CHAPTER V
THE SOCIAL AND ECONOMIC STATUS OF OAKPO-KWIN-CHAUNG VILLAGE

Oakpo-Kwin-Chaung Village is located in Bogale Township. It is about 60 km southeast of Bogale, and the boat trip from Bogale to the village normally takes six to eight hours, but sometimes takes more than this, depending on the tide conditions. One small river, named the *Oakpo Chaung*, flows across the middle of the village, so the village is divided into two parts; the east and west. The village is also situated on the banks of the *Kamarhauk* River.

Based on the village settlement pattern, the eastern part of the village is larger than the western part, and in all, 90 percent of the villagers live in the eastern part. One rice mill, two video halls, a primary school, a monastery, a generator house and some general stores are included in the village, and there are 121 households in the village with a total population of 531, which includes 271 males and 260 females. Most of the villagers are related and they stay very close to each other, and there are no interpersonal communications problems within the village due to the close kinship ties.

Table 5.1: Population in the Village

Gender / Year	Male	Female	Total	Rate of Increase
1980	145	162	307	-
1990	189	193	382	24.42%
2000	237	235	472	23.56%
2006	271	260	531	12.5%

Source From village head man

There is one main road that crosses the middle of the village which is a dirt road, running about one kilometer from north to south. This road is good in the summer, but in the wet season is very muddy. One small canal also passes through the village and water from this flows into Oakpo creek, and as a result, there is a small bridge that connects the northern part to the southern part of the village made from mangrove tree poles. One monastery exists at the edge of the eastern part of the village, and there is also one primary school near the monastery, beside the paddy fields. Two video halls are located beside the main road and are also very close to the village houses. A generator house is located in the middle of the village and there is one police station on the edge of the northern part of the village, on the banks of the Kamarhauk River, which is there for village security.

In the past, there were large and dense mangrove forests around the village. At that time, it was easy to get hold of marine products such as shrimp, prawns and fish near the village; the villagers could easily get fire wood, timber and other minor products from the mangrove forest. Once the mangroves started to degrade, many of the villagers became poorer, because their livelihoods relied on the mangrove forests, plus because cultivatable land and other resources were scarce.

5.1 Village Structure and Setting

5.1.1 History of the Village

Eighty years ago, this village was made up of only three houses. At the time, the villages' name was Kwin-Chaung. Later it was re-named Oakpo-Kwing-Chaung, because most of the villagers made charcoal for their livelihood, which was the most popular business and allowed the villagers to easily secure their income. Thirty years ago, fifty charcoal kilns were in use in this village.

When Oakpo-Kwin-Chaung village was founded, a small amount of people came from Bogale. Most of the present population are from this area, but some Karen people have also moved in from Karen State. In the village, there are Bamar people and mixed blood Karen people, who have lived together for the past 80 years. The Bamar make up 80 percent of the total village population, while the other twenty percent are Karen. Before degradation of the mangrove forests, the villagers practiced many kinds of work on a daily basis. The Karen people generally have good

experience in paddy cultivation and their history is one of extensive land cultivation. On the other hand, most of the Bamar are known as fishermen. The Delta area has good soil conditions and they could easily cut trees for their cultivation. These people believe that after they cut the trees or clear the forest, the area will quickly and naturally regenerate with new growth. The current Bamar and Karen people have now been in this village for many generations and many of the Karen people have owned orchards over that time. In the past, they grew seasonal and long term crops and trees, such as coconuts, because the mangrove forests, rivers, and creeks were controlled by the government authorities.

There are many economic differences between the villagers. On average, village households here are poorer than in other villages. During the 1970s, small dried shrimp and dried fish production was famous in this village - also, the local villagers got most of their income from charcoal production. At that time, the average yearly income earned by a village household was 15,000 kyats (170 US Dollars) and the Myanmar kyat had a relatively a high value (1 US Dollar = 85 kyats), so goods were cheaper.

From Bogale to the village is about 60 kilometers, and the only available route is by boat. There are three boat owners in the village; one boat goes to town one time per week, staying overnight in the town and returns to the village the following day. Another boat goes three times a week and the passenger fees are 1,000 kyats for everybody, one way. The boat trip takes eight to ten hours; the boat leaves for town at six p.m. and arrives there at four a.m. the next day. There is one big general store in the village which sells many kinds of food, materials, spare parts for boats and other items, but there are also six smaller shops. Shop owners and villagers buy clothes, food, boat materials, agricultural materials, medicine and other items from the shops in Bogale town and send them to the village by passenger boat, or sometimes by a large rented boat.

There are two deep tube wells in the village. One is owned by a businessman who sells the water to the villagers; who have to pay 250 kyats for one tank. The other deep tube well was donated by an NGO, and villagers use this well for fresh drinking water, though some people still sell fresh water by boat to the villagers. Water is one of the critical issues both for living and for the economic activities in this area,

especially in the dry season. In the dry season, people obtain water either from wells and ponds, or buy it from the sellers and merchants. The price for the water ranges from 80 to 100 kyats per 25 liters (five gallons) and is a major cost burden on the villagers on top of transportation costs, though the price fluctuates depending on the distance from the original water source the merchants buy from.

