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**Review on Community-Based  
Fisheries Management Studies  
in Eastern Indonesia**

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**REVIEW ON COMMUNITY-BASED FISHERIES  
MANAGEMENT STUDIES IN EASTERN  
INDONESIA**

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**1997**

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## **BACKGROUND**

Community-based fisheries management (CBFM) may be viewed as a process by which fishers are given the opportunity and responsibility to manage their own resources; define their needs, goals, and aspirations, and make decisions affecting their well-being. CBFM strives for more active fishers' participation in the planning and implementation of fisheries management. (Pomeroy, 1994). The potential advantages of CBFM include effectiveness and equity. CBFM can be more economical in terms of administration and enforcement than national centralized system. CBFM involves self-management where the community takes responsibility for monitoring and enforcement. CBFM provides sense of ownership over the resource which makes the community far more responsible for long-term sustainability of resources. Hence, themes of CBFM are community participation and fisheries management.

Fisheries management is receiving greater attention as it has been realized that, although renewable, fisheries resources are overexploited and demand is increasing by a growing population. There are various objectives of fisheries management (Panayotou, 1982). For the Indonesian context, the objectives of fisheries resource management are to increase fish production and consumption, have a positive trade balance, and increase the income of fishers. At the same time, management of fisheries resources also embraces conservation of the coastal environment, as well as to implement fishing strategies which guarantee long-term utilization of fisheries resources. Thus, the management is to attain rational use of fisheries resources.

Overall responsibility of Indonesian fisheries resource management is under the central government. In the Outline of the State Policy (GBHN), it is mentioned that marine resources are managed and utilized by considering environmental functions and sustainability so that the resources will give great benefit to all citizens and increase their well-being. It is also said that people's awareness of the importance of the natural environment needs to be cultivated through extension, formal and informal education, award and punishment systems, as well as promoting people's participation to conserve natural resources in all social and economic activities.

The Directorate General of Fisheries (DGF) of the Ministry of Agriculture (MOA) is the coordinating institution in management of fisheries resources. At the provincial and regencial levels, the task of fisheries resources management is partly executed by Provincial Fisheries Service (PFS) and Regencial Fisheries Service (RFS), respectively. For instance, the licensed fishing vessels of more than 30 GT, although the vessels are based in province or regency, is still issued and undertaken by the DGF. The task of PFS and RFS is mostly dealing with small-scale or artisanal fisheries. Hence, by division of marine waters, the management of deep-sea and EEZ fisheries is performed by the DGF, while the management of inshore waters and coastal fisheries is mostly under the concern of PFS and RFS. By management in this case, it only refers to the control of the issuance of fishing license.

The need for people's participation in natural resource management as an aspect of the development process is also clearly stated in the GBHN. In the closing chapter of the GBHN, it is mentioned that the success of national development is greatly dependent on the active participation, attitude, commitment, spirit, and enthusiasm of the all society. Participation of the society may be in the form of individual and collective. Fishers, as citizens who directly use and rely on the marine environment and resources as their source of living, therefore, should participate in fisheries resource management as entrusted by the GBHN.

This study is about participation of fishers or coastal residents in marine fisheries resource management. The area coverage is the eastern part of Indonesia since this region is dominated by islands and waters and therefore there are many coastal communities who rely on fishing activities. A sense of unity and brotherhood of the fishers in eastern Indonesia is still alive. The shapes of the unity and brotherhood is symbolized by their collective participation in the management of coastal fisheries resources.

## **PURPOSE**

The purpose of this study are multiple:

- (1) To identify studies of CBFM already undertaken that could be of importance in the further works on fisheries management.
- (2) To inventory reports, papers, student theses, and journal articles of CBFM studies which are unpublished or published locally but have limited circulation. The materials are bound in three separate volumes and regarded as outputs of this study. Thereby, it is hoped that the materials are accessible by more people. Readers who want to know more about the reading material may contact the author.
- (3) To write an English abstract of each collected article. The abstracts follow a standard format so that they can be easily compared. The abstracts of all articles are enclosed as parts of this report.
- (4) To evaluate impacts of CBFM to society based on the available information.
- (5) To synthesize the main ideas of the articles to arrive at policy and research recommendations.

