentive to address *barangay*-wide resource issues. The reality is that few government agencies operating in Napo take the time to work through formal village channels

Thus, Napo residents generally depend on their local leaders or patrons to negotiate directly with the agencies which approach them about issues in their neighborhood. For instance, residents of Napo's river valley do not look to the *Barangay* Council to help them balance their interests in clean water and irrigation with initiatives by outsiders to tap their water sources. Likewise, families living on the periphery of the public forest must deal directly with the government to obtain leases for their farms and use rights for the forest

As yet, the Napo *Barangay* Council does not function in a cohesive way to address such issues. Residents of Napo define their interests and see their protection and/or security in terms of local neighborhoods and local leaders or patrons; they do not lie with the political organizations which are conceptualized by the state as the best avenue for dealing with community resource issues.

Given the decline of the resource base and increase in the interest of outsiders in managing and gaining

access to resources within their boundaries, there is some question as to how prepared Napo residents are for effectively addressing these issues. There is no doubt that *alayon* strengthen the community by helping households deal with critical labor bottlenecks, but this decentralized form of organization has given residents little experience working collectively on community-

level problems. Although the leadership experience of individual members of Napo's *Barangay* Council is extensive, members have little experience working together to plan long-term development options. At this time, there is neither a sense of common interest nor an emerging united front for dealing with outside agents interested in access to Napo's resources.

VI. Concluding Observations: Linking Household and Community in Assuring Livelihoods

Social Exchange, Safety Nets, and Degradation

Households across the socioeconomic spectrum utilize social exchange networks which involve reciprocal resource sharing designed to overcome isolation and scarcity. In times of emergency, these networks become safety nets. Gender and class are important factors in the organization of these networks, and influence the degree to which households or individual family members utilize such systems. Exchange networks are important in securing employment, whether local, on other islands, or abroad.

Maintaining these networks requires provision of reciprocal access to one's resources, such as food, land, and livestock. Families have developed a multitude of ways to organize their access to each other's resources. The security provided through exchange relationships is much more valuable for families in both the short- and long-term than the physical resource alone. Providing open access often means foregoing making investments in the long-term viability of the resource which might somehow restrict another's use of the resource. Building fences to control livestock, constructing erosion control devices, or planting trees protect the long-term productivity of land, but also effectively restrict the way the land can be used by others. They also involve extensive work, the benefits of which may not accrue to

the parties undertaking it. To restrict the use of one's personal resources jeopardizes access to the resources of others. In this way, the long-term viability of a household's land-based resources is often sacrificed

Migration, Class and Land Use

Analysis of migration in Napo and Tubod is central to understanding current economic, social, and environmental patterns in these communities. Migration to destinations within and outside of the Philippines has been a principal means of coping with resource scarcity. Evidence from Siquijor challenges the commonly held notion that out-migration effectively relieves pressure on the resources of sending areas.

In the wealthier households of Napo and Tubod, there is little doubt that migration relieves pressure on household resources and can be a source of sizeable remittances. In poorer households, however, the loss of agricultural labor as older children and husbands seek off-farm work creates a labor crisis for women. In addition to their household, childcare, and income-generating responsibilities, women must do most of the farming. Under this strain, households often have to abandon an array of labor intensive tasks essential to both long-term subsistence agriculture and to the maintenance of crucial social networks.

Likewise, in all but the wealthiest landowning families, out-migration of family members in line to inherit land often causes a dilemma as to how to manage the land over the long-term. Instead of dividing up the inherited land equally among siblings according to Philippine law, families choose to manage the land "commonly." Non-migrant siblings may work the land themselves or share, rent, or loan it among each other or to other community members. On the positive side, this practice ensures that almost everyone in Napo and Tubod has access to land. It gives migrant siblings a safety net of land to return to if in the future they need it. The negative side is that multiple users of the land discourage anyone from viewing it as an object of long-term investment.