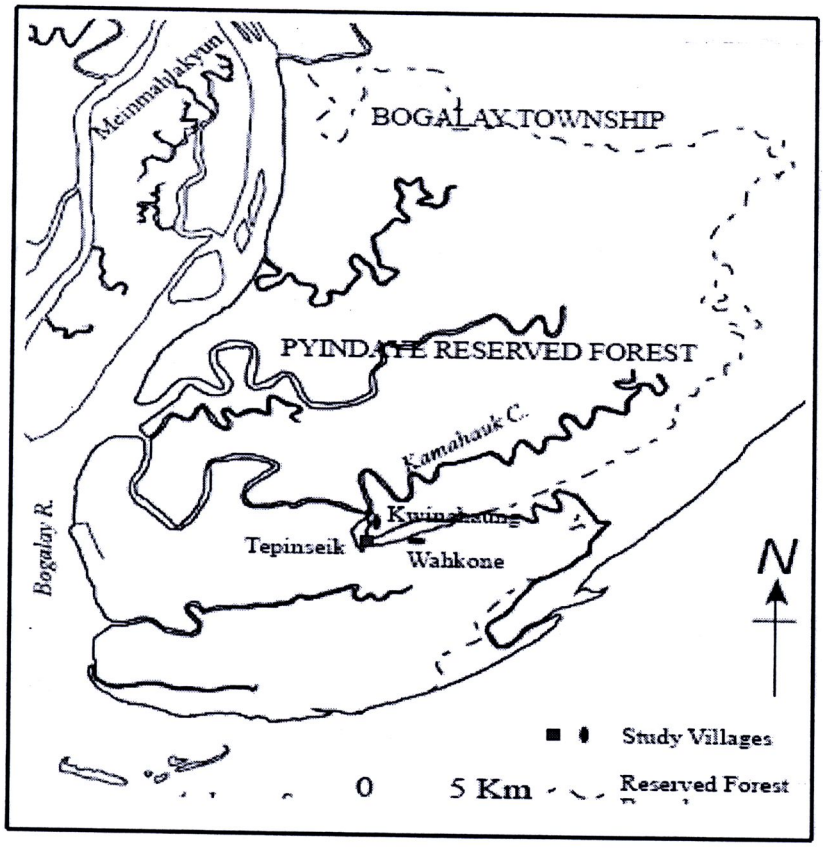

Figure 5.1: Location Map of Oakpo-Kwin-Chaung Village

5.1.2 Village Management System

This village is managed by one village headman, who is a member at the village tract level. This village leader was appointed by the Bogale Township authority in 2005. In accordance with the management policy, there is not a village chairman in every village; the village level management plan has one chairman who has to manage the village tract (village group) and others are then members of the village tract. In one village tract there are at least three villages and up to six villages under its management. Therefore, Oakpo-Kwin-Chaung village has only one village

leader who contacts the village tract chairman with respect to village matters. The village tract management committee is in charge of coordination with the Township Management Committee and township level government officials, when they need some support for their village development. When the Township authorities want to meet village management committee, they have to go to Bogale and there, they can present their village development issues and other matters.

5.1.3 Social Cohesiveness of the Local Community

Social groups have been established inside the villages for specific social functions, such as the Parent Teacher Association (PTA), or Water and Sanitary Committee. Regular meetings of the household heads are held in every village to discuss village problems, though the main purpose is the transmission of Government orders. Also, there are religious groups in all the villages, both Buddhist and Christian, who also serve the function of facilitating communication within the village. Through these social activities, villagers maintain a connection with the important decisions made in the village. As for the economic relationship, cooperative production is not popular in the study area, though time-sharing helps with paddy cultivation and fishing, which takes place in all the reserved forests but is essentially wage labor.

5.1.4 Health Care

There is no healthcare centre in the village, so if a villager is sick or is suffering from a disease, they have to go to the village tract level healthcare center. Villagers regularly suffer from malaria, dysentery and cholera at the beginning of the rainy season, and when they suffer from these diseases, given the lack of official medical care, they often treat themselves using traditional medicine made from forest products.

Table 5.2: Diseases by Age from 2000 to 2007

Age / Disease	Under 18 Years	18- 45 Years	Over 45 Years	Total
Malaria	2	5	1	8
Dysentery	6	2	-	8
Others	8	3	4	15

5.1.5 Land Use

The village is surrounded by mangrove forests and the soil types are mostly mud and in some places salty clay - land not suitable for growing seasonal crops. Shrimp farming was introduced fifteen years ago around the village, but most of the land has already been converted to paddy fields. Most of the paddy fields are located to the east and west of the village, while other land areas consist of degraded forest. This village is located in a forest reserve, and in the village some villagers have their own orchards close to the house, where they grow seasonal crops such as gourds, long beans, bitter gourds, chilies, coconuts, betel nuts and other vegetables.

5.2 Different Occupations in the Village

According to interviews with the household heads, the villagers living conditions are Difficult; their incomes are very low due to the decline in population of mature sea animals and the deterioration of the mangrove forests around the village. Villagers indicated that if this situation continues to get worse, they will have no choice but to move to other places that offer better fishing than their village.

The occupations in the village can be categorized as follows: (1) farming (2) fishing (3) charcoal making (4) small orchards, and (5) casual labor. Most people share some form of kinship with one another and so have a good relationship. Some households occupy two or more jobs that depend on seasonal work, and share forms of communication and transportation. The village is located on the river bank and five kilometers away it is surrounded by mangrove forests and mostly degraded forests. Most of the villagers depend on the mangrove forests as a source of income

generation, through fishing, crab collection on the mud flats, nipa leaf collection and dried fish production.

Thirty-seven households in the village carry out farming, and have cultivated rice for many years. The better-off farmers sell their surplus paddy to local collectors or millers, and earn the cash income required for household necessities. Similarly, the poor farmers also sell a limited quantity of grain during the paddy harvesting period, in order to avert a household cash crisis and to buy much-needed items. However, there are many cases in which the farmers have sold all of the harvested paddy and have then procured their own food (inferior quality rice, or broken rice) from the local markets. Farmers domesticate buffalo, ducks and chicken, and the larger farms can earn more income from raising livestock and poultry than the small farms, while farmers specializing in aquaculture earn more than those engaged only in paddy cultivation, irrespective of the land holding size. Rice can be ground in a rice mill in the village and distributed to villagers, and there is one rice mill that uses a diesel engine, grinding 30 baskets (paddy 990 kg) of paddy in one hour. This mill is located on the banks of Oakpo Creek, so villagers bring their paddy to this mill using a small boat. The grinding fee is 350 kyats for 33 kg of paddy. After grinding the paddy, the paddy owner takes the rice and leaves the husk and broken rice in the mill as a grinding fee.