## **METHOD**

Desk research is the main method of this study. Material for the desk research are papers on CBFM gathered from various institutions in Jakarta, Bogor, Yogyakarta, Sulawesi, and Maluku. The papers collected were summarized in English abstracts

following a standardized format. The abstracts include the following information: title and author of article, source, publisher, year of publish, language, subject, objective, coverage, method of data collection and analysis, and summary of findings.

Descriptive and comparative analyses were employed in order to find out types, existing performance, and impact of CBFM. Types of CBFM are grouped according to geographical area; the process of CBFM operation, function and objective; local people involvement; and commodity and method of resource exploitation. Synthesis of the articles is carried out to come up with conclusions and recommendations.

## TYPE OF DOCUMENTS INCLUDED

Forty one (41) documents were collected and analyzed. Nine (22.0%) papers are internal unpublished reports, 5 (12.2%) government documents, 4 (9.8%) bachelor student theses, 1 (2.4%) master thesis, 7 (17.1%) journal articles, 3 (7.3%) books, and 12 (29.9%) published reports. In terms of languages used, 37 (91.2%) are in Indonesian and 4 (9.8%) are in English.

## SELECTION OF DOCUMENTS

Documents were selected by the guidance of library catalogues. Keywords used to search for materials were community-based fisheries management (CBFM), fisheries management, traditional fisheries management, territorial use rights, marine (sea) tenure, and people/community participation. In the process of selection, priority was given to the unpublished and locally published, limited-circulation documents.

## TERMINOLOGY

Technical terms found in the selected papers are mostly from local dialects. They are briefly explained in this section so that they can be understood. The important terms are as follow:

### *Dewan Adat:*

A village commission consists of head of clan (*ondoafi*), church leaders, and formal leaders. *Dewan Adat* is found in villages in Jayapura Irian Jaya. In Endokisi Village, *Dewan Adat* can provide fishing permit.

### *Kewang:*

Official in charge of village security. *Kewang* function as paid guards, monitor, and enforce of the *sasi* system.

*Melombo:*

The activity of catching *tude fish* (*Selar umenopthalmus*) in Salurang Village, Sangihe Talaud, North Sulawesi. *Melombo* may be said to be a resource management system since it only happens three times a week; every Monday, Wednesday, Saturday.

*Ngase:*

Village fine that should be paid by fishers to Village government. *Ngase* is found in Central and Southeast Maluku.

*Ondoafi:*

Leader of clan in Jayapura District, Irian Jaya. One of *Ondoafi's* roles is to provide fishing permit.

*Pele Karang:*

A term used to denote a prohibition for the villagers in Teblasufa Village, Jayapura, Irian Jaya, to fish a particular time (usually one year) in certain area, normally a reef area.

*Petuanang:*

Community or village-regulated territory consisting of coastal waters and reefs. The word *petuanang* is based on the Indonesian root *tuan*, which means owner, host, or master. The concept of *petuanang* implies notions of sovereign, ownership, and control over marine territory and resources.

*Rumpon:*

Fish aggregating device made of coconut leaves, bamboo rafts, and natural or plastic rope which is placed in inshore or offshore waters to attract fish to come and stay around it. Thereby, fish will be easier to catch. Owner of *rumpon* in South Sulawesi is called *parrompong*.

*Sasi:*

A family of customary practices and laws ( or rules) which establish limitation on access to individually or collectively controlled territory and/or resources. To place *sasi* on an area means to put into effect a time limited prohibition on entry and behavior within that area.

*Seke:*

Fish trap made of bamboo. *Seke* is owned collectively by villagers in Sangihe Talaud, North Sulawesi.



## TYPES OF CBFM BY AREA

The eastern part of Indonesia consists of nine provinces: Irian Jaya, Maluku, North Sulawesi, Central Sulawesi, Southeast Sulawesi, East Timor, East Nusa Tenggara, and West Nusa Tenggara. This study, however, is confined to the provinces of Irian Jaya, Maluku, North Sulawesi, South Sulawesi, and East Nusa Tenggara. It does not necessarily mean that the other provinces do not have CBFM practices. Table 1 summarizes the type of CBFM by provinces.