Gender and Class in Two Types of Community Organization

Residents use both indigenous forms of organization and externally-initiated groups to respond to challeng-

ing resource conditions. Tubod residents have more fully developed political and government-sponsored groups while indigenous organizations are the strength in Napo. Both types of groups are organized around gender and class. Middle and upper-middle income residents fill the ranks of externally-initiated groups. Men are primarily found in the leadership positions and on the membership rosters of these groups, but women tend to provide the labor. Women and the poor have both more representation and voice within indigenous groups. Problems of longevity and low levels of participation haunt government-sponsored resource management projects. Residents' motivation to commit themselves to the projects is undermined by such factors as their time, labor-intensive organization, and the top-down management of the projects. Women and the poor, in particular, cannot afford to participate in government programs because of these constraints.

VII. Policy and Research Implications: Building Choices, Equity, and Effective Resource Management

This case study focuses on the convergence of gender and class in analyzing rural resource management strategies. The analysis positions rural men, women, and children and their livelihood systems at the center of policy formulation and program and project design for sustainable resource management. The insights gained open up possibilities for development policies at local, regional, and national levels.

There is a broad mandate for rural participation and mobilization through the Provincial Department of Agriculture and other governmental agencies on the island of Siquijor. The following discussion offers several options for consideration by the Provincial Government. These would strengthen the potentials of rural people and their community institutions

Policy Options

A. Building Choices Through Community Organization

1. Utilize All Levels of Community Organization: Local government agencies can work with both indigenous and externally-initiated organizations. Each has a unique capacity for addressing household and community resource management issues. Indigenous groups facilitate small group actions to meet the pressing

needs of individual members, externally-initiated groups provide a forum for villagers and outsiders to work together. Supporting both types of community groups will build the capacity of communities to address their own problems

2. Learn From the Organizational Styles of Indigenous Groups: Insights about organizing government-sponsored projects so as to improve community participation and sustainability may be found in the organization of indigenous groups. They are more accessible to a wider range of residents, including women and the poor, because of the flexibility of their structures, limited time requirements, and their capacity to meet the immediate needs of participants

B. Building Equity

1. Support the Activities of Indigenous Organizations: This case suggests that by supporting the activities of indigenous organizations, government agencies will be validating the roles of women and the poor in rural livelihood systems. At the present time, indigenous groups and exchange networks give women and poorer community members more access to and control over resources than do modern institutions. Strengthening indigenous organizations will build the capacities of those less privileged in rural communities.

Government agencies could administer some of their programs, such as livestock dispersal, directly through such groups, rather than organizing new groups for such purposes

2. Include Women Formally: Overcoming biases against women in rural programs requires taking legal, political, and operational steps. If a community is to reap the full benefits of a project, women should be formally recognized as participants equal to their husbands. Organizing and extension strategies could be redesigned to involve both men and women instead of focusing, as they usually do, on male membership. Such efforts should include timing of project activities and systematic involvement of women in a project's preparatory stages.

3. Facilitate Communication Among Women in Poorer Households: Poorer women are often isolated from the rest of the community because of the rigid gender relations produced by migration of older children and/or off-farm employment of spouses. Assuming they do not have time to network themselves, government agents can help these women contact other households or women in the same predicament. They may want to discuss their common labor constraints or other resource management problems. They may want to organize *alayan* around the care of children or livestock, income-generation, or subsistence agricultural activities.

C. Building Effective Resource Management

1. Identify the Layers of Multiple Users of Land Resources: This case study identified a causal relationship between land degradation and residents' lack of motivation to invest in their land resources because of the importance of maintaining social exchange networks and safety nets for migrant family members. This observation suggests that the "single farmer as decision-maker" framework, perhaps applicable in other rural

contexts, does not apply in these communities. Land use decisions in Napo and Tubod are being made as part of holistic livelihood strategies involving extensive social networks. Effective resource management will not be achieved in these communities without a new way of looking at farmer decision-making. This case study offers government agents a different set of questions or issues to guide discussions with individual farmers or groups of farmers about their land use.

2. Promote Projects and Programs which Fit the Scale of Local Conditions: As this case study has shown, political, economic, and ecological constraints force residents to divide their time skillfully among a multitude of small-scale livelihood activities. Families often face labor shortages. Often there is little time for residents to work with outside agencies for better resource management. Large, labor intensive, time-consuming projects deter community participation. Involvement by both men and women can be facilitated if project design fits more closely within the scale of the local economy and environment.