Table 5.3: Different Occupations in Oakpo-Kwin-Chaung Village

Occupation	H.H	Income Level			% of total Households
		Better-off	Medium	Poor	
Farming	37	3	5	29	30.83 %
Fishing	76	2	8	66	63.59 %
Charcoal Making	2		1	1	1.67 %
Small Orchards	5			5	4.16 %
Wage Labor	102			102	85 %

Fishing is the main occupation in the village. Fishing households generally use small boats and when they go fishing, at least two people are in the fishing boat. All fishing households live on the banks of the creek, because their boats are small – thid also means they can go out and come home easily. Their fishing areas are inshore, in creeks and near the shore zones and there are two types of fishing household in the area: full-time fishing and part-time fishing households. The full-time households fishing earn much more than the high income farming households, while the part-time fishing households (landless households), engage in crab catching and live on a subsistence basis.

Table 5.4: Economic Status of the Farmers

Economic Status / Household Rank	Land Holding (ha)	Population			Annual Income (Kyats)	Expenditure (Kyats)
		M	F	Total		
Better-off H.H 1	12.5	3	1	4	650,000	610,000
Better-off H.H 2	12	2	3	5	640,000	620,000
Better-off H.H 3	11.25	1	3	4	635,000	610,000
Better-off H.H 4	11	2	4	6	580,000	599,000
Better-off H.H 5	10.5	3	3	6	580,000	590,000
Medium H.H 1	10	4	2	6	350,000	400,000
Medium H.H 2	9.5	3	2	5	350,000	390,000
Medium H.H 3	9.25	5	1	6	330,000	390,000
Medium H.H 4	9	1	2	3	320,000	380,000
Medium H.H 5	9	1	3	4	310,000	380,000
Poorer H.H 1	4	3	4	7	200,000	250,000
Poorer H.H 2	4	4	4	8	180,000	245,000
Poorer H.H 3	4	3	5	8	180,000	245,000
Poorer H.H 4	3.5	2	4	6	170,000	245,000
Poorer H.H 5	3.25	2	5	7	160,000	233,000
Poorer H.H 6	3	1	5	6	155,000	232,000
Poorer H.H 7	3	2	6	8	155,000	220,000
Poorer H.H 8	3	1	3	4	140,000	210,000
Poorer H.H 9	2.5	3	3	6	120,000	210,000
Poorer H.H 10	2.5	1	4	5	120,000	210,000

Table 5.5: Economic Status of Fishing Households (cont)

Economic Status / Household Rank	Fishing Season	Population			Annual Income (Kyats)	Expenditure (Kyats)
		M	F	Total		
Better-off H.H1	Whole Year	1	4	5	550,000	500,000
Better-off H.H2	Summer	2	4	6	500,000	500,000
Better-off H.H3	Whole Year	2	5	7	480,000	450,000
Medium H.H 1	Rainy Season	1	3	4	450,000	450,000
Medium H.H 2	Summer	3	6	9	450,000	450,000
Medium H.H 3	Whole Year	5	6	11	420,000	550,000
Medium H.H 4	Rainy Season	2	5	7	420,000	400,000
Medium H.H 5	Summer	3	6	9	400,000	450,000
Medium H.H 6	Summer	3	3	6	400,000	400,000
Poor H.H 1	Whole Year	4	4	8	350,000	380,000
Poor H.H 2	Whole Year	2	6	8	300,000	350,000
Poor H.H 3	Whole Year	3	5	8	280,000	300,000
Poor H.H 4	Whole Year	4	3	7	260,000	300,000
Poor H.H 5	Whole Year	6	5	11	255,000	450,000
Poor H.H 6	Whole Year	3	6	9	250,000	400,000
Poor H.H 7	Whole Year	3	4	7	235,000	350,000
Poor H.H 8	Whole Year	2	5	7	235,000	300,000
Poor H.H 9	Whole Year	2	5	7	225,000	300,000

Since most of the small farmers and landless households suffer difficulties in maintaining their livelihood, they must work as agricultural laborers during the peak agricultural season, at an average daily wage rate of 800 to 1,000 kyats. Thus, agricultural labor is particularly important for small households, which are able to earn more by providing agricultural labor than from actual crop production, a

situation that applies to landless households as well. Villagers cannot always engage in shrimp farming; however, because it requires a large financial investment, though villagers have full knowledge of how to engage in shrimp farming and drying shrimp, along with the other activities that have a commercial value.

As for fishing techniques, capture fishing is the most important for the villagers, because using this technique, they can catch a lot of fish and other marine animals in a short time. They can also catch a good commercial size (weight and length) of marine animals, which garners a higher price in the city markets, contributing to their income. However, they do not have the opportunity to catch fish using this technique, because the creeks and rivers are managed by the Government. The Fishery Department and local authorities announce a tender process twice a year, to allow someone to catch marine resources in every stream, creek and river in the area. If villagers want to enter the tender process they must have enough money for investment, which is usually many thousands of Kyat in cash. Villagers don't have the money for this, so they hide and catch marine animals in the very small creeks at night. As a result, they cannot catch good quality marine animals when they are fishing, so their income remains very low and they become even poorer.

In the village there are two villagers who have enough to invest in making charcoal, both of whom have charcoal kilns in the forest far from the village, because these charcoal kilns are not official. As a result, they hide the charcoal kilns in the forested areas a bit farther from the village and make charcoal there, though they don't have a license for making charcoal from the Forest Department. This means that these villagers are not charcoal makers officially, but they have a good relationship with the local area forest guard. Another three villagers also make charcoal on occasion. The ban on charcoal production and the subsequent destruction of charcoal kilns was orally instructed in 1993 by the Chairman of the Ayeyarwaddy Division Peace and Development Council. The divisional Forest Department office stopped the cutting of delta forests, particularly mangrove species, for charcoal, posts, poles and fuel wood, through a written order published in 1994. Based on the instructions, all of the charcoal kilns in Ayeyarwaddy Division were destroyed. Currently charcoal production in Ayeyarwaddy Division requires an application for permission and a

license from the divisional Peace and Development Council and the divisional Forest Department Office.