Specific CBFM practices refer to a particular area in Maluku, Irian Jaya, North Sulawesi, and East Nusa Tenggara (Nikijuluw, 1995<sup>a</sup>; Imron, et al 1993; Patji, 1996; Saad, 1994). The CBFM area is managed by village (Irian Jaya, Maluku), by clan (Irian Jaya), by tribe (East Nusa Tenggara), and by community (North Sulawesi). By management, it means that people have the rights to access the area, extract benefit, protect the area and resource from other users, control future use through covenant, and transfer or convey ownership.

Closing and opening of fishing or harvesting seasons is found to be part of CBFM rules in Maluku and North Sulawesi (Nikijuluw, 1995; Kissya, 1993; Wahyono et al. 1993). Other rules of CBFM which exist in all areas are types of allowed fishing gears, method of fishing, schedule of using certain kind of fishing gear, fishing or harvesting target, total amount of allowable catch, and origin of fishers. In addition to the rules on taking the resources, CBFM also contains the rules on violation, penalty (punishment) and reward. Distribution of the catch or harvest is also put as CBFM rules.

Specific area closure at particular time is found in Demta District, Jayapura, Irian Jaya. This CBFM is addressed to protect coral fish which can be caught only on special occasion such as church ceremonies and cultural festivals (Imron, et al. 1993). The catching of *tude fish* (*Selar umenothalmus*) in Sangihe Talaud, North Sulawesi is scheduled on every Monday, Wednesday and Saturday. *Tude fish* fishing grounds can be beyond CBFM area boundaries. In this case, fish which are found outside CBFM area are driven to come into the CBFM area or close to the beach and hence they are easily captured (Wahyono, et al. 1994).

**Table 1. CBFM Types by Five Provinces in Eastern Indonesia.**

PROVINCE	REGENCY	CBFM	DOCUMENT
Irian Jaya	Biak-Numfor Jayapura	CBFM managed by village. CBFM managed by clan. Closed fishing season. Co-management to issue fishing license	Nikijuluw, 1995 Imron and Ali, 1994 Imron, et al. 1993
Maluku	Central, North, Southeast Maluku and Ambon Municipality	CBFM managed by village. Co-management to legalize local rules	Nikijuluw, 1994, 1995 Lokollo, 1988. Kissya, 1993. Rahail, 1993. Letelay, 1993.
North Sulawesi	Sangihe Talaud	CBFM managed by village community. Rules in catching "tude fish" Fishing schedule by type gears.	Wahyono, et al. 1993. Wahyono et al. 1994
South Sulawesi	Bulukumba. Sinjai, Polmas Pangkep, Mamuju, Jeneponto, Maros, Selayar.	Management of waters around rumpon. Co-management between NGO and villagers. Consultation of fishers to customary leaders.	Saad, 1994. Dja'ali, 1996. Laude, 1996.
East Nusa Tenggara	Alor	CBFM managed by tribe	Patji, 1996. PMB-LIPI, 1995.

Collaborative fisheries management (co-management) between government and fishers or villagers were found in Maluku and Jayapura. In the village of Latuhalat of Ambon Municipality, the Ambon Mayor stipulated Decree No. Kep.188.45.322/KMA dated on 23 April 1990 to protect the village-based rules. The village rules are written ones regarding fishing permit and license in village territorial waters. The boundaries of village territorial waters were stipulated on the Village Decree No. 3/1990 (Masyuri, 1995). In Jayapura, Irian Jaya, issuance of fishing license to big enterprises by Provincial or District Fisheries Service should be preceded by getting permission from the local community. Applicants for a fishing permit should go first to community leaders (*Ondoafi and Dewan Adat*) to ask for the license. If it is agreed to allow them to fish, then they can apply for a formal license from the Fisheries Service (Imron, et al 1993; Imron and Ali, 1994). In other words, without a recommendation from the local community, the Fisheries Services does not issue a fishing license although, by formal law, they are obliged to do so.