3. Utilize Gender Analysis: A variety of participatory, gender-sensitive research methods, such as wealth ranking or gender-disaggregated community seasonal activity calendars, can help local agencies gain in-depth insights into the communities they serve. Government extensionists can be trained to use such methods regularly during their community organizing. The knowledge gained using such methods will allow extensionists to understand the needs of rural communities more precisely. Extensionists will then be able to deliver their information more effectively, and channel their resources more efficiently to those who need them. Resources will not be wasted on those who are not interested or in need.

4. Expand the Local Resource Base: In isolated communities such as Napo and Tubod, development programs can breed dependence on outside resources. Instead of introducing new technologies, farming meth-

ods, or planting materials, government agencies can analyze usage of the local resource base and find ways to support or refine local efforts. One example concerns trees. Instead of introducing exotic tree species for reforestation projects, programs could supply indigenous species, such as the molave tree which residents find useful as fuel, fodder, and building materials. Such a strategy is consistent with other efforts to keep interventions appropriate to local realities and scale.

Future Prospects

Siquijor residents have long had to make trade-offs between the long-term management of natural resources

and the immediate economic interests of their families. In the face of overwhelming environmental and economic constraints, it has been impossible for them to maintain resource management practices that “ensure that they have what they need as they move from one annual cycle to the next and from one generation to another” (Collins, 1990:33). Given current household livelihood strategies, there is little doubt that the island’s natural resource base will continue to decline. Ultimately, without important changes, the capacity of the island to sustain life is threatened. This study suggests that issues of gender and class lie at the center of Siquijor’s struggle for new options in sustainable resource management.

Appendix A: Methods for Gender-Focused Research in the Philippines

The research team used six types of data-gathering techniques during the three-month visit to Napo and Tubod in mid-1991. These included

1. Wealth Ranking: To ensure that our household survey sample (see below) proportionately represented the range of household circumstances within each community we adopted wealth ranking, a sampling exercise pioneered by Grandin (1988). Wealth ranking is useful in two ways. First, it permits members of the community, as key informants, to identify the criteria affecting the quality of life for different households in the community. Second, it avoids use of an arbitrary measure of household status imposed from the outside by incorporating local variables into the definition of categories.

Key informants are chosen to represent a cross-section of the community in terms of gender, age, socioeconomic status, and agroecological zone. Their perceptions emerge in the course of a card-sorting exercise conducted with each individual. They clarify the variations of socioeconomic status and the differences in constraints and opportunities shaping people's lives. The exercise establishes a number of socioeconomic categories for each community, as well as the percentage of households within each category, from which a sample is chosen for household interviews.

2. In-depth Household Interviews: We conducted household interviews using an open-ended questionnaire in which the questions covered a carefully prescribed set of topics, but the range and depth of information sought varied with the interests and background of each respondent. While we set out to interview both men and women in our sample households,

the large number of men employed away from the home in both communities resulted in the predominance of female respondents. We did, however, hear from a significant number of men through our other data-gathering techniques.

3. Key Informant Interviews: The results of the wealth ranking and the household interviews helped to formulate pertinent questions for key informant interviews, focus group meetings, and a short confirmation survey (see below) administered at the close of the research. Key informants included people such as teachers, *barangay* officials, health workers, extensionists, owners of businesses, and government administrators. Both women and men were included among the key informants. Questions pertaining to gender issues were asked in all interviews.

4. Spatial Methods: Since there was a lack of basic information about the two *barangay*, simple spatial data-gathering techniques were used. We worked with key informants and guides from the community to make *barangay* sketch maps (Figure 2), a transect (Figure 3), and maps of farms across the socioeconomic spectrum (Figure 8). These methods drew on the techniques of Rapid Rural Appraisal (IIED, 1990) and Participatory Rural Appraisal (National Environmental Secretariat, et al. 1990).