Table 5.6: Economic Status of Charcoal Makers

Economic Status / Household	Annual Production (Bag) 33 Kg	Population			Annual Income (Kyats)	Expenditure (Kyats)
		M	F	Total		
Medium H.H 1	250	2	1	3	250,000	250,000
Medium H.H 2	245	3	3	6	245,000	300,000
Poor H.H 1	80	2	4	6	80,000	250,000
Poor H.H 2	75	2	3	5	75,000	250,000
Poor H.H 3	75	1	2	3	75,000	180,000

Table 5.7: Economic Status of Small Orchard Owners

Economic Status / Household	Total Land (ha)	Population			Annual Production		
		M	F	T	Coconut (No.)	Banana (Branch)	Betel Leaf (Viss)
Medium H.H 1	5	2	3	5	100	50	20
Medium H.H 2	4.5	3	4	7	80	40	20
Poor H.H 1	1.25	3	3	6	30	15	15
Poor H.H 2	1	1	6	7	25	15	12
Poor H.H 3	0.8	2	5	7	30	10	12

Five Karen households have their own gardens where they grow coconuts, areca nuts, bananas and also some vegetables; though in fact they do not own their garden land but pay money to the Land Record Department as a charge for using it. Villagers have between two acres (0.8 ha) and five acres (two ha) for growing seasonal plants. There are also 50 coconut trees per acre and villagers get at least ten coconuts from each tree at harvest time, that is, every month and a half. The value of one coconut is between 60 and 100 kyats, but home gardeners also sell coconut fruit, leaves and stems to buyers; brooms are also made from coconut leaves and coconut tree stems are used for building house fences and as firewood. After the mangrove forests were destroyed, high tide problems started to occur on the home garden land, and as a result, they suffer from high salinity soil, which reduces coconut yields. The home gardeners believe that in the long-term, there will be a decrease in coconut production.

5.3 Villager Relations

The villagers' daily lives in the study area depend entirely on the mangrove forest - for the extraction of fuel wood, the harvesting of fish, crab, shrimp or shells, and for the processing of mangrove products for their daily domestic use, or for market. Even the farmers receive a part of their earnings through fishing, or catching fish and prawns, and this may account for a major part of their income. Villagers' livelihoods in the area are thus closely linked with the mangroves, or with mangrove based products.

After the mangrove forest became seriously degraded in the 1970s in this area, it became difficult for villagers to survive. At that time, all the villagers depended on the mangrove forests for their livelihood. Since the encroachment of the cultivated areas, as well as shrimp ponds and salt pans in some areas, local villagers have not been able to cultivate paddy fields, to fish or gain access to the forest; therefore, most of the villagers now work as crab collectors and nipa thatch makers. Some villagers collect small tree branches for firewood as well as mushrooms and bamboo shoots for food from the degraded forest. Only three households in the village do not worry about their daily subsistence, because they have passenger boats that go to and from Bogale city. Business people put fish and some marine products in carrier boxes with

ice and send them to town, and the fishermen receive an income of about 1,500 kyats a day, but cannot save money. As a result, sometimes, if they do not have enough money for food, before they go fishing they obtain credit from the business people, and when they come back receive a lower price for their catch. These fishermen already know about the reduction in daily fish catches and are well aware that the reason for this is the destruction of the mangroves. Other negative impacts of mangrove destruction are increased bank erosion along the main rivers and reduced coastal protection, especially during heavy storms.

Some children and poor people who do not have small boats use bamboo sticks with hooks for fishing. In their fishing operations they use many kinds of nets and methods. Usually they use gill nets, crab net traps, barrier nets, push nets and bag nets, and the location of their fishing depends on the weather conditions; sometimes they go away from the village into deep water areas and sometimes they catch fish near the village. In the early morning, at five a.m., they start fishing and come back in the evening at six p.m. After they arrive back to their house, their wife and children choose and separate the fish by size and quality, and then the next day, in the morning, they sell their fish to the fish merchants.

Figure 5.2: A Local Man Fishing

There are two charcoal makers in Oakpo-Kwin-Chaung village; two people who have enough money to have invested in the process. Sometimes, they negotiate with foresters to make large amounts of charcoal and they then sell this to the timber merchant who stays in the village. They hide and go to the forest to make small amounts of charcoal, because they actually do not have permission from the Forest Department to do it, and they can only make charcoal once a month, because the wood needed for making charcoal is very rare. There is also a ban on making charcoal from the local authorities and the local Forest Department. Charcoal makers can buy small trees that are able to make enough charcoal to fill one bullock cart, but only after negotiation with the authorities. The charcoal buyers collect charcoal and send it by rental boat to Bogale town to big merchants. After that, it is sent to Yangon. From Bogale, at least twenty tons of charcoal is sent to Yangon every day. When they make charcoal, they use very hard and dense wood, such as *Avicennia officinalis* and *Sonneratia apetala*. The charcoal produced in this village is considered the best quality, especially in Yangon.