Collaboration between Non-Governmental Organizations (NGOs) and local fishers exists in several districts on the mainland of South Sulawesi. An NGO named Institute for the Maritime Assessment and Development (BPPK) established programs of fisheries management. The programs include improving fisher awareness of conserving marine environment through providing ecologically friendly activities such as marine aquaculture (Dja'ali, 1996). Another NGO named Center for Rural, Coastal and Society Studies (LP3M) works with local residents of Taka Bone Rata Atolls in Selayar Island of South Sulawesi. The main program of LP3M is to spread information on the importance and status of marine parks, introduce endangered and protected species to the people, and make written and unwritten reports to police if they find illegal and destructive practices (Laude, 1996).

## **CBFM ORGANIZATIONS**

Organizations of CBFM in eastern Indonesia is basically vested in traditional authority, whose nature varies according to social organization. The organizations of CBFM which were recently established are not so dependent on traditional authority.

*Sasi*, as a type of CBFM, exists throughout the province of Maluku and is organized by traditional secular leaders. The head of the village is normally the leader of the *sasi* organization. In the implementation and enforcement of *sasi* rules, he is assisted by *kewang* (traditional rural police) corps whose members are representing clans in the village. The *kewang* corps consists of head and members (Nikijuluw, 1994). Although enforcement of this CBFM is under the responsibility of *kewang*, in reality villagers are also involved as they always report to *kewang* if they find any violation of the system.

Aside from this village-managed *sasi*, in a certain period of the year, there is also a *sasi* system which is organized by the church (Lokollo, 1988). The church-managed *sasi* is led by church leaders. This system does not have field control and surveillance. Also, it does not have a system of penalty on the violation. Nevertheless, implementation of the church-managed *sasi* seems to be very effective (Nikijuluw, 1995").

Organizations of CBFM in Irian Jaya, North Sulawesi and East Nusa Tenggara are headed by traditional secular and church leaders. The *Dewan Adat* (customary council) consisting of the head of the clan, formal leaders, and church leaders function to set and implement CBFM rights and rules in Irian Jaya (Imron et al. 1993). In North Sulawesi, the head of the village under the auspice of the village council determine CBFM rules and rights. The implementation of the rules and rights in the field is undertaken by senior and experienced fishers (Wahyono, 1994). In East Nusa Tenggara, CBFM once was headed by the dominant clan. The system is now vanished because of in-migrants who did not understand the system and therefore tended to violate it; land-based economic development which made people move away from the sea, and no support of the village government (Patji, 1996).

Organizations of CBFM in South Sulawesi are headed by NGOs which initiated the establishment of the CBFM. These CBFM have written rules and rights formulated together by NGOs and villagers. The enforcement of rules are undertaken by villagers themselves (Dja'ali, 1996; Laude, 1996). Another CBFM system in South Sulawesi has rights owned by the owner of *rumpon* (FAD) to access and control the waters around *rumpon*. All the villagers and fishers from surrounding places recognize these individual rights (Saad, 1994).

## **CBFM RULES AND RIGHTS**

Rules refer to generally agreed-upon and enforced prescriptions that require, forbid, or permit specific actions for more than a single individual (Schlager and Ostrom, 1993). Examples of rules are those used by fishers to specify disallowed fishing gears at particular location and time.

The terms "rules" and "rights" are frequently used interchangeably in referring to utilization of fisheries resources. Basically, "rules" refer to the prescriptions that create authorization, while "rights" refer to particular actions that are authorized. "Rights" have complementary duties. Thus to possess a right implies that someone else has a commensurate duty to observe this right (Schlager and Ostrom, 1993). In regard to fisheries resources, the most relevant operational-level property rights in utilization of coastal fisheries resources are "access" and "withdrawal" rights. They are defined as:

- "Access": The right to enter a defined physical property.  
 "Withdrawal": The right to obtain the "products" of a resource (e.g. catch fish).

