

Socio-Economic System in the Western Pacific Islands - The Practice of Para Island Community, Indonesia-

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Abstract

Island nations are scattered throughout the south and western Pacific which is included in the Asia-Pacific region. Recently, there has been a growing attention to various kinds of information about the cultures, histories, industries, ethnicity and socio-economic aspects of people living in the south and western Pacific. This promises to promote comprehensive understanding of islands and islands zones and to further the welfare of people in this region.

Based on the case study data, this article describes the socio-economic system practiced by a small remote island community in north Sulawesi, Indonesia. The objective of the study is to explore and identify the types of socio-economic system applying to study communities in the region that can be used on a comparative basis to the rests of communities in other Pacific island regions. The study focused on main aspects of fishing economy namely; production, distribution, and consumption pattern. Thus, holistic approaches were used in this study.

It is found that the modern or market economic system has penetrated, but traditional socio-economic system remains predominant in the island community's life activities. The use of the traditional system is indicated by the following characteristics; (1) strong communalism in production system, (2) production is in and for the household and there is no distinction with the production for market, (3) social-cultural exchanges oriented in the distribution of yields, (4) economic and social motives are intimately commingled, (5) economic still being secondary, subordinate to tradition and religion. (6) mutual help for common survival, (7) Consumption pattern predominated by the subsistence ethic for the reason of long-term availability of natural resources on the island and its surrounding sea.

Key words: Western Pacific, Indonesia, island community, socio-economic system, survival strategy

I. Introduction

1. Background

As long as observed, no characteristic differentiations were made between the economy of communities on main-land (continental) and island areas. This is because most economists considered that both are facing similar socio-economic problems and, thus, the survival strategy used in the main-land community will be valid also to solve economic problems in the island community. Recently, there has been a growing attention and need for information about the cultures, histories, industries, ethnicity and socio-economic aspects of people living on the island nations of the south Pacific and its surroundings. This aims to promote comprehensive understanding of island people and their environment as well as of political and economic functions of island nations in international communities. Economic policy makers realize that island communities may have a typical system of economic life not found in the economy of main-land areas.

In fact, island nation communities scattered mainly in the south and western Pacific region. For the needs mentioned above, many socio-economic studies has been conducted in the south

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Pacific in the last 15 years, but few in the western Pacific islands, particularly of Indonesia. Therefore it is considered useful to present the result of a socio-economic study conducted in an island community in the eastern part of Indonesia: the study performed in 1993 on several island communities within the administrative area of Sangihe islands regency of north Sulawesi province

The study was conducted to explore and identify the economic strategy of households living in remote island areas with emphasis on the socio-economic system. The term system in this context referred to a set of elements such as people, things and concepts related to achieve a mutual goal (AMIRIN 1989). Observations were made on four main aspects of household fishing economy (KRISNANDHI, 1969) namely; production, distribution, consumption pattern and management system of marine resources surrounding the island. The later part however, i.e., concerning the management system of island marine resources has been published in *Senri Ethnological Studies* (MANTJORO and AKIMICHI 1996) and in the international *Journal of Coastal management* (MANTJORO, 1996). Therefore, the present article describes only the remaining three aspects namely production, distribution and consumption pattern of households living on the remote island. Thus, holistic approaches were used in this study.

2. The setting of site

Administratively, *Para* is a village (*desa*) located on *Para* island which is surrounded by seven tiny islands included in its territorial area. The village is composed of three hamlets (*dusun*), two hamlets on *Para* island and the other one on *Salingkere* tiny island separated only about 100 meters from each other. The other six islands remain uninhabited. *Para* island is among the 77 small islands within the administrative area of Sangihe regency situated about 140 miles to the north of Manado city and facing directly to the Pacific ocean in the east (Appendix 1).

Historical notes indicate that *Para* island was inhabited since the 1500s because people lived there when the Portuguese entered into Sangihe islands in 1521 and the Spanish in 1560 on their way from the Philippines to Ternate and vice versa. The island had 1887 population in 1993, 949 males and 938 females. By age, 45 % were less than 20 years old, 27% were between 21 and 40 years old and the remaining 28 % were more than 41 years old. By religion, 100% are Protestant. Exploiting marine resources particularly of fishing is the mayor livelihood of the community members. Statistical data from the village office indicated that of the total 734 working, 77.24% are fishers and the remaining 22.76% are farmers (14.44%), Carpenter (5.44%), teachers (2.17%), and traders (0.71).

In fact, these statistical figure are just for administrative purposes because it is observed in the village that almost all of the population over 10 years old are usually going out to fish together particularly when using *Seke* fishing gear. Actually, farmers are fishers who work part-time in cultivation of sweet potato, cassava and vegetables for own consumption. The same situation is found for carpenters who do fishing and carpentering as their part-time work. On the other hand, teachers and traders are the major livelihoods but do also part-time fishing and fish trading. These livelihoods pattern the household economic strategy to meet daily life needs for their survival.

Thus, it can be said that the economic activities of households in the community are centralized in fishing as their major livelihood. Therefore, the economy of the village is mainly supported by the production of the fishing sector. In quantity, about 99% of the total community members income is derived from the sale of fish production and the remaining 1% is gained from part-time work.

This island community attracted the attention of many scholars for the site of their study because it has particular characteristics in managing fisheries resources within the territorial waters of the village. For the last four hundred years the community has treated marine resources surrounding the island as communal property resources (traditional sea tenure) and thus they manage it on a community-based management system. In practice, the community themselves founded the basis, erected effective organizations, constructed equity share principles, invented the regulations, enforced them and meted out the punishments (See MANTJORO, 1996). Thus, this community has an indigenous knowledge and practical experience in the management of island marine resources that attracted further studies of its social-cultural and economic aspects.

II. Production System

Socio-economic strategy of households living on remote island can be learned through the production system sphere (FIRMAN, 1990). Considering the production sphere has many ramifications. Hence, only a few can be singled out for consideration here. These aspects are capital formation, scale of fisheries, gear and technology using, financing production, organization and management of production, and yield share system.

1. Capital formation and scale of fishery

The amount of capital owned and how it is accumulated and managed is a question included in any discussion of peasants' economic systems. The term capital formation in this context means that society does not apply the whole of its current productive activity to the needs and desires of immediate consumption but directs a part of it to the making of capital goods; tools and instruments, machines, transport facilities, plant, equipment, and all various forms of real capital that so greatly increases the efficacy of productive effort (NURKSE, 1966). It is implied that saving a part of income is a way of capital formation. How an island community accumulated and managed such capital goods is explored in this part of my study.

Modern economic theory teaches us that saving a part of earnings is the best way to accumulate cash money does to buy capital goods (BOEKE, 1910). It is found that this theory does not yet work completely in the Para island community. The formation of their production capital still is traditional way, are like at an early stage capitalistic system. In a fishing economy, the capital goods are preset in the form of boat, angling, net, rope, tools and other (FIRTH, 1966). There are four types of fishing gear found in Para that serve as capital goods. In the vernacular they are called: *Igi* (fish traps), *noru* (angling), *soma* (small encircle net), and *seke* (traditional purse-seine).

To have *Igi* it is not necessary for fishers to save their earnings. This is made of bamboo and wild rope that available on the island. They constructed *Igi* themselves for use to capture

coral fishes in the shallow waters. The catches with this gear are partly for home consumption and partly to process as dry salt fish. This product is sold to local fish traders on aftersale payment basis who then bring it to the nearest town market. The cash money earned they use to buy nylon rope and hooks combined to be angling fishing gear. To have this type of fishing gear, the fishers spent no more than Rp. 10,000 in cash. In practice, fish traders not only bring the fish to the market but also bring messages and orders from each fisher to buy raw material for fishing gear and other needs. Hence, fish traders return to the island without cash money, but with goods such as rice, sugar, coffee, tobacco, etc., and materials for fishing gear which will be delivered to the fisher.

In this way, the fishers enable to get fishing gear material with minimum cost. Thus, they have a rational way to accumulate their capital goods. The fishers start with fish traps that require no cash money then step up to provide hook, line, or angling fishing which require less cash money. Some fishers owned both *igi* and *noru* fishing gear at once. A part of earnings from both type of fishing gear they use to buy small canoes. To enlarge the loading capacity of these small canoes they put on double outriggers. This type of fishing boat is called *londe* in the vernacular. This is not solely fishing canoe: its traditional cultural value appears in its artistry. *Londe* is a typical Sangihe ethnic canoe product; it can be found elsewhere in north Sulawesi, but appears in a simple form without artistry or cultural content. The original form can be found only in Para and in some remote Sangihe islands.

Capital goods such as angling, *soma* and *seke* contain *londe* as its fishing boats. Previously, before 1980, fishers could make their own canoes from big trunks available on the island. Therefore, it was not necessary to save cash money to have *londe*. Recently, however, some few fishers owned this type of boat by buying with cash or on credit. Fish traders in the village provide such a canoe and fishers pay by installments deducted from the price of the catch delivered to the fish trader.

The capital formation for *soma* fishing gear has its own story. Since old times, fishers of Para were organized into several groups based on neighborhoods. Each group was composed of 40 to 60 fishers with 2 or 3 units of *soma* that operated alternatively. There are two ways to have this type of fishing gear, e.g., to buy in cash and or on credit. By the first way, each member of a group should pay an amount of cash money to their treasurer which in total is enough to buy the raw material of the nets. Buying raw material will reduce at least 50 % of the total price of a complete net. This is because they designed and constructed the nets by themselves without any expenditure on labor. In order to minimize cost, they utilize trace rubber slippers for floats and stone for sinker. This material they can get easily without any cost to them. Therefore, the amount of cash money they pay to their treasurer is relatively small.

If the fisher's group wants to have *soma* fishing gear on a credit basis, they can receive it completely ready to operate from local fish traders. The conditions are simple, the catch should be delivered to the fish-trader and the installment payment is deducted directly from the price of the catch. The terms of payment vary from 2 to 5 years continuously. Some of the groups choose to have their fishing gear on a cash payment basis and a few others on a credit basis.

Actually, *soma* is developed from *seke* fishing gear. The capital formation of *seke* may be unique to the Para island community, where capital goods are composed of boats, net and *seke* itself. The *seke* has three main parts, e.g., bamboo weave, with 42.5 meters in length and 91 cm of height, young coconut leaves plait called *elise* and bamboo sticks of 9 meters in length called *Tatelide* or *saseda* in the vernacular (Appendix 2). To have a unit of this gear, the group member is free to decide what part of the gear he can provide. The group members who have no cash money at all can provide raw materials such as bamboo, rattan, coconut leaf etc. which can be taken freely on the island. Fishers who have only a little cash money can submit it to the group treasurer. Additional to their small amounts of cash, they provide voluntarily their labor to mend nets or to do other work on fishing gear construction.

To have capital goods in terms of *seke*, the group members work hand in hand together to provide cash money, raw material and labor. According to aged respondent, that, before the 1960s, self-made fishing gear by the group members was cotton yarn and wild rope available in the forest on the island. Recently, however, the nets were made of cotton and nylon that is easy to get in the shops of the nearest town. This change reflects that they easily accept new fishing technology, to improve productivity, but this is confined to their buying capacity.