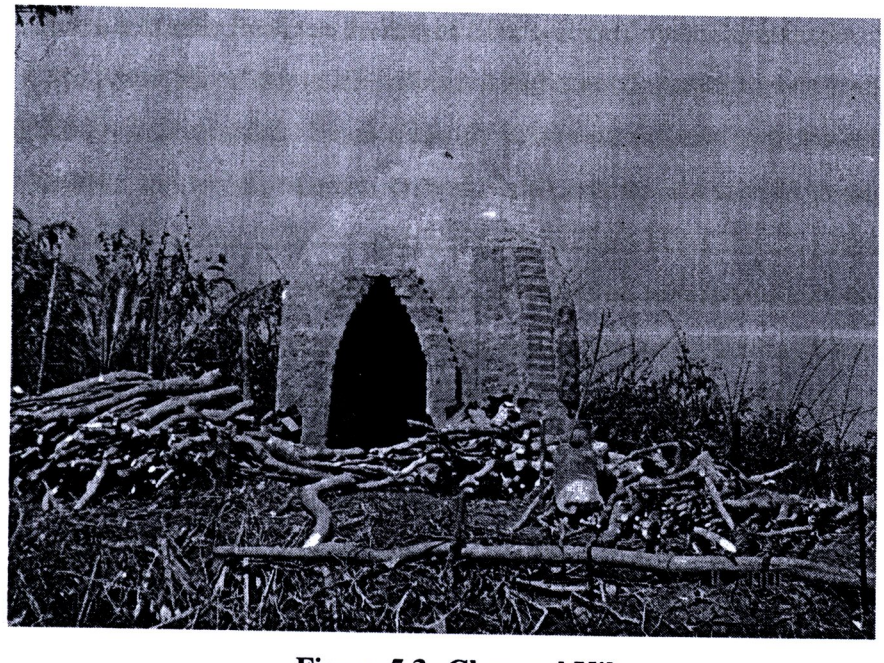

Figure 5.3: Charcoal Kiln

One of the charcoal makers said that it is very difficult for him to get the raw materials for charcoal making, and sometimes he can do so only through negotiation with the authorities. In one month they can make charcoal twice and earn an income of 20,000 kyats, not enough for them to survive, because they have wives and children. If a charcoal maker cuts wood and branches for charcoal, he has to spend three days in the forest; if he buys branches and small logs from others, he has to pay 7,000 kyats for one bullock cart, thus they end up badly off, because it is very difficult to find small timber, and also the Forest Department and local authorities seriously prohibit access to forest products for those without a permit for the forest reserved areas.

The ban on charcoal production and the destruction of charcoal kilns was orally instructed in 1993, by the divisional office of the Forest Department, which stopped the cutting of delta forests, particularly mangrove species for charcoal, posts, poles and fuel wood; then through a written order in 1994. As a result of the issuing of these instructions, all of the charcoal kilns in Ayeyarwaddy Division were destroyed. Currently charcoal production in Ayeyarwaddy Division requires an application for permission and a license from the divisional office of the Forest Department.

When I was observing in the village, I had a good chance to ask a number of questions about boat making. I spoke to one man who is very poor but can easily survive with his family. His name is U Win Naing and he is about 35 years old. He has a wife and six young children and has been in the village for 30 years. Of his young children, the eldest is fifteen and the youngest almost two years old, and he said that over the past twenty years he has worked in the paddy field with his parents. He told me about his past life briefly. When he was young (ten to twenty years old) he stayed with his parents, and at that time there were very large and extensive mangrove forests around the village. All the villagers could easily use forest products and marine products for their everyday lives. At that time, the villagers' main livelihood was forest access and marine resources, but now he works as a boat maker, as well as a fisherman, as a result of which he has been able to send his four children to the village primary school. Sometimes, his eldest son helps him with his boat making, and I asked him he gets the timber to make the boats; we talked about this for about three hours while he was making a boat. He said he can make long and big boats because

when he was 23 years old, he worked at the boat making yard in the city. There, he gained more than two years experience in boat making. In my study village, he is the only one who can make boats, so sometimes villagers or merchants place orders with him; however, one problem he faces is that he has difficulty obtaining the timber needed to make a boat, so sometimes, when forest officials visit, he bribes them and negotiates with them hard, as the forest officials already know about him and that he is the only one making boats in this village. In the remaining mangrove forest, there are some big trees left that are under threat from businessmen and timber traders, and some villagers from other villages go to the mangrove forests to cut trees for timber. These villagers also have to negotiate with the forest officials and foresters at the local level.

The boat maker borrows money, at high interest rates, from businessmen in Bogale city in order to buy the timber needed to make his boats. He always uses good quality timber in his boats, such as *Rhizophora apiculata* (*Byu*), which is very hard wood, but not heavy and is thus mostly used in house building, bridge construction and boat making. This is also the most popular mangrove tree species in the area. When he borrows money, he does not need to give any collateral to the lender, because they trust each other very much, and after the boat has been finished, he sells his boat to a buyer at a high price; because, when he makes the boat he invests a lot of money in timber, nails and other materials. He usually makes six meter-long boats, but sometimes, if he has orders from others, he makes bigger boats.

Figure 5.4: A Boat being made in Oakpo-Kwin-Chaung Village

After receiving the money from selling his boat, he pays back the money lender at ten percent interest. He told me that his total net income is about 650,000 kyats a year, enough for his family to live the whole year. He is a good carpenter in the village and it takes him a long time to finish making a boat, as the amount of time depends on the timber supplies available from the log cutters. Usually he can complete a small boat in six months, but if he has to make a big boat, this takes between eight months and a year. When villagers have to build a house, they also call upon him to help build it, along with the other villagers. He is experienced in carpentry and sometimes also makes furniture when people ask him to make it.

5.4 Religion and Traditional Beliefs

In total, 95 percent of the villagers are Buddhist and the rest are Christian. All the Bamar people are Buddhist, while some of the Karen in the village are Buddhist, and others are Christian. Villagers encounter no conflict when they relate to each other and have stayed together peacefully for the last 80 years in the village. The Buddhists have a monastery in the village, but the Christians do not have a Church. On the religious holidays, Buddhists go to the monastery and pray to the monk and

give donations, while on other days they pray to Buddha at home. The Christians go to another village six kilometers away by boat, in order to pray at the Church there.