The collective-choice property rights include management, exclusion and alienation rights which are defined as follows:

- "Management": The right to regulate internal use patterns and transform the resource by making improvements.  
 "Exclusion": The right to determine who will have an access right and how that right may be transferred.  
 "Alienation" The right to sell or lease either or both "management" and "exclusion" rights.

(a) **CBFM Rights and Rules in Irian Jaya.**

In Teblasufa village, Jayapura, ownership of marine waters are divided into the waters belonging to the village and *free waters* that are owned by everybody. The waters owned by the village are broken down into waters owned by a clan. There are three clans in the village, of which at the beginning *Serontouw* clan was the only owner of the village territorial waters. The ownership rights of this clan were shared with the other clans due to inter-clan marriage. Hence, currently each clan has its territorial waters. Ownership of each clan is further subdivided into sub-clan. Currently, there are 10 sub-clans that own village territorial waters (Imron and Ali, 1994)

People of Teblasufa have access and withdrawal rights but they do not have collective-choice property rights. The management, exclusion and alienation rights are owned by the head of the clan (*ondoafi*). *Ondoafi* is the one who gives permission to a particular fisher if the latter is not a member of clan or sub-clan whose territorial waters are entered. The formal head of the village also has the right to provide a permit for non-villagers to operate their fishing gears in the village territorial waters. However, in such a circumstance, the head of the village should consult and have agreement from three *ondoafi* in this village. Again, the *ondoafi* can veto a decision of the head of the village.

Beside issuing fishing permits, *ondoafi* also has the right to determine certain coral reef areas which should be closed from fishing at a particular period (Imron and Ali, 1994). This kind of CBFM is named *pele karang*, literally meaning to put a fence over a coral reef area. The objective of this CBFM is to let fish grow until they reach capturable size. The rule related to this CBFM is that villagers are prohibited to enter this area during the closed season. The time of fishing is always connected with the needs to finance a village program such as inauguration of the church, building public property, or village festival. Hence, it can be said villagers individually do not have withdrawal right in this coral reef area.

Similar to Teblasufa village, territorial waters of Endokisi Village, Jayapura, are also possessed by clans. "Demena" is the biggest clan in terms of the clan territorial

waters. It is the first clan that stayed by the sea and hence relied on the sea resources for their living. The clan of Demena was recognized as the first owner of the village territorial waters. By intermarriage with other clans, however, the ownership of the village territorial waters is then shared with three other clans, namely "Mattiseray", "Nerokepoaw", and "Kereway". Therefore, the territorial waters of Endokisi village are currently owned by four clans (Imron, et al. 1993).

Each clan can catch fish in their own territorial waters. However, members of a particular clan can catch fish in other clan-owned areas provided that they use simple fishing gears such as hook line and spear. Use of more modern fishing gears for commercial purposes should be preceded by getting a permit from the *Dewan Adat*, a village council consisting of formal leaders, church leaders and heads of clans (*ondoafi*). In practice, the council should have asked agreement first from members of the clan whose area will be entered. Therefore, it can be said that the exclusion right is entertained by members of the clan.

In implementing access and withdrawal rights, villagers of Endokisi passed rules on penalties to violators. The penalties currently applied include fine and warning. Use of poison in fishing is strictly prohibited. Therefore, it can be said that villagers also hold management right over the resources. Therefore, of the three collective-choice property rights, only the right of management is executed by villagers. The rights of exclusion and alienation are owned by *ondoafi* and *Dewan Adat*.

#### (b) CBFM Rights and Rules in Maluku

In coastal villages in Maluku, communities claim that they have access and withdrawal rights over the waters facing their village (*petuanang*). The system of local management of *petuanang* and the resource therein is called *sasi*. Villagers and their leaders together set the *sasi* rules. Basically, the rules have existed for decades. What is existing now are modification of the rules that were made during the pre-colonial era. For instance, the amount of fines for certain violations were adjusted to present value. The rules include how, when, and where to harvest or collect the resources. In addition, there are also penalty systems for breaking the rules (Nirahua, et al. 1991; Kissya, 1993; Lokollo, 1988).