These findings reflect that capital formation in Para island community is based on three approaches; (1) Self or hand made capital using raw materials available on island, (2) group or mutual capital formation, (3) a credit basis provided by fish trader. To have a unit production capital on a cash buying basis is not yet found among the fishers of this island community. It seems that fishers living on the remote island endeavor to provide capital goods by combining three kinds economic resources: the small amounts of (1) cash money, (2) labor and (3) natural resources available on their island. When looking at the amount of money capital invested and the size of boat owned, it can be said that the scales of fishery are typical of a traditional small scale fishery. The level of capital investment in each type of fishery is presented in Table 1.

Table 1. Scale of fishery by size of boat and price per unit of fishing gear

Name of fishery	Fishing gear size		Price/unit
	Boat (GT)	Net/line (LxD)	Rupiah (000)
Seke	2.0	120m x 20m	5,600
Soma Talang	2.0	80m x 15m	3,350
Soma landra	0.5	60 x 15m	650
Soma Lacang	0.5	60 x 15m	650
Noru	0.3	150m	75
Igi	-	50cm x 30cm	1

Source: Gear owners, 1993

These types of fishery are mainly operated by fishers on Para island. The sizes of gear use for *seke* fishery are 2.0 GT wooden boats and nets of 120 m in length and 30 m in depth. Fishing operations are supported by fish aggregating devices called *seke* which are 30 m in

length and 81 cm in depth. To have this scale of fishing gear, the fishers gave about 5.6 million rupiahs plus free labor and material taken on the island. This amount of money was provided by group of fishers instead of individuals. The *soma* fishery is smaller than the *seke* and is differentiated into three types: *soma talang*, *soma landra* and *soma lacang*. *Soma talang* needs only 3.3 million rupiahs cash capital which is spent to have a boat of 2.0 GT and a net 80m in length and 15 in depth. While *soma landra* and *lacang* are cheaper, required cash capital is about 0.65 million rupiahs. *Noru* fishery is smallest, it requires Rp. 75,000 to have a boat of 0.3 GT and hook line of 150 m in length. To make *igi* fishing gear required 1,000 rupiahs for buying raw material other than those available on the island. As commonly supposed the scale of fishery depends upon capital availability. The less capital available, the smaller the scale of the fishery. The opposite, the more capital owned the larger scale of fishery can be provided. It is observed in the Para island community that the reason they keep operating small-scale fishery not because of the scarce capital available but is mostly determined by the market size of their catch.

The present market size is just enough to absorb the catch of traditional small-scale fishery. Any attempt to expand the scale of fishery would be confined by the smaller market capacity to absorb its catches. In the view of local fishers, it would be un-economical for them to have a modern large scale fishing technology in the present condition of fish market. If they are compelled to have a medium and large scale fishery, a few days of fishing operation would produce enough for a whole year's consumption, and would have to stand idle the rest of the time. Here we see that traditional fishers on a remote island also have a rational way in deciding what economic measures should be taken.

Therefore, it is thought to be mistake to blame the traditional system as the major obstacle to fisheries industrialization. As human beings, traditional fishers also have a strong intention to improve their socio-economic condition through long term planning. The findings about the Para island community indicated that fishers continue to use traditional small-scale fishing gear because they know exactly the market size of their catch, and this is not permit them to expand their capital investment.

2. Gear and Technology

The fisheries statistics of north Sulawesi show until the end of 1993 there were 28,876 units of fishing boats in this region. Of these, 85.6 % are without engines, 13.4 % have outboard engines and the remaining 1.0 % are inboard fishing boats. The fishing boats without engine are mainly found in rural area such as in Para. The type of gear utilized by fishers in this village is presented in Table 2. Fishing boats are the main capital goods owned by the fishers. A unit of *seke*, for example, is composed of 1 *pamo* boat of 2 GT, 2 *Pelang* boat of 0.5 GT, 1 *londe* boat of 0.2 GT and unit of fish aggregating device. A similar composition is required for a unit of *soma* fishery. Sometimes the number of boats owned is used as the wealth indicator for the fishers. The more boats owned, the wealthier a fisher. Otherwise, fishers without boats are considered terribly poor.

The types of boat and gear mainly used by the fishers of Para are illustrated in appendices 2, 3 and 4. The fishing boats are less than 3 GT in size. This size not only is based on capital

availability but also to make a boat movable without the engine. The boat and gear both were self-made by fishers based on their traditional knowledge of physical conditions of fishing grounds and behavior of fishes. It was realized that the fishing gear introduced by the government under the modernization project fund is ineffective for use in their fishing ground. With modern gear they cannot catch fish at all. Therefore, fishers refused to use it and they continue to operate their traditional fishing gears which captures more fish. This attitude was usually interpreted by the policy-makers as refusal to adopt modern technology (POPKIN, 1979). Actually, they refuse because it failed to catch fish for making money to pay the debt created by buying modern fishing gear.

Table 2. The types of fishing gear and technology utilized by fisher of Para

Type of gear	Number unit	Level of technology
Seke	12	Non- motorized
Soma Talang	23	Some few outboard engine
Soma landra	3	Non- motorized
Soma Lacang	19	Non- motorized
Hook line (noru)	223	Non- motorized
Trap (igi)	27	Without boat

Source: Gear Owners, 1993

3. Management of production

Lack of management ability and poor managerial skill are two accusations frequently addressed to traditional fishers in papers and discussions of fisheries development (ATMOWASONO, 1974). Whether this really occurred in the actual production process on the island community is a question to be explored. The word management in this context refers to planning, organization, implementation and control of production. How island fishers manage, organize, implement and control their process of production are questions demanding answers through this investigation. Prior to visiting this island community there is a hypothesis that island fishers do not work on a planning basis, they are just working based on the instigation of their hunger instincts. After careful observations it is found that they have long, medium and short term plans for production. Long term planning appeared in the form of capital formation, the utilization of special fishing grounds and training for successor fishing master.

The capital formation to provide fishing equipment is commonly prepared long before the fishing season comes. A good example is in the accumulation of equipment for the *seke* fishing season. Every year on 25th December night, each fisher's group conducts a traditional ceremony by making a nice skeleton of the gear which is called *pandihe* by local fishers.

Then it is stored in the right place and four months later on the 1st of April they continue construction that should be completed before the 15th of May. On the 20th of May, they begin to fish in the definite fishing ground until August 20th of the year. After this date, fishing

operations should be suspended at such a fishing ground. This aims at to provide opportunity for fish to spawn for the stock during the next fishing season (GORDON: 1953).

The training of young fishers who are prepare to be the fishing masters of the *seke* fishery in the future is another form of long term by traditional fishers on this island. A young fisher, usually the son of a fishing master, should learn his father for at least 10 years before he is appointed to succeed his father. This is because to be a fishing master of *seke* fishery one should have a supernatural power that goes down from generation to generation through aline of predecessor fishing masters. Therefore, not everybody in the communities eligible to be a fishing master of *seke* fishery.

Medium term planning appeared in the seasonal change of fishing grounds. Within the territorial waters of Para island there are some four definite *seke* fishing grounds and six *soma* fishing grounds that they rotate alternatively around the year. Changes of fishing operation on each fishing ground are decided following the change of seasonal wind direction so that fishing grounds are always sheltered from strong devastating waves.

Short term planning was demonstrated by fishers in their weekly and daily schedules of fishing operation. Daily plans of fishing operation are arranged mainly based on the monthly lunar cycles. The lunar rotation is 28 nights in a month and they divide this into the dark and light moon. Usually, the period of light moon is a bad fishing time, and, therefore, fishers plan carefully to use each night in a month.

The *seke* fishing operation, plan is not related to monthly lunar cycles but to daily sun light intensity. Fishing twice a day between 5:00 and 6:00 pm and early in the morning between 5:00 and 6:00 am. Hence, they must plan carefully the time of preparation and departure from the village to the fishing ground so that they can reach the ground on time. If they fail to reach this fishing time, the school of fish escapes and they must wait until the next fishing time.

It was observed that island fishers not only work based on careful planning but also organize their process of production in the proper way. Their skill in organizing a production process appeared in *seke* and *soma* fishing operation. In the *seke* fishery, the fishers were arranged into several groups. They arrange daily, weekly, monthly and annual schedules of fishing operation for each group. At fishing time, fishing crews are also organized according to their functions. In brief, all activities are organized in a such way that fishing operations will gain a bulk quantity of catch.

The skill of island fishers to implement the production process according to the plan and organization can be seen from their ability to gather and command a mass labor to work together on board. Early in the morning at 3.00 am., the secretary of each group began to walking around door to door to wake up his group members to prepare to depart so as to reach the fishing ground on time at 5.00 am. Although sometimes they return to the village without a catch, they have to try to implement the production activity that has been planned previously.

Fishers learn never read theory in textbooks but rely on practice. Island fishers naturally learn the control functions of management. In fishing activities, this appeared in regular inspection of gear such as boat performance and net damage. Soon after fish were landed, the fishing boat return off-shore to wash and inspect net condition. Damages are mended soon upon their return home. The control function is executed also during fishing time for example,

in case of large fish hauls, the fishing master will ask his boat crews to divide the school of fish so that it will not damage the net.

Based on this fact finding, it is not too much to say that they have an indigenous managerial skill sufficient to administrate the process of production. This finding, then, does not support the argument that lack of management capability is the cause of fishing households' poverty. This means that the major causes of poverty may lie somewhere else in the distribution system or consumption pattern and not in the lack of management skill in the production system.

It cannot be denied, of course, there are some individual fishers found who work based on the hunger-instinct (ELLISTON 1967). This kind of fisher is just going out to fish after the stock of daily foods all were consumed. When a fishing trip give them a price for fish, enough for 10 days of food, then the next 10 days will stay at home doing nothing. This is typical of pure subsistence fishers who mostly are living in a poorer condition. Also found are fishers who go out to fish at the time their wives began to cook or prepare lunch or dinner. A few minutes later such fishers return home with just enough fish for a lunch or a dinner. They call this household life style *lunch meal seeking in the morning and meal for dinner seeking afternoon*. Thus, the findings identified three types of fishers in island community: (1) long-term business minded fishers, (2) short-term subsistence fishers, and (3) hunger instinct fishers. The last two types are those commonly exposed as central issues in any discussion of fisheries development.

4. Raw material and level of production

The word material in this context refers to goods utilized on a fishing trip, such as fuel, oil, food, tobacco, etc. Island fishery does not require so much raw material on each fishing trip. *Seke* fishing trip do not require any food or wares except one or two liters of kerosene are needed for 8 HP outboard engines for some fishing. Those fishing groups who own no outboard engines do not provide any fuel and oil.

Seke has a short time fishing trip, e.g. no more than 4 hours from the time of departure to arrival again at the beach of the village. This becomes possible because the fishing ground is near their village. The farthest fishing ground is at Singgaluhang 10 miles south of the village. To fish at this fishing ground, they stay for about 3 months, from May 20th, up to August 20th every year. Fishing trips with stays longer than a week at the fishing ground they called *badaseng*. Raw material for this type of fishing trip was prepared long before departure from the village.

To collect data on the production level of each fishery unit directly from the fishers is impossible. They are still unfamiliar with written documentation of their daily activities, including fishing business. They keep no notes of their catch on each fishing trip and monthly as well. This is typical of traditional fishers. For this reason they can not calculate the loss-profit accounting of their fishery. Sometimes, the fishers claimed that they get profit on certain fishing trips but they forgot that they had spent a lot of money on previous failed fishing trips. For example, an individual operation fisher earned Rp.10,000 from a later fishing trip. He then claimed that amount is his total profit. Actually, his balance sheet was still minus Rp.15,000 because he spent Rp.25,000 on the previous failed fishing trips.