Local communities also believe in forest spirits and practice such activities as tree ordination, which is popular among both the Karen and the Bamar. Villagers use forest products through customary rights within their community. Outsiders or anybody from other ethnicities and other areas, especially those from urban areas such as timber merchants or businessmen who have overexploited others, are not allowed, or are discouraged from cutting trees in the communal forests. In order to control the extensive cutting of trees, local people have created a strong discourse regarding *nat* (spirit), in order to spread fear about the punishments that will be given by the forest spirits in the case of cutting trees beyond the traditional norm. There is popular gossip among the local people about punishments from the forest spirits, such as being eaten by a crocodile or spiritual tiger, being struck by lightning, or dying in a storm when traveling by boat. Local villagers strongly believe in a particular *nat* (spirit) named *U Shin Gyi*, who has appeared over the last 100 years. U Shin Gyi was a young artist who was thrown off a boat near the island and drowned. He became a powerful spirit who now rules over the area around the island and everything in it, including the crocodiles. Many locals believe that people who are attacked by crocodiles in the area are being punished by U Shin Gyi for their misdeeds. U Shin Gyi Nat, who drowned, is the 'Lord of the Seas and Oceans'. Fishermen and sailors pray for protection from U Shin Gyi.

One local island named *Meinmahla Kyun*, or 'lovely women island' in Burmese, derives its name from the legend of a group of woodcutters who travelled by boat to the island of Kyun-nyo-gyi on the Bogalay River, in order to collect firewood, and met with an unusual fate. Among the lumberjacks was a young man by the name of Maung Shin, who would play his harp beside the boat while the others were hard at work. Not long after arriving at Kyun-nyo-gyi, the sweet tones of his music captivated two beautiful sister *nats* named Meikha and Meihla. In fact, it held them in such a trance that when the woodcutters returned to push the boat back into the water to return home, the sisters decided to render the boat immobile, so that the young Maung Shin would not be able to leave.

Figure 5.5: The Delta Guardian Spirit (U Shin Gyi)

Woodcutters could not make the boat budge an inch, so finally they surmised that the spirits were thwarting their efforts and decided that they would have to sacrifice someone to appease them. They voted three times among themselves to determine who should be sacrificed and on all three occasions it was Maung Shin who was elected. After being thrown into the sea to meet his death, Maung Shin was received by the spirits and was then transformed into a *nat* himself. He was named *U Shin Gyi* and, according to the legend, assumed the form of a crocodile (at other times, though less frequently, he has appeared as a tiger). Every March in Myanmar, in order to prevent people from being attacked by crocodiles, votive offerings of rice, vegetarian dishes and fruit are placed on altars of the *nat*, or on the spirit shrines at a festival held in honor of *U Shin Gyi*. Lovely Women Island; meanwhile, was named after the sister *nat* spirits, Meikha and Meihla, who brought-about the young man's role in mythology.

The *U Shin Gyi nat* festival celebrates Sat and Brown Islands in Bogalay from the eleventh to the thirteenth waxing day of *Kason* every year. On the first day, the performers dance in front of the statue of *U Shin Gyi*, while on the second his story is re-enacted throughout the night, and on the third, he is mounted on the bamboo shrine. Fishermen often pray to his spirit before they go near the shore for fishing, and

when they pray to the spirit they offer sticky rice, sweets, betel nuts, some snacks and beautiful flowers. After they go through this ritual, they catch many fish and can go near to shore safely, and after they come back, they pray again with some food as an offering. They fully believe that this sprit always looks after them, as it belongs to all the mangrove areas and the sea. As a result of this, villagers build spirit houses to keep the *nat* in front of their house, and all the mangrove dwellers celebrate this spirit festival in summer, once a year. This is a very famous festival in the mangrove region, and every person in the Delta fully believes in the *U Shin Gyi* spirit; even city people who live in the Delta pray two times a year to *U Shin Gyi.*

It is believe that, in nature, there is one spirit who uses the trees as its home, in the same way as men live in houses. The tree spirit is called *Yoke Ka So Nat,* and has a lot of power in terms of predicting the future and recognizing the most auspicious days to celebrate. The tree guardian spirit has the magical power to guard and protect those who give offerings to him; this spirit will bless local people with wealth and protect them from evil. People who eat the offerings given to the spirit are blessed and obtain instant protection from the spirit. Villagers never visit the forest without paying homage to this tree spirit in advance, and villagers build spirit houses under the big trees and donate food and water when they pray for their needs. The *Yoke ka soe* spirit is a very ancient and traditional spirit, and they believe that this sprit guards big trees and the forest, to protect them from threats.

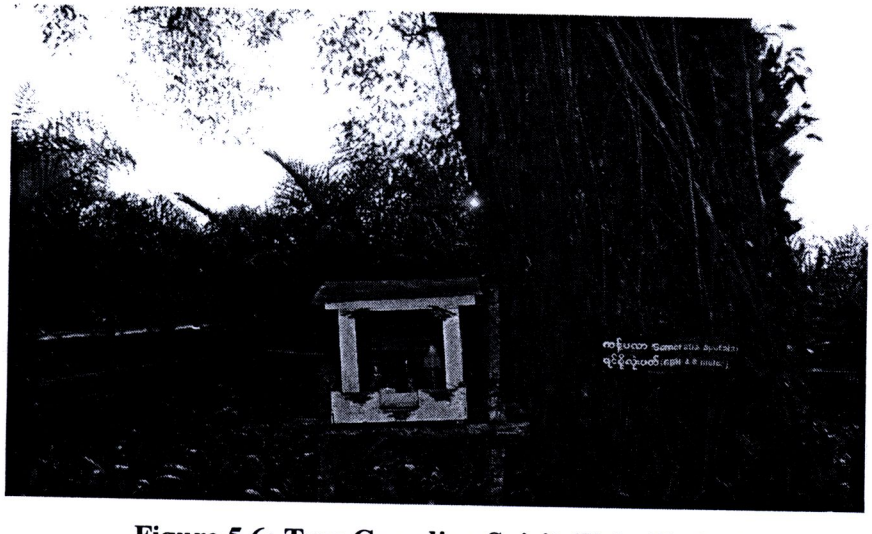

Figure 5.6: Tree Guardian Spirit (*Yoke Ka Soe*)

Figure 5.7: Another Spirit (*Myin Phyu Shin*)

The mangrove dwellers have a strong belief in other spirits too; some people keep a house guardian spirit inside their houses and house compounds, and when they pray to this spirit, they donate food and flowers. This spirit is called *Myin Phyu Shin*, and people believe that this spirit looks after them when they work in the forest and other places; moreover, this spirit provides them with many opportunities to improve their economic status. Some popular *nat* receive special offerings at festival times, and at these times spirit mediums sing and perform special dances with loud music, inviting special *nat* to possess them.