Under *sasi* system, most communities entertain both operational level property rights (rights of access and withdrawal) and collective-choice property rights (rights of management, exclusion, and alienation). The right of management are embodied in forms of common consent on the fishing time, area opened to fishing, allowed and disallowed fishing gears and equipment, and allowable catch. There are also rules on environmental protection such as banning coral head-taking. Execution of management rights is undertaken by village police named *kewang* whose members normally are representatives of each clan. *Kewang* has its own rules and organization (Lokollo, 1988). This institution may not be a part of the formal village government structure. In this case, *kewang* is under the control of and responsible to villagers and customary leaders. The village head

is usually appointed or chosen from informal leaders.

The right of exclusion is entertained in forms of giving permit to non-villagers to enter *petuanang*. In some villages, non-villagers may fish in *petuanang* or enter the *sasi* area without having a permit if they fish for home consumption and use the same fishing gears as owned and used by villagers. If non-villagers catch fish using commercial fishing gears, they should have a permit from the village. In the last ten years, non-villagers who have permit to enter and fish in *petuanang* or *sasi* areas came from other provinces of Indonesia, especially from East Java and South Sulawesi (Nikijuluw, 1995<sup>a</sup>).

Rights of giving to or sharing a fishing permit with non-villagers which is owned by villagers is made through community meetings. However, it is a common right now that sharing, selling or leasing of rights to enter and exploit the resources is taken over by the formal village government. The village government often passes formal village rules regarding this aspect. In other words, community consultation is left out (Nikijuluw, 1995<sup>a</sup>, 1995<sup>b</sup>).

Especially in Christian villages, there is also a tendency of transferring collective-choice property rights from villagers and village government to church organizations. In this regard, the church, through the pastors, elders, and deacons is the one which stipulates the rules of harvesting or exploiting resources. In this church-organized *sasi*, there is no *kewang* patrol. Nevertheless, this *sasi* system seems to be very efficient since there are no violations. Some percentages of harvests or fish landings of villagers must be given to the church organization. Normally, the money is used for church construction and renovation (Lokollo, 1988; Nikijuluw, 1995<sup>a</sup>)

### (c) CBFM Rights and Rules in North Sulawesi

Bebalang village is located at Manganitu, Sangihe Talaud. Residents of this village have access to certain fishing grounds near their place to catch *malalugis fish*. The rule which is specified in catching *malalugis fish* is that fishers should use bamboo trap, locally named "*seke*". The *seke* is owned collectively by villagers. In 1991, there were two units of *seke* in Bebalang. The first *seke* is owned by those staying in hamlets number one and two. The other is owned by those in hamlet number three. Aside from *seke*, other small-scale fishing gears such as hook and line are also employed by villagers but not for catching *malalugis fish* (Adhuri, 1993; Wahyono, et al. 1991)

People of Bebalang manage waters where *malalugis fish* are found by carrying out regular monitoring and surveillance. If they find non-villagers in these waters, they drive the outsiders away. If non-villagers are found to have caught many fish, they are detained and judged by villagers. Villagers have exclusion and alienation rights. By common consent, they specify rules that permit outsiders to fish. In order to have the rights of fishing, non-villagers should pay a certain amount of fee and are obliged to use simple fishing gears.

The use of *seke* to catch malalugis fish is also found in Para Village, Sangihe Talaud. In this village, however, *seke* competes with small purse seines to catch the same species. In 1992, there were six units of *seke* and 42 small purse seines in Para village. *Seke* is owned communally, while the small purse seines are owned by individual fishers. Since *seke* and small purse seines have the same target catch, the location and time for the operation of these two fishing gears are regulated by the head of the village. Fishing grounds for each gear is set so as to be separated from each other. The schedule for fishing is rotated and arranged so that every fisher has a chance to operate his gear in different fishing grounds. It has been enacted by the head of the village that only four *seke* can be operated per day. Therefore, each *seke* can be operated four times a week or about 16 times a month. There are 18 locations of fishing grounds that are designated to be used by small purse seines. There are 18 purse seines that can be operated per day. Since Sunday is an off day, on the average, every small purse seine can be operated 10 times a month. The rules of this fishing schedule is very efficient since there is almost no trespassing. The village government enacted penalties for the violation of the rules. Each violator should pay 5-10 bags of cement which are used in building public infrastructures in the village. Based on this information, one may infer that although fishers have access and withdrawal rights, they do not have the rights of resource management (Wahyono, et al. 1993).