5. Focus Group Meetings: We conducted two types of focus group meetings. One set of meetings was conducted with neighborhood groups, the informal political organizational level in most *barangay*. These meetings became the fora for recording, for the first time for both communities, the history of their places; for thoughtfully and energetically discussing time-related

trends in population, rainfall patterns, deforestation, migration, farm parcel size, and water availability; and for outlining a gender-disaggregated seasonal activities calendar (Overholt, et al 1985). This calendar depicts the major seasonal activities carried out in each community and incorporates the division of labor for each activity by both age and gender (Figure 7).

A second set of meetings was conducted on leadership of the various organizations found in each community. With these groups, we undertook an Institutional Analyses using an exercise adapted from the Participatory Rural Appraisal (PRA) methodology used in Kenya. Leaders identified the institutions in their *barangay* involved in resource management, their activities, the

relationships between them, and assessed their effectiveness (Figure 9)

6. Confirmation Survey: A short survey of 21 questions was administered in each *barangay* to document the scope and magnitude of observed trends in migration, land use, land tenure, and resource management. It was administered randomly to a wide sample of adult individuals in the households not previously interviewed. In all, individuals from approximately 50% of the households in each community or 160 total households were surveyed. Interviews were distributed proportionally within the neighborhoods and agro-ecological zones. An English version of the survey can be found in Appendix B.

Appendix B: ECOGEN Confirmation Survey, Siquijor, Philippines

Village _____ Neighborhood _____
 HH Type _____ Interview Date _____
 Interviewer _____

- 1 a Family name _____
 b Sex of Respondent M ___ F ___
 c Age 21 - 30 ___ 41-50 ___ 70 plus ___
 31 - 40 ___ 51-60 ___
 41 - 50 ___ 51-60 ___

- 2 For the wife.
 a. Siblings# ___ Male ___ Female ___
 b Current location of siblings. ___ Of living parents. ___
 1 ___ Napo/Tubod 1 ___ in Napo/Tubod
 2. ___ on Siquijor 2. ___ on Siquijor
 3. ___ other PI islands 3. ___ other PI islands
 4 ___ outside of PI 4. ___ outside of PI

3. For the husband
 a Siblings# ___ Male ___ Female ___
 b. Current location of siblings. ___ Of living parents: ___
 1 ___ in Napo/Tubod 1. ___ in Napo/Tubod
 2. ___ on Siquijor 2. ___ on Siquijor
 3. ___ other islands 3. ___ other islands
 4. ___ outside of PI 4 ___ outside of PI

4. a # of children. Male ___ Female ___
 b. Current location of children.
 1 ___ in Napo/Tubod
 2. ___ on Siquijor
 3 ___ other islands
 4. ___ outside of PI

- 5 Do you receive remittances from your.
 a parents: female ___ male ___
 b siblings: female ___ male ___
 c. children: female ___ male ___

6. Beyond basic food needs, for what do you use these remittances.

- a. livestock _____
- b. farm equip _____
- c. build/repair house _____
- d. schooling _____
- e. household needs _____
- f. clothes _____
- g. other _____

7 a. Do you or your spouse hire people to work on your farm for money? yes _____ no _____

b. Do you or your spouse hire people to work on your farm using arrangements other than money?
yes _____ no _____

8. a. Do you work on other people's farms? husband yes _____ no _____
wife yes _____ no _____
children yes _____ no _____

b. Do you do this for cash payment? husband yes _____ no _____
wife yes _____ no _____
children yes _____ no _____

c. Do you do this under other arrangements? husband yes _____ no _____
wife yes _____ no _____
children yes _____ no _____

d. Have you ever worked on other people's land as part of an *alayon*/work group?
husband yes _____ no _____
wife yes _____ no _____
children yes _____ no _____

e. What method was used for organizing the *alayon*?
a. money _____
b. work exchange _____
c. dividing harvest _____

f. Other than farming, what work do these work groups do?
a. house repairs/raising _____
b. sawing _____
c. fishing _____
d. government projects _____
e. furniture _____

9 Are you now engaged in the following farm-based livelihood activities.

Husband	_____	a. making roof tiles	e. sell fish
Wife	_____	b. selling foodstuffs	f. sell seaweeds
Children:	_____	c. mat weaving	g. sell seashells
		d. sap gathering	h. sell livestock
		i. other	

10 Are you now engaged in the following off-farm livelihood activities

Husband	_____	a. government projects	f. maids/houseboys
Wife	_____	b. government roadworks	g. small store
Children	_____	c. hatchery	h. fishing
		d. tourism	i. other
		e. full/pt-time govt employee	

11 a. Have you inherited any land? Male: Yes ___ No ___
Female: Yes ___ No ___

b. If YES, do you consider this common land?
Male: Yes ___ No ___
Female: Yes ___ No ___

c. If YES, do you have a title for this land?
Male: Yes ___ No ___
Female: Yes ___ No ___

d. If YES, what is your relationship to the person whose name is on this title?