Figure 5.8: Spirit House in Oakpo-Kwin-Chaung Village

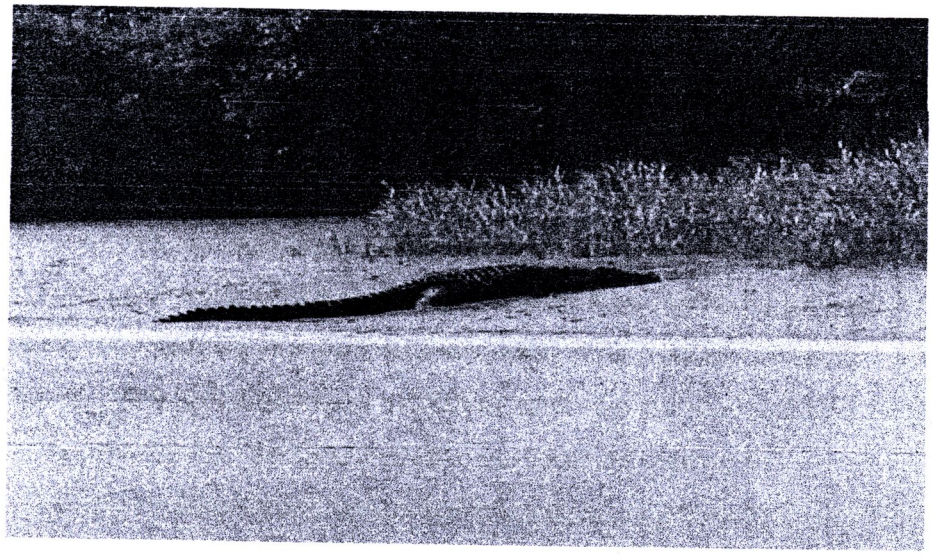

Figure 5.9: A Crocodile near Oakpo-Kwin-Chaung Village

5.5 Common Problems Faced in the Village

Fishermen who come from the village have already complained to the local authority about a reduction in their daily catch and they are well aware that the reason for this lies in the destruction of the mangroves. Another negative consequence of mangrove destruction is the lack of coastal protection, especially during periods of heavy storms and in the rainy season; therefore, reforestation using local mangrove tree species along river banks should be encouraged to reduce the damage from storms.

Along with the devastation of the mangrove forest by agricultural encroachment and shrimp farming, there have recently been many floods and cyclones. In the past, after high tides and floods, local people faced a difficulty in finding fresh water to drink, so every villager relies on rain water for drinking throughout the year in the village, but even so, villagers do not get enough fresh water from the two tube wells there. In the rainy season, there are no mangrove forests around the village to prevent damage from storms and strong winds, but in early 2007 there were two storms in the area which caused severe bank erosion along the river. The decrease in mangrove forests and marine sources, the scarcity of forest products such as timber for house construction and fuel wood, environmental problems, ecosystem changes and other factors caused by intensive shrimp farming and agriculture encroachment, have all seriously affected the living conditions of the local

villagers. The use of the mangrove forests by the villagers and also their local management practices, have changed over time due to the many major activities and changes in the local villager's rights to access the forests. For example, the use of mangrove species has adapted to correspond with the changes in these circumstances. Local people now work as casual laborers, because they don't have job opportunities and they are not allowed to access the forest without permission. Villagers need more food, more forest products and more fish to catch, but all the remaining mangrove forests are controlled by the local authority and forest officials.

The Forest Department has opened many check points in the Delta, in order to check people who might remove forest products from the mangrove forests by boat or by ship. According to current forest policy and management, every person has to apply for permission from the Forest Department to remove forest products. For example, if somebody wants to produce charcoal they must first apply for a license from the Forest Department, and after making charcoal, they have to apply for a removal permit (*Hmyaw sa*) to get a second license to carry the product to another location for sale.

At the time of the study, the price was 350 to 400 kyats for one bag of rice (50 kg); whereas currently, one bag of rice is 25,000 to 30,000 kyats in the village. Villagers' daily income and price they obtain for selling gods do not match, so they rely on Nipa thatch making and small scale fishing activities. Most of the marine animals caught by the fishermen are dried, since there are no processing techniques available other than drying. Fish and shrimp paste are made on a small scale by the villagers, using old methods, so the quality is low and the process is time consuming. When they sell their products, they receive a low price for them and thus earn a low income.

5.6 Intensive Shrimp Farming at Oakpo-Kwin-Chaung Village

Intensive shrimp farming is an activity undertaken within the mangrove forests by businessmen, and the use of the forest area by the shrimp farmers is different from other users. The shrimp farmers do not directly use the mangrove forest for production, but use a large amount of the mangrove forest land area. Shrimp farming started around the village in 1990.

There are three types of aquaculture; namely extensive, semi-extensive and intensive, though data on the total aquaculture area in the Ayeyarwaddy Division as of March 2002, showed that there were no areas used for intensive aquaculture at that time. The extensive form of aquaculture is the most commonly practiced form in the Division, and in this case the fish and crustaceans (shrimp and crabs) simply flow or swim into the water bodies. The water volume is controlled by a gate connected to outside creeks and rivers, and after closing the gate, the animals are left without feed until harvesting is carried out by draining the water. Many businessmen from other places come to this area to shrimp farm, because this area is a lagoon where fresh inland water and saline water mix; conditions best for shrimp and other marine products. Some shrimp ponds have been constructed in abandoned areas, because the mangrove forests have already been cut, but in general most of the shrimp farms are located in areas adjacent to mangrove forests, because shrimps can gain food naturally from the mangrove trees. Shrimp farming is seen as the best activity economically and earns a lot of money in a short time for the businessmen; therefore, businessmen have been able to negotiate with the authorities to extend their shrimp ponds into the mangrove forest area. The reason why shrimp ponds are constructed adjacent to the mangrove forest is that the saline water can easily be pumped into the shrimp farms and the waste water from the ponds can easily be drained into the mangrove waterways. The draining of waste water from several shrimp ponds; however, is known to have impacted adversely upon aquaculture in the village - sometimes it causes the death of fish cultured in the rivers and also other marine animals.