**(d) CBFM Rights and Rules in South Sulawesi.**

In Bulukumba, South Sulawesi, CBFM exists for the exploitation of fish resources in *rumpon*. Rights of fishing around waters where *rumpon* is placed is owned by the owner of *rumpon* (*parrompong*). The area covered by each *rumpon* is about 10,000 meter square. The fishing gear used by *parrompong* is a small purse-seine. Other fishers are allowed to fish in *rumpon* as long as they use hook and line. The right to use the waters around *rumpon* can be bequeathed, although the *rumpon* itself has been destroyed. In this case, fishers should know the location of *rumpon*. If other fishers want to install another *rumpon* or use the existing one, they should ask permit (without any payment) from the previous owner (Saad, 1994). Deployment of a new *rumpon* by a new owner automatically undermines the rights owned by the previous *rumpon* owner. Hence, deployment of *rumpon* creates the rights of access and withdrawal for the owner. The owner himself has the rights of exclusion and alienation.

Collaborations between NGOs and local communities in some districts of South Sulawesi have created an accessibility to areas for mariculture activities. At the same time, fishing activities which normally employ destructive methods have ceased. The right to fish owned by individual fishers has been replaced by the rights of using a particular area for marine fish cultivation. Together with NGOs, villagers developed systems of patrol and control of marine resources and environment from destructive practices by outsiders. This situation has happened because of increasing awareness of the villagers to the importance of marine resources and environment to sustain their life (Dja'ali, 1996; Laude, 1996).



**(e) CBFM Rights and Rules in East Nusa Tenggara.**

In Alor Kecil, East Nusa Tenggara, people historically recognized that the waters facing their village was owned by the tribe of Manglolong. This is because the first fisher in Alor Kecil was from this tribe. Currently, however, fishers are from eight native tribes in this area. Besides, there are also fishers who come from other surrounding islands. For the success of the fishing operation, there was a rule that before fishing the fishers should consult the head of Manglolong tribe. The tribal head is the one who says where and when to fish. At present, everybody can fish without getting permission from tribal head. Transfer and sharing of fishing rights from the Manglolong tribe to other tribes happened gradually over time. No body knows when the rights were shared by all residents (Patji, 1996; PMB-LIPI, 1995)..

**FACTORS DETERMINING ESTABLISHMENT, EXISTENCE AND DEVOLUTION OF CBFM**

The following factors are identified to affect the establishment, existence and devolution of CBFM:

**(a) Belief**

CBFM on *malulugis fish* in Bebalang village in North Sulawesi is still going on because villagers believe that the fish is the playmate of the Prince of the Sea (*Prince of Adang*). The fish should be carefully captured so that its environment will not be destroyed. Villagers of Bebalang, therefore, use bamboo trap (seke) to catch the fish. As seke is a passive gear, the environment apparently will not be destroyed (Adhuri, 1993; Wahyono et al. 1991).

**(b) Availability of rules**

Availability of rules (written or unwritten) affects the existence of CBFM. Rules regarding entry of fishers do not allow outsiders to join the fishery (Nikijuluw, 1994, 1995; Imron, et al. 1993). Rules about fishing season and fishing area specify fishers to fish at a particular time and place (Wahyono et al. 1993, 1994, Nikijuluw, 1994, Nirahua et al. 1991). In Irian Jaya, Maluku, South and North Sulawesi, only permitted outsiders can join the fishery. In Maluku, outsiders can pay for a fishing license or they should pay village retribution on the basis of the fish they catch (Nirahua et al 1991, Nikijuluw, 1995). A rule of allowable catch was found in Ternate, North Maluku. The amount of catch was determined before fishers go to sea. If the catch was more than that allowed, fishers were penalized for the excess catch. The penalties, however, were not specified. (Nirahua, 1991). Monitoring, controlling, and surveillance (MCS) guarantee proper implementation of the rules. Community MCS was found in Maluku, Irian Jaya, and North Sulawesi. The availability of penalty and local judicial systems on rule violation

could be included as factors that affect the existence of and continuity of CBFM.