Male _____	Female _____
1. Relative	5. 2 and 4
2. Parents	6. 1 and 4
3. Siblings	7. his/her own
4. No relation	8. Children

e. If NO title, what is your relationship to the person whose name is on the tax declaration?

Male _____	Female _____
1. Relative	5. 2 and 4
2. Parents	6. 1 and 4
3. Siblings	7. his/her own
4. No relation	8. Children

f. Is this the person who pays the taxes on this land? Male: Yes ___ No ___
Female: Yes ___ No ___

g. If NO, what is the method of paying the taxes on this land? Male ___ Female ___
1. children all contribute 4. parents pay
2. children rotate payment 5. other.
3. tiller of land pays

h. Have you applied to have a title made for this land?
Male: Yes ___ No ___ Female: Yes ___ No ___

12. a. Do you think that you will be inheriting land someday?
Male: Yes ___ No ___ Female: Yes ___ No ___

b. If YES, by what means will you be able to inherit land? Male ___ Female ___
1. land divided equally by parents
2. land held commonly by children
3. land divided equally by the children
4. other _____

13. a. Have you bought land? Yes ___ No ___ What year(s) _____

b. What relation are you to the previous owner of this land that you bought?
___ 1. Relative ___ 5. 2 and 4
___ 2. Parents ___ 6. 1 and 4
___ 3. Siblings ___ 7. his/her own
___ 4. No relation ___ 8. Children

c. Do you have a title for this land? Yes ___ No ___

d. What method do you hope to use to pass this land on to your children someday?
___ parents will divide land
___ land will be help commonly be children
___ land will be divided equally by the children
___ other _____

14 a. Have you sold land? Yes ___ No ___ What year(s) _____

b. What relation are you to the person you sold the land to?
___ 1. Relative ___ 5. 2 and 4
___ 2. Parents ___ 6. 1 and 4
___ 3. Siblings ___ 7. his/her own
___ 4. No relation ___ 8. Children

15. a. Have you ever purchased a mortgaged piece of land? Yes ___ No ___
- b. If YES, what was your relationship to the owner of the mortgaged piece of land?
- | | |
|--------------------|--------------------|
| ___ 1. Relative | ___ 5. 2 and 4 |
| ___ 2. Parents | ___ 6. 1 and 4 |
| ___ 3. Siblings | ___ 7. his/her own |
| ___ 4. No relation | ___ 8. Children |

c. Have you ever had to mortgage:

- | | | | | | |
|------------|---------|--------|--------|------------|---------------|
| 1. Land | Yes ___ | No ___ | Yr ___ | Reason ___ | Recovered ___ |
| 2. Coconut | Yes ___ | No ___ | Yr ___ | Reason ___ | Recovered ___ |

Possible Reasons:

- | | |
|---------------------|---------------------|
| a. school expenses | f. funeral expenses |
| b. hospital bills | g. build house |
| c. buy corn | h. f and g |
| d. buy food | i. a and c |
| e. wedding expenses | j. NO |

16. a. If you have land, are you renting out any of it at this time? Yes ___ No ___

b. If YES, what is your relation to the person you are currently renting your land to?