Facing this problem, there are two ways to get production data. The first is the researcher

should stay at the fishing village at least a month to make notes about the catch of each fishing trip. The second is to collect from fish middlemen their notes about each fisher so that it is easy to calculate payment after fish are sold out. This second way used data presented in Table 3.

Table 3. Production level of *seke* fishery on Para island community.

Name of fishery group	Prod. volume (kg)	Prod. Value(Rp.000)
Balaba	9,362	3,276.7
Lumairo	6,027	2,109.4
Ramenusa	7,742	2,709.7
Lembo	8,048	2,816.8
Lembe	5,873	2,055.5
Kampium	7,635	2,672.2
Total	44,678	2,672.2

Source : Fish traders, August 1993.

These data belong to *seke* fishery, while production level of other fisheries were not available. During the period of August 1993 the *seke* fishery landed 44,687 kg scads fish. This quantity derived from six units of *seke* fishing gear operating by six groups of fishers. The catch differences do not represent the superiority of a group but are determined by the fishing operation performance. The group of Balaba landed 9,362 kg during August but this may become lower in an other month. By contrast, the group of Lembe landed only 5,873 kg in August, but actually this group of fishers landed bulky catches in the previous months.

The quantity of catch presented in table 3 shows average conditions of production level of *seke* fishery. This quantity is limited by the capacity of fishing gear and the environment condition at fishing time. It seems that level of production will arise as the capacity of fishing gear is elevated by the introduction of modern fishing technology. To do this, fishers face a problem of small fish marketing outlet. For this reason, fishers still maintained traditional fishing gear. The present market size remains too small to absorb the production of modern fishing technology. Even at the present level of production, the largest part of the catch is smoked before it is consigned to sell in the market of the nearest town. Thus, smoked fish processing is done because of the low capacity of consumers to buy all the fresh fish produced daily by fishers in the region.

5. Labor and remuneration system

Island fishers consist of individuals and group-operation labor. It is found in the Para community that some individual operators also become members of a group operation fishery. By contrast, a group member of the *seke* fishery also works as an individual operation fisher outside the fishing time of *seke* fishery. They do this additional work before and after *seke* fishing-time operations. This is considered as a household strategy (HART, 1978) done by

fishers to fulfill their subsistence needs. In other words, island fishers have many indigenous rational ideas that they conduct to secure survival of their economic life.

As mentioned previously, there are 4 mayor fishing gears used by fishers of Para island respectively, *seke*, *soma*, *noru* and *igi*. The first two fisheries absorbed mass labor, while the later two are individual operation fisheries. Labor in the *seke* fishery is based on household instead of individual unit of fisher (Table 4). This means that participation in fishing operations can be represented by all household members beyond 10 years old, and also by a household member depending upon the free time available. There are no restrictions on number of laborers working on board during fishing operations. A household with 10 members, for example, can be represented by one of them. If all of them have free time, they can go together to participate in fishing. Before fishing time of 5:00-6:00 am, the secretary of their group begins to walk to the houses of members to wake them up 3:00 am. This is aimed to have a span of time for preparation before departure to the fishing ground. This work is done every night when it is on Sunday night because prohibited by their traditional rules.

Table 4. Labor working on board of *seke* fishery on Para island community

No	Name of group	Membership (Household)	Gear owned (unit)
1	Balaba	52	2
2	Lumairo	58	2
3	Ramenua	48	2
4	Lembo	43	2
5	Lembe	42	2
6	Kampium	45	2

Source : Fieldwork, 1993.

Remuneration system for labor done on board of *seke* fishery is treated by catch share system. The total catch of *seke* fishery is treated as the communal ownership. The catch was shared not only among the group members but also by some important community members such as the village head, school teachers, midwife, priest, widowers, orphan, etc. Since the membership of this fishery are by household, all household members whether they are still a baby or adult living outside the village should get a share from the catch. This is considered as a unique share system in north Sulawesi and even in Indonesia as a whole.

Practical distribution of the catch is made by the *mindoreng*, that is, the secretary of the *seke* group, in three steps. In the first step, the share for village head, school teachers, midwife, nurse, widower, priest and orphan is deducted from the total catch. This share is called *tonggole* which means charity in English. Second, a certain amount of fish is distributed to the group leader of *seke*, fishing master (*tonaseng*), secretary, (*mindoreng*) and treasurer. Generally, the secretary receives his own share after all members have taken theirs. For this reason, he often does not receive any share when the catch is lean. At the third step, group members receive

their own shares. The volume of catch shared differs with members of household, the more members, the more fish from the share. The quantity of share is decided by the secretary of each fisher group based on the estimation of catch volume and the number of people who will get the share. For example, if he estimates that the volume of catch can be distributed 8 tail to each person, then those households with 5 members will get 45 tails (4 kg), and those with 10 members will receive 90 tails (8 kg) of scads fish. The exception is those important community members such as village head teacher, priest etc. whose share does not consider their household members; hence, they will get only 8 tails (1 kg) per household. Similar rules of share are valid for *soma* fishery except only fishers who participate during fishing operations will get a share. Other household members are not taken into account for catch share. It seems that the remuneration system applying in *soma* fishery was a transformation of the traditional socio-economic system used in *seke* fishery. By this transformation the capitalistic economic system penetrated the socio-economic life of this remote island community. The share system in the *seke* fishery is social than economic. Economic motive is still secondary, subordinate to tradition and religion. Social exchanges based on tradition and religion still treated as primary (BOEKE, 1953). The catch of *noru* and *igi* fishery is individual ownership, so there is no need to share with the other fishers.

These facts imply that the labor and remuneration system of fishery in Para island community remains typical of a traditional fishing society. The socio-economic activities are tied to the sense of communal solidarity rather than individual economic motivation. Mutual help for common survival is more significant in the socio-economic life of this island community.

III. Distribution system

In modern economic theory, the word distribution is usually referred to marketing activities, i.e., the transfer of goods and services from producers to consumers (SNODGRASS and WALLACE, 1964). In the socio-economic life of island fishers, however, the distribution of their yield appeared in two forms; social-cultural and economical-based distribution. The former is the distribution of yield without money compensation, while the later is based on take and give between goods or services on one side and cash money on the opposite side, such as is commonly in world trade practice. With these connotations in mind then, the study explored both social and economical distribution of goods produced by the island community. Considering that distribution has a lot of aspects, therefore, depth observation focused only on the socio-cultural and economical-based distribution system.

1. Social and cultural-based distribution

Economic theory defines distribution as the process of spreading and delivering goods and services from producers to consumers. This definition implies that distribution may occur either on a non-economic (socio-cultural) or an economic basis. The former was widely known as social exchange, social share, and some social scientists called it poverty distribution (SCOTT, 1976), while the latter was usually called as a trade or marketing process

In this study attention was focused to explore and identify the basic principle of social and cultural-based distribution. The distribution principle can be defined as the basic foundation of

how goods and services should be shared and delivered to all strata of people or consumers. It is found that there are at least two principles of distribution based on social-cultural consideration that are applied by the fisher folk of this island community, i.e., equal share and life safety principles.

1.1. Equal Share Principle

This principle becomes more popular in many textbooks of economic development in recent years due to high income disparity in developing countries that practiced a modern economic system. However, it is not unique to the modern economic system. Actually, this is rooted in the daily life of traditional peasant rural communities. In Para community the distribution system of goods is not merely on the economic, but social basis appeared in the form of equal share distribution. The basic concept of this principle is mutual protection of subsistence needs (SCOTT, 1976). A fishing householder voluntarily distributes catch to neighbors and relatives to secure subsistence needs in the future. When he can not go out to fish, the neighbor will supply him an amount of catch at least for his household daily foods.

In commercial fishery, this principle was applied by the fishers prior to the catch share between the gear owner and the boat crew. In the practice of *seke* fishery, the catch was share equally, not restricted to the fishers who participated in fishing operation, but covered community members who did not participate at all. They are the village head, officers, priest, nurse, teacher, widower, orphan, and even household members of fishers living outside the island. It is a traditional rule of *seke* fishery that distribution of catch among the members of fishing group should take into account all household members of boat crews whether living within the community or moved outside the island.

As explained previously, in *seke* fishery, the distribution of catch is delegated to the secretary of a fisher's group. At first, he deducted the catch for a social share for those village members not participating in fishing operations. At the second step he distributes the catch to the crew who participate in fishing and to himself. In many cases, the secretary in charge of distributing the catch gets little or nothing. This is because he must give priority to the members rather to himself. Certainly, he does this based on their traditional rule that everybody must put the common interest above individual interest. Thus, communal interest has the first priority and individual interest has the second. This is called solidarity value in a traditional community which encourages sacrifice for the safety and happiness of other people and relatives (NEHEN and ISWARA, 1990). This value seems to be the basic principle of yield distribution system among the community members of Para island.

It is learned from fieldwork that the connotation of equal share principle applying in remote island life differs from those proposed in many textbooks of economic development. The equal share principle from the island fisher point of view is more social, e.g., toward an equal share of yield. If a fisher going out to fish and catching 10 kg fish has 9 relatives, he would distribute 1 kg to each relative. He is satisfied not by the quantity of fish he keeps for his own household consumption, but by the quantity he can distribute to his neighbors or relatives. The more relatives share his yield, the more satisfied he is himself. In extreme cases he is ready to get nothing from his own yield, for the welfare of other people. This is called *rela berkorban* by local community members, that is, a willingness of someone to sacrifice for the happiness

and welfare of other people.

From the contemporary modern economic system point of view, an equal share distribution is proportional, determined by the degree of participation of labor in economic activity. Those who have a great contribution in the production process will get more share, and nothing is received by those who gave no contribution in the production process. Thus, a specific practice in island economies is the opposite to those revealed in contemporary economics textbooks.

1.2. Life safety principle

It is observed that the distribution of yields or earnings by the local people is not only for neighbors and relatives, but also for traditional ritual and religious ceremonial events. Actually, all these island community members are Christian followers, but traditional rituals remain in practice. Local island people endeavored to provide and supply anything needed for the success of ritual events. In fact, this costs them nearly half of their annual income. Respondents said that they do this as worship to the almighty god and supernatural power for the safety of their life. Thus, this type of distribution is driven by the life safety principle. The principle activates fishers to distribute a part of their yield or earnings to the superior natural power as thanksgiving for the safety of their life and the sustainable fish resource in the sea surrounding their island. The distribution appeared in the form of providing a part of physical yield to honor certain sacred places as symbols of worship. Certain ritual events such as Christmas and New Year Day involve a lot of cash expenditure on foods and other things for the ceremony and festivals.

Actually the Christian religion is the symbol of a modern way of life. Hence, the acceptance of the religion means the local people also accept a modern way of thinking. It is found, however, there are similarities between traditional belief and the Christian religion. Both believe in the existence of supreme natural gods. They differ only in the number of gods. In traditional faith, they believe in many gods, while Christians believe only in one god. Both traditional belief and Christian religion believe the supreme god is a source of life safety. So, they feel indebted, and distribute the best part of their yield on the worship where they place delicious foods.

This distribution system of yield by this island fishing households based on belief the supreme god and superior natural power will give them freedom natural disasters, abundant fish stocks, healthy and long life. For this hope and expectation, therefore, fishing households voluntarily distribute part of their yield and earnings for future life safety.