Traditionally owned paddy fields have been converted into shrimp ponds in many areas around the village. The approximate area of mangrove forest, paddy fields and abandoned land converted to shrimp ponds is about 70 acres (28 ha) around the study village. Some villagers have started working at the shrimp farms, because they lost their paddy fields and their livelihoods from the mangrove forests. Many farmers also work at the shrimp ponds as casual laborers, earning about 700 kyats per day.

Shrimp farming requires a lot of investment, so all of the shrimp pond owners are outsiders from Yangon and other cities. Shrimp farming leads to a reduction in the mangrove forest area and to other dire consequences; however, the rapid expansion of shrimp farming has reduced recently because the Forest Department has stopped

allowing shrimp farm constructions in the forest reserve areas, even visiting the shrimp farms and destroying them, plus the dykes. These shrimp farms have now been abandoned because soil conditions have changed to a high saline content, which means the area is also useless for paddy cultivation; many grasses and bushes grow there instead of valuable trees. Local villagers do not like the shrimp farms because the saline water from the ponds leaches into the water table in adjacent areas at lower elevations. Another cause of their dislike of the farms is that the paddy fields that are close to the shrimp ponds become unproductive, due to of the salinity in the soil. Added to this, untreated waste and sludge cake is discharged into the canals and creeks, which impacts adversely upon aquaculture in the village.

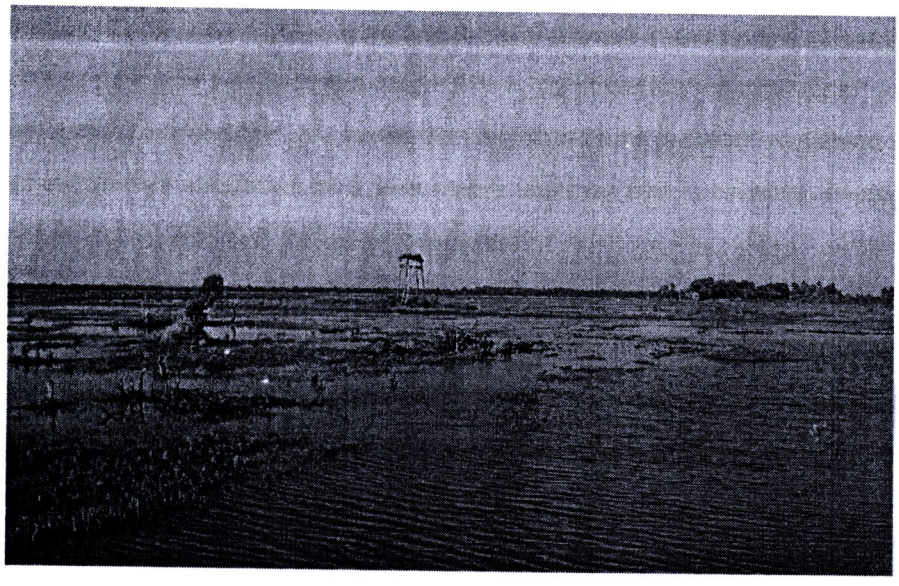

Figure 5.10: A Shrimp Pond

The construction of dykes, which obstruct tidal runoff, also causes an increase in salinity and consequently affects the growth of living organisms. The forest's ability to prevent coastal erosion and to screen sediments and soil waste from the land to the sea is also affected; therefore, since the shrimp ponds were destroyed by the Forest Department, villagers have planted mangrove tree species' resistant to high levels of salinity, as part of a participatory development collaboration with the local NGOs and related departments. Currently, local villagers are very interested in establishing of community forest plantations in this village.

5.7 Summary

Conservation measures, while restoring or preserving the environment, need to consider improvements in the livelihoods and economic statuses of local and indigenous people. This is important, because there is a mistaken impression from some, that promoting these natural resource areas to be set aside for such purposes might deprive the local people of their real and traditional rights. It is of great importance to be transparent from the very onset of projects involving mangrove conservation; that they are there for the benefit of the local communities in and around the village area.

Curtailment of further encroachment and proper management of the existing mangroves are both essential for the sustainable use of the coastal resources and for the protection of the Delta from both marine and fluvial erosion. This can only be achieved through the involvement and active participation of the local people. Particular emphasis should be given to the community-based management of firewood and timber extraction at a sustainable level, as this is essential to maintain the long-term productivity of the mangrove system.

Most non-timber forest products from mangrove forests in the study area are in low demand from the local communities compared to the wood products; however, some non-timber forest products are collected and utilized for both domestic and commercial purposes. Currently, in comparison to other non-timber forest products, nipa thatch is produced most widely – the commercial production of nipa thatch is common due to large-scale production and as a result, the nipa thatch and phoenix poles are currently the only two forest products in the village. Other non-timber forest products are rather small-scale in nature and more focused on domestic use. While paddy production receives such a high priority in the Delta, community forests can be established only on low fertile soils with salinity problems, and from the point of view of a poor family, it is much more effective to reclaim such land than to use existing, fertile land. Nevertheless, some dedicated communities really want mangroves back in the Delta, and this is an encouraging sign, one which suggests that promoting community forestry activities in the Ayeyarwaddy Delta could lead to the restoration of the mangrove ecosystem.

The long-term viability of marine resources protection cannot be assured without the serious involvement of the local people, whether they live amongst or adjacent to those resources. Effective protection of natural and coastal resources can be successful only when local communities' become true partners and the beneficiaries of such resources, and not the victims of such measures.