- | | |
|--------------------|--------------------|
| ___ 1. Relative | ___ 5. 2 and 4 |
| ___ 2. Parents | ___ 6. 1 and 4 |
| ___ 3. Siblings | ___ 7. his/her own |
| ___ 4. No relation | ___ 8. children |

17. a. Have you recently planted:

- | | | | | |
|-------------------------|---------|---------|--------|---------|
| fruit trees? | Yes ___ | Why ___ | No ___ | Why ___ |
| coconut trees? | Yes ___ | Why ___ | No ___ | Why ___ |
| hardwood trees? | Yes ___ | Why ___ | No ___ | Why ___ |
| napier? | Yes ___ | Why ___ | No ___ | Why ___ |
| <i>madre de cacao</i> ? | Yes ___ | Why ___ | No ___ | Why ___ |
| <i>kangkong</i> ? | Yes ___ | Why ___ | No ___ | Why ___ |

18. a. Have you built rockwalls on your farms? Yes ___ Why ___ No ___ Why ___

b. Have you planted hedgerows on your farms? Yes ___ Why ___ No ___ Why ___

c. Have you practiced fallow on your farms? Yes ___ Why ___ No ___ Why ___

Reasons why "YES":

- a. firewood
- b. food
- c. to sell
- d. fodder
- e. hold soil
- f. increase harvest
- g. pass on to children
- h. other _____

Reasons why "NO":

- a. loose animals
- b. heat kills them
- c. no land security
- d. no planting materials
- e. no time
- f. no land to plant
- g. other _____

19. If you have built rockwalls on your farm, have you used an A-Frame?

Yes ___ No ___ Why _____

20. a. When difficult times come and you do not have, for instance, enough money or food, where do you turn for help?

- | | |
|--------------------------------------|---------------------|
| 1. ___ don't turn to others for help | 9. ___ 6 and 7 |
| 2. ___ parents, siblings, relatives | 10. ___ 3, 6, and 7 |
| 3. ___ neighbors | 11. ___ 2, 3 and 6 |
| 4. ___ boss | 12. ___ 2 and 7 |
| 5. ___ <i>barangay</i> captain | 13. ___ 2, 3, 7 |
| 6. ___ formal credit | 14. ___ 3 and 7 |
| 7. ___ informal credit | 15. ___ 2, 6, and 7 |
| 8. ___ 2 and 3 | |

b. What do you find yourself borrowing the most? 1 ___ corn/rice 2 ___ money 3. ___ both

c. What sort of arrangements do you usually make when you borrow these items:

- | | |
|--------------------------|------------|
| corn/rice: ___ | money: ___ |
| a. work in exchange | f. b and d |
| b. pay \$ (no interest) | g. b and e |
| c. pay \$ w/ interest | h. _____ |
| d. in kind (no interest) | i. NONE |
| e. in kind w/ interest | |

21. What methods do you use to feed your cows and goats during the.

- a. hot and dry season: ___ b. rainy season. ___
- 1. tie and move frequently
 - 2. tie them and carry food to them
 - 3. other _____

c. Where do you normally tie your animals?

- 1. on your own farm or property
- 2. on someone else's farm or property
- 3. both 1 & 2
- 4. public land/forest
- 5. both 1 & 4
- 6. both 2 & 4

d. If you use someone else's land, what relation are you to the owner of the land?

- | | |
|---|---|
| <input type="checkbox"/> 1. Relative | <input type="checkbox"/> 5. 2 and 4 |
| <input type="checkbox"/> 2. Parents | <input type="checkbox"/> 6. 1 and 4 |
| <input type="checkbox"/> 3. Siblings | <input type="checkbox"/> 7. his/her own |
| <input type="checkbox"/> 4. No relation | <input type="checkbox"/> 8. Children |

e. What sort of arrangement do you make with the owner of this land to use his fodder or pasture area?

- 1. none
- 2. ask or otherwise make an informal agreement
- 3. pay with money
- 4. exchange
- 5. both 1 and 2

Glossary of Cebuano Terms

alayon: an indigenous form of community organization designed for revolving resource exchange

alima: an informal arrangement by which livestock owners give other households their animals to raise and give the household either a share of the offspring and/or free use of the animal

barangay: village

kangkong: green leafy plant grown in rice paddies or other wet areas and used as a vegetable and pig feed

moro-ami: a fishing technique very destructive to coral reefs which requires a group of men to bang chains or rocks on corals to scare fish into awaiting nets

nipa: sagopalm used to make roofing shingles

prenda: to pawn, mortgage, or pledge

Sources: Rodolfo, 1983; Ruyter, 1974.

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