When comparison is made between equal share and life safety principle, it is seen that the former principle is more social, charity oriented, while the later is more cultural or religious in nature. This value suggests people act according to their faith that everything is true and right even without proof (NEHEN and ISWARA, 1990) The implementation of both equal share and life safety principles seems enclosed with the hope or expectation of indirect economic gain someday in the future. In many cases, however, such expectation was not realizable, but yield and earnings were distributed to relatives and for ritual events. For this reason, rational economists call this type of social and cultural-based behavior poverty distribution (CHAMBER, 1983), and the World Bank staff called it the poverty share (EMMERSON, 19805). This aspect is still

disregarded in modern economic analysis because it is more qualitative in nature.

In the minds of modern economists, fishing households are assumed to have non-social economic behavior in any production and consumption decision. Findings in Para island community indicated that such assumption is not valid. Fishers are more satisfied to distribute their catch or earnings to a lot of relatives than to consume all by themselves. It seems that fishers feel happy and wealthy spiritually when they distribute some part of yield and earnings for ritual worships. This way of thinking is the key answer to why fishing households living in poverty while in fact they landed bulky catches and have abundance of fish resources in the sea around their island. For this reason, traditional socio-economic system used by fishing households is blamed as the cause of their poverty (CHERNICHOVKY and MEESOOK, 1984).

What they consider irrational and rational ways of thinking by rural peasants has been discussed extensively by SCOTT (1976) and POPKIN (1979). SCOTT (1976) declared that the rural peasant is hesitant to accept any form of modern technology (industrialization) because their minds have been deeply penetrated by the subsistence ethic. The basic concept of this ethic is it would be more safe to keep the traditional system of production that secures their subsistence needs, than to apply modern systems do not any guarantee yield that would cover their subsistence needs.

Actually, for some island people it is hard to suspend the distribution of yield or earning to their relatives and shift it for investment in modern fishing technology. In this case, island people stand at the cross-roads. To accept modern technology means they should suspend their yield distribution which leads them to the loss of relatives as well as patronage from their supreme gods. How to persuade them to shift earnings for production capitalization is the major problem facing economic policy makers in the developing countries (BAILEY, 1987).

The experience of Indonesia during the last two decades indicates that suggestion and persuasion by oral explanation were not effective for island fishing households. This is because collision between traditional and industrial values lead to two choices: (1) if the promotion of modern or industrial values is successful then the traditional value will degraded, (2) if this promotion fails, it means the rural community prefers to believe that traditional values can secure their life, at least for subsistence needs. Both these choices are undesirable because traditional and modern values are mutually necessary and complementary to each other in rural island economic life. Therefore, practical considerations might be appropriate to persuade them to shift from a traditional to an industrial way of thinking. In this way, it is expected that improvement of the economic living conditions could take place in island communities.

It is identified now that the poverty of fishing households on remote islands to a certain degree was caused by an income distribution system more social-cultural than economic (MUBYARTO *et. al.* 1984). To further improve the island community economy, therefore, it is necessary to promote income distribution system based on the economic principle without degrading the socio-cultural value of distribution. In other words, the challenge of island economy is to promote modern socio-cultural and economic values without devastating indigenous cultural values. This is because modern value is necessary conditions for the wealth of island households and traditional values are necessary for a genuine society to exist. Thus,

both traditional and modern values must be promoted in tandem.

2. Economic- based distribution

The distribution of goods and services in one direction which would be counter balanced by the flow of cash money from the opposite direction is defined as distribution based on economic interest. In this way, all capital spending for input of production will result in income output return. In the economic life of an island community, this type of distribution is reflected in the flow of catch from the fishers to the fish traders and finally consumers. In contrast, cash money flows from the consumers through the fish traders and finally reaches the fishers in their status as the producers. This is the only yield distribution that provides direct economical gain to the fishing households. They spend this income to buy subsistence needs they cannot provide by themselves from the resources available in their natural environment. Some parts of the earnings they distribute for ritual and other traditional festivals.

The distribution principles mentioned above make the total yield produced by fishers divided into three parts. The first part is distributed to the relatives and other community members that account for about 25 %. The second part, an estimated 30 %, is for ritual expenditure, and the third part, for the economic needs of their own household members, is calculated at 45 %. Now gradually it becomes clear how fishers distribute their total yield and how much of earnings give them prompt economic gain for improvement of their living condition. About 55 % of their total earnings were spent for non- profit social and cultural activities.

In its relation to the effort to improve their economic living condition, the question is how to switch this 55% of the total income from non-profit spending to profitable investment in modern fishing gear and technology. If based on economic principles, then all the 55% of earnings should be spent for capital goods to increase productivity. To transform this socio-cultural tradition, however, is not easy. It was revealed by the sociologists that to urge rural peasants to change their socio-cultural tradition required long- term gradual adaptation. This is because it involves structural transformation of the community's common moral and ethic, in the process of change (EKEH, 1974).

The same suggestion were given by HAYAMI and KIKUCHI (1987) who said that institutional change is necessary for the benefit of rural community members but should be gradual and continuous. It might be useful to consider the opinion of SNODGRASS and WALLACE (1964) who said the best way of transformation from traditional to industrial system of production is through education, both formal and informal, to change gradually their way of thinking from financial loss and profit.

3. Fish marketing system

Fish marketing is an economic-based distribution in which products are transferred from the fisher to the consumer via fish middlemen and its payment flows in the opposite direction. Modern economic theory says that the main basis of distribution is a economic efficiency, i.e., fewer operation costs and a lot of return including profit. This is a modern value that economists assume have been in practice in remote island economies. Actually, this basis remains neglected in the traditional fish marketing system (OVENDEN, 1961). Findings in the Para

island community indicated that there is a slight improvement toward economic efficiency in the marketing of fish produced by the local fishers. Originally, the local fishers had no economic efficiency in selling their catch. For example, the nearest market of their catch is about 40 miles in distance which take about 12 hours for a round trip. The trip will cost fishers Rp.56,000 for motor boat fuel. Sometimes they bring a volume of catch worth about Rp.75,000 in total value. If one takes into account the fixed operation costs, then they had a loss. In this case, fishers still think that they had a profit because they take into account only the total cash that they earned and ignore how much they have spent. The situation improved in recent days after fishers delegated the marketing of their catch to fish middlemen. Fish traders work based on loss profit accounting which leads to practice of the economic efficiency principle. At the first step fish traders accumulate catches from several fishers so that volume is large enough to push down the transportation cost from producing to consuming areas. The second step is lowering the price of fish at the island in case fish trader can not elevated prices in the town market. When fish sells at a high price, the fisher will get a reasonable price for their catch and, hence, more profit.

The modern economic theory listed about 9 marketing functions that must be taken into account as the economic basis for distribution system (LIM, 1976). All of these functions will not be found in this island fish marketing system. The functions of merchandising, packing, scaling, pricing, etc. remain performed in traditional ways. The units of catch were not counted in kilograms but in tails, piles, and boxes. The weight of piles and boxes was by guess, or approximately, which is called *kira-kira* in the vernacular. In brief, fish distribution system in island economies has to be a combination of the traditional-based practices and modern economics.

The mixed applications of traditional and modern economic systems were revealed by BOEKE (1910) in his doctoral dissertation. He pointed out that there are two economic systems that run in parallel, e.g., a western (modern) economic system and an oriental (traditional) economic system. The former activated an urban economy, while the later guided rural economy. Both economic systems occurring simultaneously in the same region he called a *dualistic economic system*. It is found in this island economies, however, that traditional and modern economic systems no longer run in parallel paths, but commingle with a high predomination of the traditional system. In other words, the economy of the small island community is still dualistic in nature with large portions of social-cultural value and few portions of economic value. This should be taken into account in planning for the improvement of small island economies.

3.1. Distribution channel and fish price

The distribution channels of fish in the modern market economy were relatively fixed through several legal and established marketing webs and chains. The channel of fish produced by fishers of Para island however, is quite different. It mostly by-passes the route of traditional market institutions which is considered illegal from the governmental administration point of view.

Distribution channel of fish produced by fishers in this small island community is summarized in Table 5. Of the 13 channels in the present fish market in north Sulawesi, six points

existed in the producing area and seven points in the consuming area. There, the catch of island fishers is distributed only through four channels. The channel type A occurred in the village in very few cases. The channel types B and C were found in rare cases. Thus, the distribution channels of the fish marketing system were still simple. Therefore, the catches reached consumers with cheaper prices.

Table 5. Distribution channel and price of fish produced by *seke* fishery in Para

Point of channel	Types of channel (Rp/kg)			
	A	B	C	D
Producing area:				
Fisher	350	350	350	350
Large fish traders	-	-	-	-
Medium fish traders	-	-	-	-
Small fish traders	-	400	400	400
Fish peddler	-	-	-	-
Consumers	350	-	-	-
Consuming area:				
Large fish traders	-	-	-	-
Medium fish traders	-	-	-	-
Small fish traders	-	500	-	-
Fish retailer	-	-	500	-
Fish peddler	-	-	-	-
Export company	-	-	-	-
Consumers	-	500	500	500

Source: Fieldwork, 1993.

In the most cases, the price of fish was determined by fish traders in the consuming area. Thus fish traders of producing areas consigned fish from the island without fixed prices to the fishers. Fish price was determined after fish were sold by fish traders in the consuming areas. This means that fish traders in consuming areas also depend upon the price decided between consumers and fish middlemen or fish retailers. In most cases the fish traders always lost in the bargaining, notably during fishing season. The consequence is that the fishers should be satisfied with cheaper price of their catch.

Fish were sold in units of *ekor* (tail) but this is easy to put into kilograms. For Scad fish, for example, 8-9 tails of fish are equivalent to 1 kilogram. Prices of fish differ with species and market. Fish species such as Scad, Caranx and little tuna (*deho*) were sold with price Rp. 250/kg at the hand of fishers and Rp. 500/kg at the retail market of the nearest town. While fish species such as skipjack, tuna and seabream were sold between Rp. 400/kg and Rp. 500/kg at the hand of fishers and vary from Rp. 600/kg to Rp. 700/kg in the retail market.

This finding implies that the distribution channel and price of fish produced by the island

fishers are no longer in parallel between traditional and modern systems but intermingle with each other. This means the traditional system no longer commands only the rural economy but interferes also in the urban market economy. In contrast, the modern system has gradually penetrated into the remote island economies. Thus, the theory of the dualistic economy is changing gradually to an intermingled economic system. It seems that no longer can there be separation between rural and urban economic systems because both influence each other. The present intermingled economic system also remains at the cross-roads position with high possibility of change to a semi-capitalistic or pure capitalistic economic system. A more desirable transformation is toward the creation of an economic system that accommodates mutual adaptation between indigenous traditional values and modern economic values from outside the island.

3.2. Fish middleman

In a modern economy, middlemen were most popular with traders or merchants who hold legal permission, have a permanent business place and, address and the most important, are seen as honorable persons instead of swindlers (LIM, 1976). In fishing economies, however, since old times fish traders were considered to have an illegal job, no business place and address, and were popularly recognized as swindlers who exploit exhausted fishers.

The observation in Para island community indicated that these attitude disappeared. Here the role of fish trader gradually changed from pure middlemen to business partners who provide any subsistence needs whenever required by the fishing households. There are eight recognized fish traders in this small island community; one of them is a medium-scale trader who expanded his business to being a merchant of daily goods, fishing boats, and recently is trying marine culture. Another seven persons are small-scale fish traders. Some of them own small motor boats for fish transport from the island to the nearest town market. Two of them are school teachers, of whom one heads the elementary school on the island community. According to detailed interviews, is they do this part time work to fulfill their subsistence needs because their monthly salary is only about Rp. 120,000 which equals to 6,000 yen or 60 US dollars. The amount might be enough to cover daily food, but the problem is, it is paid irregularly. In many cases, the payment is delayed up to three months for the first month is salary. This situation boosts them to do part time work as fish traders. Actually, there are another 5-6 small-scale fish traders in the community, but there are also fishers who work part-time in the fish trade. It is identified that there are at least three types of relationship between fish traders and fishers in this community. The first type is the freelance fish trader who is free to decide to buy or not to buy fish from fishers. This type of fish trader works with little capital and mostly sells fish belong to fishers. They pay fishers after the fish are sold in the town market.

The second type of relationship is called *Langganan* or customer in English. This relationship mostly occurs between fisher and small-scale fish trader. Each fish trader has three or four fishers who regular supply fish to them for trade. Although there is payment after fish are sold, this relationship sometimes is extended to help each other in fulfilling subsistence needs. For example, fish traders will provide an amount of cash money or food whenever emergency is needed by fishers. In return, fishers will continue to sell fish to such fish traders irrespective of cheaper or expensive fish prices in the retail market of the nearest town.

The third type is a patron-client relationship. There is a fish trader in this island community who has medium capital assets, and, hence, he became a patron for a number of fishers on the island. He provided fishing boats and gear for fishers on credit basis. Then payment was deducted from the price of fish delivered by fishers to him. The patronage was not confined only to providing fishing boats but extended to provide daily life requirements. Interviews identified that some fishers feel helped by this relationship, but others said they are tied forever to the patron because credit installments cannot be ended. This is because before the previous credit is paid off another new loan is asked from the patron for other economic requirements of fishing households. There is no definite time to pay credit provided by the patron. That fishers should sell their catch to the patron is the only stipulation and is made by mutual consent.

In modern urban periphery fishing communities there are two types of fish trader, i.e., those who work within a chain of informal organizations and those who work individually (MANTJORO and YAMAO, 1995). It is observed in this island community that fish traders work individually, without any special chain, with fish traders in the market consuming area. Fish traders on the island are free to sell their fish to those fish traders in town markets who offer high prices. Sometimes they serve as fish peddlers walking around the town to sell fish from door to door until fish are sold out.

Thus, the marketing system practices by the island's fish traders remain traditional ones. There are no complicated organizations in which fish trader can make a cartel to determine the price of fish. Fish prices were mostly determined by willingness of consumers to pay. Fish traders always lost bargaining position in facing consumers. This is because if such a fish trader maintains higher fish prices, other fish traders will offer cheaper ones. This is a major problem facing the island fishers in selling their catch. Therefore, the major complain of island fishers is how to improve the fish marketing system so that they can gain higher prices for their catch.

It is identified that there are different expectations between the island fishers and policy-makers about fisheries development. The policy-makers assumed that the problem of fisheries development lies in the production sphere. Hence, the policy makers should boost fishers to increase their productivity by using modern fishing gear and industrial way of management. On the other hand, island's fishers feel that productivity is not the serious problem. The serious problem for them is the expansion of market size in terms of increasing price and volume of catch sold. From island fishers' point of view, their productivity would elevate automatically when fish markets could absorb their catch in bulk volume with higher prices. Only a foolish fisher would like to waste his time to increase production without enough out-let for their catch. Thus, it can be said that fish traders are not the only factor which lower the income of fishing households but also important is the performance of the marketing system. It is learned now that bad conditions in marketing systems not only lower the income of fishers but also fish traders find it difficult to sell fish.

3.3. Elements of fish marketing

It is identified there are at least five elements of fish marketing system recognized in North Sulawesi. These are *pengurus*, *lelang*, *tibotibo*, *eceran* and *bakul* elements (MANTJORO and

YAMAO, 1995). The findings on Para island indicated only the latter three are practiced. Observations on other remote islands indicated similar elements of fish marketing systems. Thus, it can be said that a typical fish marketing system on remote islands in the north Sulawesi area.

3.3.1. The *tibotibo*

The term *tibotibo* refers to the small capital fish traders who sell fish in small quantities. Within the chain of fish marketing in urban areas, they have small chance to buy fish direct from the boat owners. They usually buy fish from individual fishers or boat crews, and then sell directly to the retail market by themselves. In the Para island community, *tibotibo* traders appeared in two forms. The first is fish traders taking fish from individual fishers to sell it fresh to the near market and then pay after fish sold out. There is no price negotiation with fishers because fish traders do not have any market price information. Traders just consign fresh fish to the retail market with expectation of a reasonable price so that he can earn a margin or commission from the owners of fish.

The second form of *tibotibo* practice appeared as fish traders buying with cash fresh fish from the fishers and then they preserve it with simple smoke processing. When the volume of smoked fish becomes large enough to reduce transportation costs then it is consigned to the fish market of the nearest town. In this way, fish traders will get higher margins because they buy fresh fish in the producing area with cheaper prices and sell it at the town market at relatively higher prices. In facts, fishers feel it more convenient if fish trader can buy their fish in cash even at cheaper prices rather than to wait until fish traders return home after fish are sold in the town market. Thus, the *tibotibo* practice is a way of selling fresh or processed fish through small capital holder fish traders. The system provides two ways of transaction: after sale payment and cash. The former is commonly done if the fisher and fish trader live on the same island and is also valid for fresh fish. The latter usually apply when the transaction occurs on the island, and the fish will be processed before sale to the town market.

3.3.2. The *eceran*

Another fish marketing element is called *eceran* which is generally known as the retail system of fish marketing. The retailer is called *pengecer* in the vernacular and mostly is assumed by the consumers as the only fish trader. This is because consumers commonly buy fish of the retailers instead from other types of fish trader. In urban fish retail markets, retailers have their own permanent fish selling places. In some small town fish markets, retailers change their selling places every day depending upon whether the previous places were occupied by other retailer or not. If it is still empty, the fish trader will take the same place from the previous day. The retailer markets at which the catches of island fishers are always sold, are mostly of independent fish traders. They do not belong to fish middlemen organizations such as are commonly found in fish markets of urban north Sulawesi.

In the retail system, fish were sold by *ekor* or tail unit for bigger fish and piles unit for small ones. But rare and strange fish were sold by weight even in urban fish markets. The bigger size fish such as skipjack, tuna, seabream, etc., were commonly sold in pieces. This is aimed to adapt to the buying capacity of local consumers. It is too risky to sell fish by kilogram or tail, because the buying power of consumers is too low. Interviews indicated that consumers do not like to buy fish by weight of kilogram unit because it is unfair trade. Their way of

thinking is that fish was weighed with its bone and other inedible parts and that it is not necessary to pay for them. On the contrary, retailers thought that is profitable to sell fish without scale units. Some retailers said that is inconvenient to use a scale in selling fish. Thus, selling fish in units of tail, pieces, and piles is a compromise between retailer and consumer.

Prices were based on the daily supply of fish and the consumers' willingness to pay. Retailers usually fixed prices at twice the profitable level, to anticipate bargaining prices from the consumers which are also twice below the retailer in price. It is common practice in the *eceran* system that consumers always make a bid twice or even three times lower than the price fixed by the retailer. This situation indicates that fish price in the retail market is mainly determined by the consumers instead of fish traders in urban markets.

3.3.3. The *bakul*

This is a typical of traditional fish marketing practice. The word *bakul* means a basket that is used to carry fish on the head and commonly known in the peddler system of fishing marketing. Fish sellers go from door to door with baskets of fish on their heads. This trade is mostly conducted by wives of fishers who travel to the neighbor villages. On Para island, however, this system occurred in few cases because the neighbor villages also have fishers. Therefore, the system is only found in the nearest town where the catches of Para fishers were commonly sold.

All three systems mentioned above indicated that fish marketing on the islands remains traditional and small in nature. It is not surprising if fisheries development runs at a very slow rate in the island area because fishers cannot repay capital invested in fishing boats and gear. Thus, backwardness of fishing economy in the region is not because fishers insist to use traditional means of production but because fish market conditions remain too small to absorb the catch of local fishers. Thus, it can be said that the capacity of the fish market determines the industrialization of fishery in island economies. This is based on observation of the fishing economy situation of fishing communities near urban areas. In urban periphery areas, fisher can easily change their means of production from traditional to modern ones. They can do this because fish market capacity here is large enough to absorb the catch and the income gained from the scale of fish is profitable enough to repay borrowed capital for fishing gear. Hence, it can be concluded that fish market capacity serves as the limiting factor for the improvement of fishing economy in the island community.

IV. Consumption pattern of fishing households

As revealed in many textbooks of research methodology, a researcher is like the blind person who endeavors to identify an elephant by touch. When he approaches to the ear and touches it, he would conclude the elephant is like a big leaf. If he approaches the leg and touches it, he will conclude the elephant is similar to a coconut or palm tree. When he touches its trunk, the blind man will conclude the elephant like big python (MYRDAL, 1987).

This parable implies that it is necessary for any study to explore an object from several aspects so that the conclusion becomes comprehensive in nature. With this parable in mind, the study was extended to explore the knowledge of the socio-economic system from consumption approaches. The exploration emphasised the following aspects: basic needs, social

and economic perspectives of consumption, relationships between consumption and production, consumption pattern and its impact on the living standard of fishing households.

1. Basic needs

Irrespective of traditional or modern society, consumption is considered the major independent variable in relation to production and distribution of goods and services. This is because the willingness to produce fish and other goods is activated by propensity to consume. Fisher endeavor to fish is driven by the need at least of daily meals for their household members.

Consumption also has a negative correlation with production. In the *ceteris paribus* situation, e.g., all being equal, the increase of consumption quantity decreases the quantity of produced goods. The desirable situation both in micro and macro economy is that volume of production should always be higher than volume consumed. The poverty of island fishing communities is always interpreted as lower productivity without considering the volume of goods they consumed.

Each individual and group has this own priority about what goods they want to consume. Therefore, goods and services to consume were commonly divided into basic, secondary and even tertiary needs. The basic needs of people vary with age, sex, ethnicity, race, country, etc., but the most important one is level of economic development and civilization. The people who are living in a traditional environment have different basic needs from people in the modern world. Telephones, newspapers and television have become basic needs of modern society, but are tertiary or even nothing at all in island households' priority. Therefore, it is thought to be necessary to explore the nature of basic needs of fishing households on the remote island.

The World Bank defined at least six basic needs of people that should be given first priority in the promotion of the economy in developing countries. These are food, clothes, housing, health, education and saving (CHERNICHOVCKY and MESOOK, 1984). These variables were the focus of observation during fieldwork in traditional fishing communities of remote islands.

1.1. Foods and Beverages

One of the pre-requisites of funds provided by the World Bank for Economic Development in backward countries is they should be spent for capital goods that enable household to fulfill their basic needs in kind, quantity and quality. In this study the attention was given to the kinds of foods consumed by fishing households of Para island community.

Field observation identified that foods differ with fishing households in the community. The major food materials of fishing households on this island are cassava, sweet potato, and *sagu*. Rice is rarely prepared in the daily meal of households, The daily meal composition comprises fish as the first preference, then is followed by *sagu*, sweet potato, and cassava as the second, while vegetables are the last preference. These facts were indicated by no vegetables at breakfast, lunch, and dinner during observers stay in this island community. Thus, daily meals were composed only of fish, rice and *sagu*. Actually, rice appeared in the composition meal derive from the author is supplies brought when coming to the island.

Fish for meals were commonly prepared by smoking and some few were boiled with simple tomato or lemon soup. Cassava and sweet potato provided for meal after being boiled, while

sagu were dried in traditional ovens made of clay. Frying meals were prepared only at special events such as weddings, and other ritual ceremonies. The oils for frying were made by the people from the coconut available on the island. For large volume of consumption such as for festivities, the raw materials for meal preparation were bought from the market of the nearest town through fish middlemen.

The sources of food material were self-cultivation by fishing households. The work on land was usually done by the housewife and sometimes was supported by fishers during the day-time because fishing time is early in the morning and evening. The fishing households endeavor to grow food materials on their infertile land for own consumption because there are no choice to buy it from the neighbor island village. Buying food materials at the nearest town market is a temporary choice because of long distance and little cash money.

Fresh water for drink, bath, and washing clothes was scarce in this island environment. There were only two or three wells available on the island for at least 1887 population in 1993. Fresh water produced by the wells was just enough for drink in shortage volume. To solve this problem, each household provides a water tank to accumulate rain water. Taking baths and washing clothes using sea water were familiar to the people on the island. Honorable guests from outside, however, can enjoy rain water for baths provided by village officers with a bathroom and toilet. Local residents are prohibited to use such village facilities.

The condition of food and water availability mentioned above may imply that the fishing households of this island are living with a low quality of basic needs. Food and fresh water resources are in limited quantity except that fish is available in abundance in the sea around the island. For the improvement of island economies, it is necessary to identify the kind, quantity and quality of foods consumed by each household. In this way, it would be easy to decide the starting point of an improvement program. Neglecting this will lead to the failure of the program.

1.2. Clothes

Basic needs in term of clothes are fewer in traditional compared to modern societies. There are various variety of clothes that can be classified into three type of needs. The first need is clothes for work, but in practice most fishers on this island go out to fish without clothes except pants. The second is clothes at home which are commonly undifferentiated as to those for relaxing, playing and sleep. The third is clothes for special day events such as going to church, parties, school, weddings, etc. The performance of the clothes, however, differs from those of urban people. What is called clothes for special events in the village are the clothes for work to urban people. Thus, they wear simple clothes commonly found in rural life.

Shoes and other clothes accessories are not yet included as basic needs of island people. Clothing needs did not deduct too much from the household annual budgets. This is because expenditure for clothes is once a year in the middle of December for Christmas Day and New Year celebrations. For poor fishing households, the expenditure for clothes might be once in two years. This is because new clothes are just worn at the special events so they can be used for several years. The clothes used by this island people may reflect that the fishing households remain in poverty living conditions.

1.3. Housing

Housing is another basic need because people cannot survive in the open air without any shelter from bad weather conditions. The conditions of housing in this island community are as follows; only 1.12% of the total 357 houses is in good conditions. The others were wooden (32.21%), bamboo (53.34%) and temporary houses (13.33%). About 90 % of the houses in the village are without toilet and bathroom. This is because the sandy beach and sea water in front of their settlement serve also as their toilet and bathroom. Therefore, they went for bowel movements at night or early in the morning. In turn this is eaten by the domestic pigs which walk freely within the village. Therefore, it is necessary to walk on the beach with extra care due to human sewage spreading elsewhere on the sandy beach. Housing conditions are still below average living standards. The fishing households of this island have fulfilled their basic housing needs, but remain at a lower standard.

1.4. Health

Rarely do fishing household members on this island suffer from any kind of sickness, both children and adults. The first impression on entering the village is they are healthy by their face color. This is support by the facts; there are no statistical note on how many of residents suffer from any kind of sickness. When someone gets sick, he never goes to the medical doctor but uses traditional medicine made of roots and leafs of plants.

For serious sickness they call a witch-doctor who has natural power to cure their sickness. When a housewife will give a birth, they just call the midwife available on the island instead of a medical doctor or nurse. They do this because there are no health care facilities on the island.

Actually, similar facts were found in a previous study conducted on the socio-economic life of traditional Bajo fishers in the Torosiaje fishing community (MANTJORO, 1993). They have an indigenous theory that people living in the coastal village rarely get sick compared to people who living in remote terrestrial communities. This theory arose when they refused to move to the new settlement on land provided by the government through the Social Welfare Ministry. The settlement project aimed to fulfill the basic housing needs for Bajo fishing households who live in the settlement on the sea surface about 3 km from the land. It is realized, however, after 5 years of project term, the households return to their former original settlements on the island. One of the reasons they move back to the old settlement is they feel unhealthy living on the land settlement. In fact, they recovered health again after they returned to their old housing. This is the reason that they believed that people living on the island settlement were healthier than those living on the main land settlement.

The case mentioned above is a good example of development projects that neglect to take into account the real basic needs of island communities. In fact, housing is a basic need for all people but a modern housing is not suitable for all. Each community has its own preference about basic needs including houses. Therefore, study of the kind, quantity, and quality of basic needs of a local society is a major necessity. Failing to do this, governmental projects such as mentioned above will fail (COLLIER, 1978).

1.5. Education

Data on education level of fishers living on Para island indicated that of the total 376 respondents, 12 % dropped out of elementary school, 70% graduated from elementary school,

14% finished junior high school and the remaining 4% finished senior high school. It apparent that fishers have their own arguments about the importance of education for them and their children. Opinion reflected the level of basic needs on education. As they said, to catch fish it is not necessary to waste ten years in a class room because fish never enter into school. It is more valuable and useful if money spent for school fees is shifted to buy fishing gear and equipment. This way of thinking reflected basic needs in education. The kind of education that they need is what link and matches with their livelihoods.

Thus, it seems that short time training, courses and the like are the basic needs of fishing households on education. It is superfluous to boost island fishers to pursue study to a higher level education beyond the level of their basic needs. Moreover, when they go up to the higher level of education, other problems will arise, e.g., unemployment will increase. This is because they will not work as fishers on one hand and have no job opportunity available elsewhere on the other. This is not prediction but experience in many countries including Japan. A present rural problem in Japan is the decline in number of young people living in the fishing villages who are successors to their parents' livelihood. As they finish higher levels of education, they continue to live in urban areas to seek better jobs for their future. These facts imply that a basic need of fishing households in an island community is education relevant to support the progress of their present livelihoods.

1.6. Saving.

Actually, saving is a basic need of modern urban society thought to be necessary also for traditional island community. Findings in Para island community indicated that saving of cash money is not a basic needs to them. Their real basic need is to save fish resources in the sea water and plants as well as animals on land. As they said, it is useless to save a lot of money if fish, animals and plants exhausted from their living environment. They can live for a long period with a lot of money but will live longest with an abundance of natural resources.

This way of thinking is quite irrational from a modern point of view. It is a concept of traditional island society that always collides with modern conceptions. The discussions on the reversed conceptions between traditional and modern society were revealed by HIGGINS (1956). More recently, EMMERSON (1980) said that the basic needs of a modern community are not necessarily the basic needs of a traditional rural community. According to him, the failure of many rural development projects in some Asian countries is due to policy-makers being careless about the reverse conceptions of basic needs.

2. Social perspectives of consumption

How island households regard consumption from their perspective is an important question. The hypothesis behind this question is that there must be a particular consumption pattern that differentiates them from urban society. They are distinguished from urban modern society by the consumption of economic resources, especially of goods they have produced. Modern society tends to regards consumption as an individual interest having first priority and common interest having last (GODELIER, 1972).

Findings on this island community indicated that their consumption behaviors were based on two social perspectives, i.e., *people eat to live* and *people live to eat*. This parable is com-

monly heard in the socio-economic life of traditional fishing households in the north Sulawesi region. This is not merely a parable but implies the ways of life of the people in the region. The household who choose the path of *eat to live* usually treats food consumption as the basic need for the survival of life. Hence, food must be consumed in such a way that there is enough to maintain daily life activity. The implication of this way of life is consumption should be confined to the survival of life and not be excessively.

This in turn controls their consumption behavior up to the amount properly enough for maintaining daily life and keeping from excessive quantity of consumption. This ethic of consumption influences their production and distribution system. Most island fishers going out to fish return home with catch just enough for daily consumption of their own household members. Surplus of catches are distributed to neighbors and relatives to meet their subsistence needs (WHARTON, 1963). Actually, with long term experience in fishing, it is easy for them to catch many fish, but the refrain because of the *eat to live* ethic. This is one of the reasons that they always have lower productivity. Thus, lower productivity is not because they refuse to use more productive technology but because they refrain from excessive consumption. As some respondents have said, to produce goods for daily life consumption it is not necessary to use modern fishing techniques.

This is considered to be the mental factor driving them to be more subsistence ethic oriented. SCOTT (1976) called this the traditional peasant morality which produce just enough for subsistence consumption. They refuse to use modern technology because they are afraid it will endanger their existence and the continuity of their subsistence needs (DE SILVA, 1964). This is one answer to on the question why modern fishing technology remains hard to penetrate into island economies.

The predomination of the subsistence ethic in moral attitudes of rural communities was actually generated by long term poverty (SUSANTO, 1984). They are hesitant to try a new technology of production because they afraid, it would lead them into a more precarious condition of life. Therefore, they prefer to maintain traditional ways of production that were experienced to secure their subsistence needs, rather than to change to modern technology without any guarantee to gain more profitable yield.

An exaggerated consumption pattern is expressed in the term of *people live to eat*. This type of consumption behavior will drive people to exploit natural resources exceeding their normal quantity of consumption. The concept of *live to eat* is derived from thinking that people live to enjoy any kind of goods and services to a maximum satisfaction. The local people expressed this consumption behaviour in term of *kalau ada tada, kalau tidak ada haga* which means *consume all if any, just be patient if nothing*. Although this type of consumption behavior common in modern wealthy society, it is found also among some remote island people.

3. Economic perspectives of consumption

Modern economics regards consumption as a source of sacrifices because it will degrade the amount of assets and wealth owned by households. Therefore, modern economic theory suggested to consumers to behave as frugally as possible (LEVI, 1981) This is the basic theory of consumption in relation to the production sphere. Those households who obey and imple-

ment properly this economic law, sooner or later will have wealth and better living conditions. The stipulations to save some part of income for productive capital investment that finally will enlarge the sources and quantity of earnings which result in wealth (NURKSE, 1966).

Actually, there are three modern economic perspectives on consumption in relation to improvement of household living conditions. The first perspective is, if consumption is maintained at a fixed level, then productivity should be elevated so that surplus income can accumulate for the enlargement of assets and wealth. The second one is, when the productivity cannot be elevated for the reason of shortage of natural resources, then the consumption side should be cut down to a level that maintains the previous amount of productivity. The third perspective is to cut down the level of consumption on one side and at the same time increase productivity on the other. All these economic rules will cause increase of assets and wealth of households (SNODGRASS and WALLACE, 1964).

Observation of the consumption pattern of households in island communities indicated that all three economic perspectives mentioned above remain insignificant practice in their daily socio-economic life. It is found they have specific traditional economic concepts of consumption pattern. There are two main concepts that predominate in the consumption behavior of local fishing households: (1) food for today is sought today, and (2) consume all if there is any, just be patient if there is nothing.

The first concept referred to the consumption pattern that takes into account the preservation of natural economic resources. In the other words, the exploitation rate of natural resources must be confined to the level of daily subsistence needs. In this way, natural resources will be available for day to day consumption in the long run because there is no excessive exploitation. This economic perspective reflected the frugal consumption behavior of island communities as the opposite of the prodigal behavior that has significantly appeared in the contemporary modern urban money society.

The second concept is related to consumption behavior that tends to consume all the foods they can produce in a given period of time without consideration for future consumption. Really, this is implying there is no anxiety in households about what they would consume in the coming days. In rural economic life this concept refers to those households who live with prodigal consumption behavior. However, this prodigality is confined only to the goods or catches that they can produce in a day fishing trip. The yield in a trip of fishing is not merely for own household's consumption but shared out with neighbors and relatives. Thus, the second economic perspective of fishing households also does not endanger the eternality available of fish resources in their environment because it is not driving them to exploit fishing ground excessively. If they do so, there will be control socially by the consumption ethic held by the most community members.

The finding mentioned above is the answer to the question of why fish resources are always available in abundance in the sea surrounding this island. The exploitation of fish resources is controlled by the consumption attitude that catches just enough fish for daily subsistence needs. In Para island community, the control of fish resources exploitation is imposed by the traditional sea tenure system (DAHL, 1988) inherited from the time 17th century. This aimed to prevent fishers from outside to enter fishing grounds within their territorial sea area so that fish

resources can be preserved eternally for the benefit of the next generations of the island community.

4. Consumption and production relationship

One of the modern economic laws on consumption and production relationship is the law of SAY. The law of SAY defined that *production creates its own demand*. It means, ones own consumption encourages him to produce certain goods or services that will be soled out for exchange with other goods he earned (LEVI, 1981). This law might be adopted from traditional economic practices because it is found still valid in the social-economic life of the Para island community.

It was observed that the production activity of fishing households is mostly driven by propensity to consume goods and services as much as by subsistence needs. This level of consumption in turn refrains them to produce fish excessively. The need to consume rice, sweet potato, cassava, coffee, sugar, etc., encourages fishing households voluntarily to go out to fish to earn exchanges for the mentioned goods. This is because they can no longer solely depend upon the consumption of fish itself. Though they are living in traditional ways, they need to consume other goods such as clothes, raw material for housing, health care, education for their children and other basic and secondary needs. FIRTH (1966) in his study on Malay fishermen revealed that the economies of full time fishing households tend toward a full exchange economy in nature. This is because their production was specialized on fish, but their need to consume various kinds of goods and services drove them to practice exchange or barter economy.

Thus, their traditional economic life activates a propensity to consume goods other than fish up to level of subsistence needs. This is the link between consumption and production that leaves more fish stock available in the sea water near the fishing village for long-term consumption. Therefore, it can be said that production is a dependable variable in this traditional economic system. It implies that to some degree, the level of production is determined by the level of fishing household consumption. This indigenous preservation idea is now going to be followed by a contemporary economic system that appeared in the intensive promotion of fish resources management based on traditional sea tenure system and of community-based management system (DOULMAN, 1993).

5. The impacts traditional system on living condition

Findings such as those revealed in the previous pages indicated that a traditional economic system remains in practice in Para island community. How traditional practices affect the living condition of fishing households in remote island areas can be understand through the work of some social scientists such as arranged in Table 6. Here we see that most social scientists believe that the poverty of fishing households is caused by the traditional economic system including the consumption pattern. However, one scientist sees the traditional economic system as helpful for survival in facing shortages in economic resources (SUSANTO, 1984).

Table 6. Impact of the traditional economic system on living conditions of rural peasant households

No.	Scientist	Year	Their scientific conclusions
1	BOEKE	1953	Any economic development will default in the presence and predomination of traditional socio-economic system
2	CHAYANOV	1966	Traditional socio-economic system applied by the peasants was responsible for the stagnation of their economy
3	FIRTH	1966	The poverty of fishing households is mainly caused by their traditional way of life
4	ELLISTON	1967	The problem of fishers' poverty in Serawak is because they have a part-time mentality and not yet shifted to full time professionals
5	SCOTT	1976	Subsistence ethics held by the rural peasants are responsible for their poverty
6	SUSANTO	1984	Within the shortage of resources situation, traditional value allow the peasants to survive

The results of previous studies indicated that there are two types of impact by traditional economic systems on the peasants' living conditions. Most of the fishing households live at the subsistence level of food. However, this does not necessarily mean poor or precarious living conditions. From their point of view, such living conditions help to maintain the availability of fish resources for long-term consumption. Fishing households have to choose either (1) higher level of living standard with short-term existence of fish resources or (2) to keep the subsistence level but with long-term availability of fish resources. In fact, they selected the second one to secure their immediate basic needs as well as the survival of their children in the long run. In contemporary economic analysis, a subsistence level of living conditions automatically means a precarious and miserable life. In reality, though they are living at subsistence level, they have a good will to distribute their yield to relatives and even provide delicious meals for guests who visit their island. They can serve other people though themselves in a shortage situation. This social attitude reflects that there is no anxiety in their minds about their living conditions. The willingness to distribute a part of their yield is based on the consideration that they are not too poor to make such distribution. Certainly, this fact is irrational from the contemporary economic view. In discussion about the moral of poverty, many social scientists insist that it is impossible to simultaneously experience misery and happiness. This is not surprising because they look at subsistence living conditions from a modern life point of view. Actually, everything is possible from a traditional life point of view. This is acknowledged by BOEKE (1953) in his dualistic economics theory that the moral economies of traditional peas-

ants in oriental nations, i.e., East and Southeast Asia totally differ from those in textbooks of modern economic theory. The peasants have few wants and satisfy them easily.

V. Conclusion

There are at least four economic systems mentioned both in classic and modern economics textbooks, i.e., traditional, command, market, and mixed economic systems. A traditional system implies a non-industrial mode of socio-economic life in which producers are directly and knowledgeably related to production, distribution and consumption. In practice, this type of socio-economic system still predominates in the daily life of the community on Para island. Practices of the traditional system show the following characteristics; (1) strong communalism in production process, i.e., in capital formation, way of management, raw material use and labour remuneration system. Production is in and for the household and there is no distinction with production for the market. It seems, however, there is a possibility for local fishers to adopt a modern production system in terms of utilizing modern fishing technology if the market can absorb completely all of their catch at reasonable prices, (2) social and cultural perspectives still predominate in the distribution system of yields. People are more satisfied to distribute their catch or earnings to a lot of relatives rather than to consume all by themselves. They feel happy and wealthy spiritually if they can distribute some part of their yield for ritual worship, (3) economic and social motives are intimately commingled, (4) economic still being secondary, subordinate to tradition and religion, (5) mutual help for common survival, (6) consumption pattern still is ruled by the traditional subsistence ethic in order to maintain long-term availability of natural economic resources.

Even though, the practice of the traditional system still rules the social-economic life of this island community, the people seem to have a good understanding of the working of the capitalistic economic system. Their organization of production, labor remuneration system, and fish marketing system, though it looks simple, fundamentally is similar to those used in the modern economic system. At least, there is similarity of basic idea and concept. This island community also does not refuse to adopt modern fishing technology and management, but actually the present market capacity is just able to absorb the catch gained by of traditional fishing techniques.

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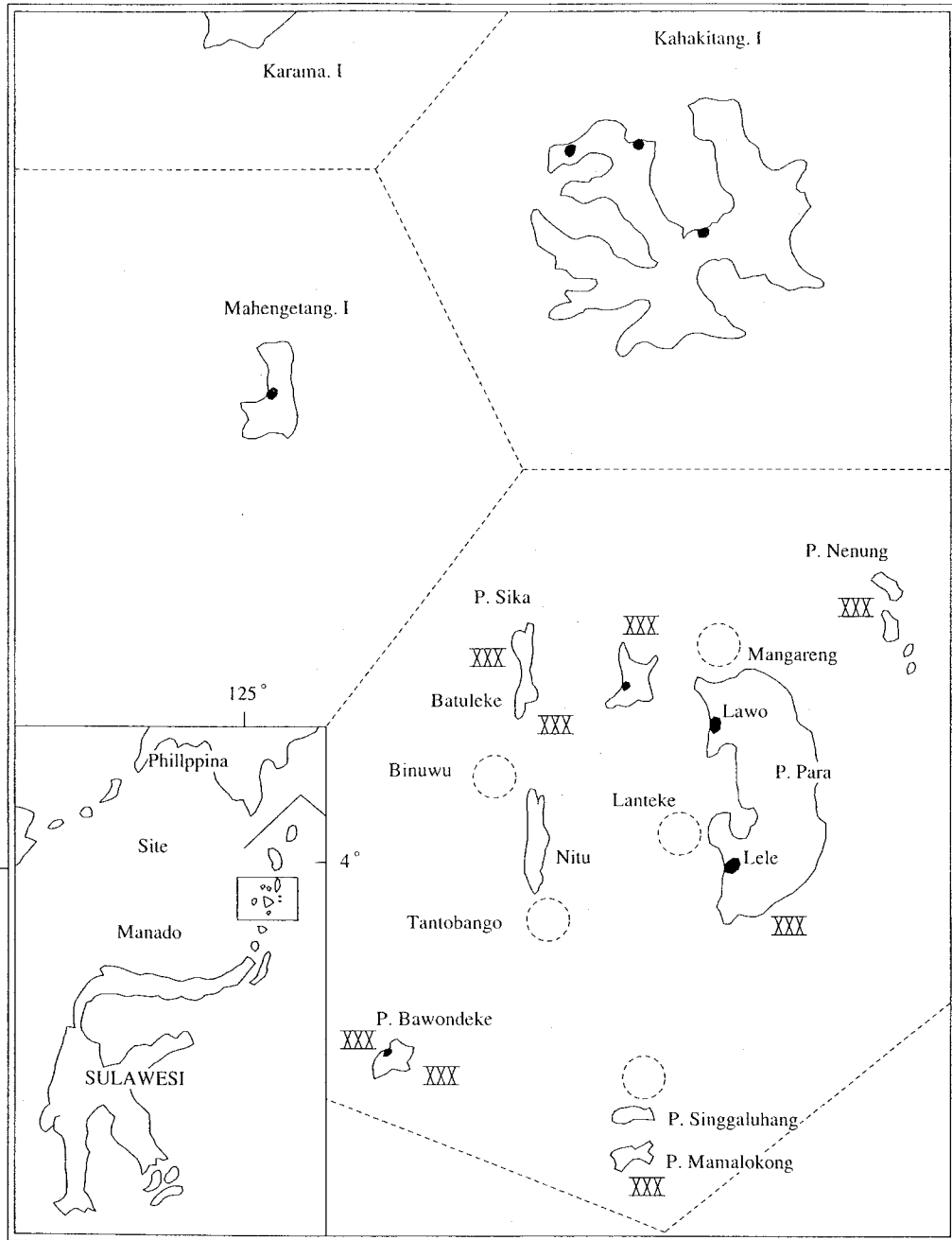
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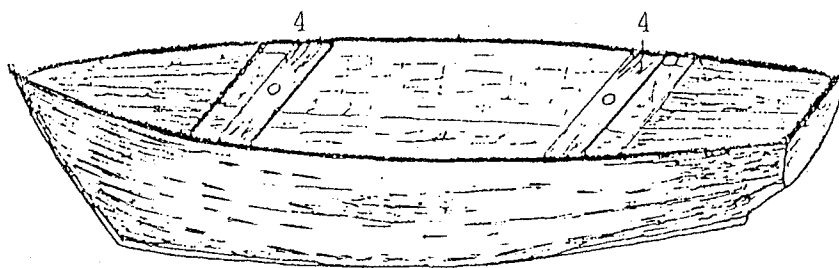
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Appendix 1. Research site and the allocation of territorial waters among the island communities

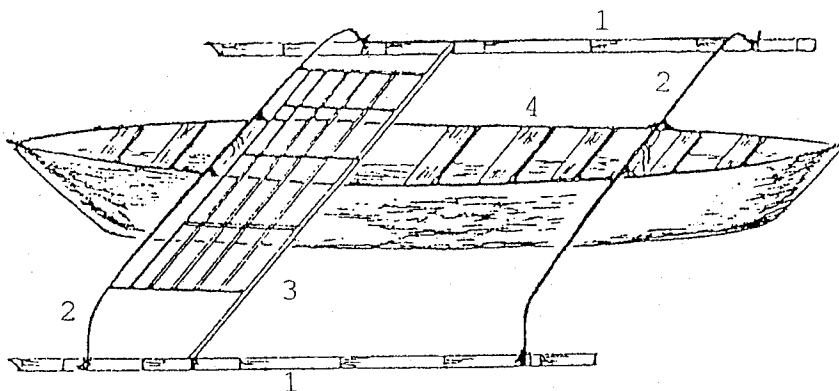


Legend : ----- : Village sea boundary
 XXXXX : Allocated for *Soma* fishing ground
 ○ : Allocated for *Seke* fishing ground

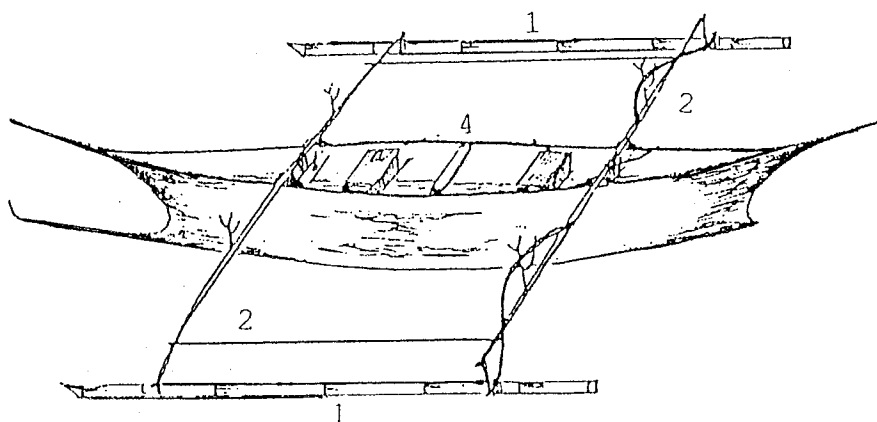
Appendix2. Fishing boats using by fishers on Para Islnd



A. Fishing boat called *Pamo*



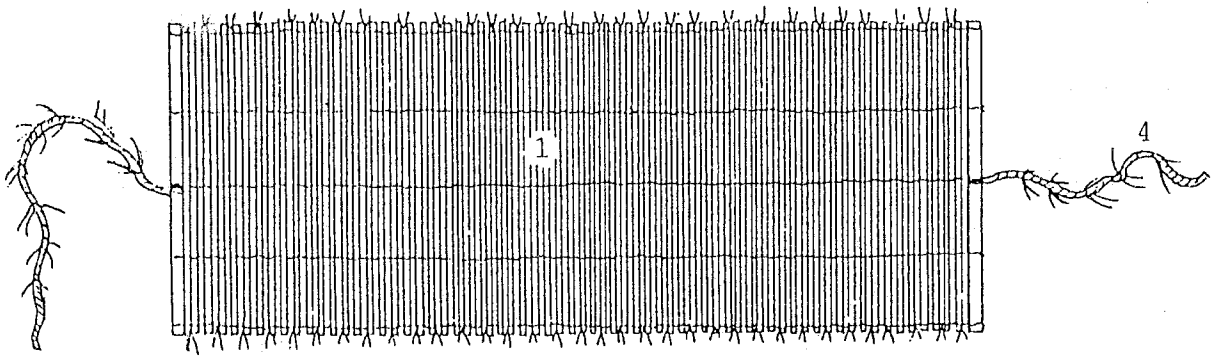
B. Fishing boat called *Kengkang*



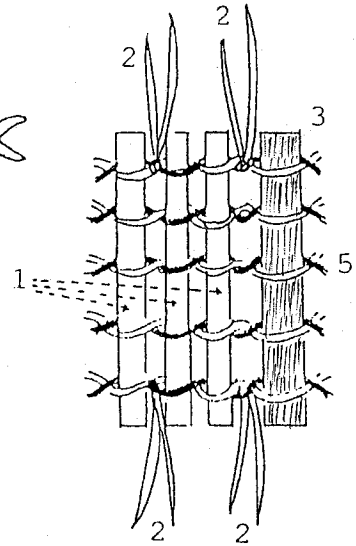
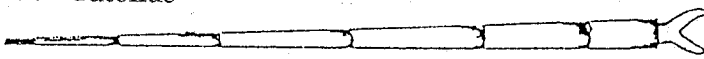
C. Fishing boat called *Londe*

Legends: 1. Sahemang, 2. Bahateng, 3. Paha, 4. Pulangeng

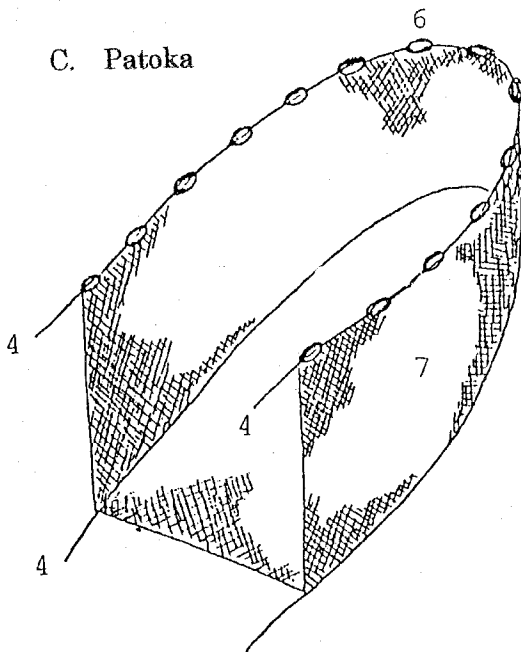
A. Seke



B. Tatalide

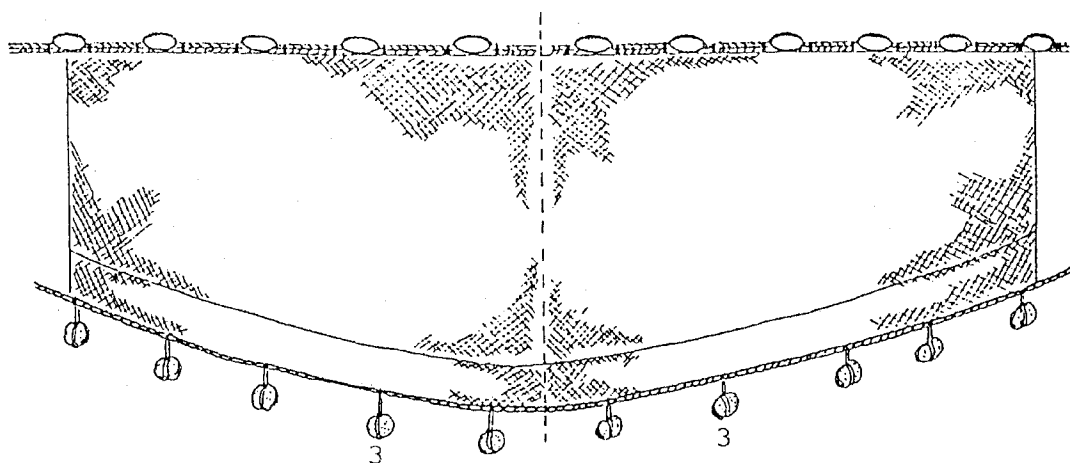


C. Patoka

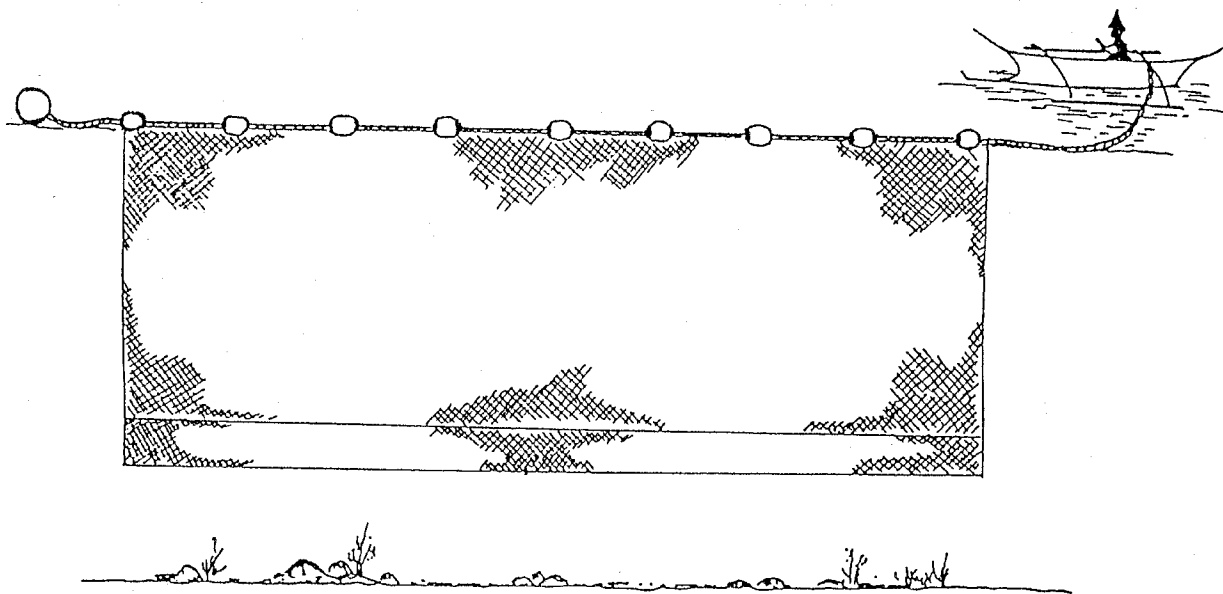


Legends: 1. Bamboo fence, 2. Yellow coconut leaves, 3. Wood, 4. Rope, 5. Rattan, 6. Buoy, 7. Net

Appendix4. Fishing gear called *Soma* by local fishers



A. Soma talang (Scad-net)



B. Soma Landra (Drift gill net)