**(c) Fishing Gears**

Generally, villagers in Maluku still use simple fishing gear to catch fish in CBFM-managed waters. These gears do not cause great harm resources and their environment. If non-villagers are allowed to fish, they should also use the same fishing gears as employed by villagers (Nikijuluw, 1995; Titahelu, 1996). The same condition also prevails in Irian Jaya. If fishers from one clan want to fish in the waters owned by other clan, they must use the same fishing gears (Imron, et al. 1993, 1994). Use of ring net or purse seine made of nylon fibers in North Sulawesi affects the implementation of CBFM in the capture of *malalugis fish*. The presence of ring net, which is in fact more productive and owned by individual fishers, prompted traditional bamboo trap fishers to move away from the fishing activity. The fish which were formerly caught by using bamboo trap are currently also exploited by ring net fishers. Fishing schedule and zonation of fishing ground were finally programmed in order to avoid possible gear use conflict (Adhuri, 1993, Wahyono et al. 1993, 1994)..

**(d) Industrial Fisheries and Intensive Fishing Operation**

The increase of industrial fisheries considerably affected CBFM, especially sasi system in Ambon and Saparua islands. In Batumerah, a village near to Ambon City, the sasi activity no longer exists. The placement of coconut leaves as sasi sign of closed fishing season have disappeared since last decade (Lokollo, 1988). Batumerah village is now an industrial fishing base in Ambon.

Similarly, operation of joint venture fishing company using deep sea FAD in Maluku waters has affected the availability of fish in sasi-managed waters. As a result, the productivity of local fishers sharply declined and eventually fishers encroached on sasi-managed waters to collect and catch sedentary species. Another impact was that closing the season for some fish in sasi-managed waters was shortened so that villagers could have alternative income (Andamari, et al. 1991; Nikijuluw, 1995).

In Kei Kecil, Southeast Maluku, villagers leased their sea territory to outsiders to be used for pearl culture. Antariksa (1995) reported that the costs of leasing the territory in Debut Village was Rp 10 million for 20 years. In Teblasufa, Irian Jaya, intensive gear operation obscured the boundaries of waters owned by clans and sub-clans (Imron, 1994). In Alor Kecil, East Nusa Tenggara, Patji (1996) found that industrial fishing companies owned by outsiders which employed villagers as boat crews has caused the local CBFM to disappear.

**(e) Change of Government Structure**

CBFM existed in coastal villages in North Maluku during the era of the Ternate Kingdom. Before going out for fishing, fishers got permission from the king of Ternate.

After the proclamation of independence of the Republic of Indonesia, the Ternate Kingdom no longer existed and as a result the CBFM practise vanished in some villages (Lokollo, 1988).

Sasi system in Maluku was essentially nested in a type of village governmental system. According to that system, the head of the village was not a government official. He was a formal leader, but at the same time acted as a customary leader. The structure of village government was unique for each village, depending on the number of clan and population. Village guard (kewang) was placed as one of the functional institutions in the village government system. In other words, the structure of village governmental system granted the existence of sasi system (Lokollo, 1988). However since Law No. 5/1974 on the Local Government was passed, all villages in Indonesia, including Maluku, had a standard governmental structure. By this law, a village head could come from another place and as such he is not a customary leader. This caused sasi to disappear in some areas.

#### **(f) Recognition and Initiative of Government**

In several cases, recognition of CBFM by government allowed CBFM to survive. In Latuhalat village in Ambon, local rules of CBFM were legitimized by the Ambon Mayor Decision No. Kep. 188.45.322/KMA dated on 23 April 1980 (Antariksa, et al 1983). Nikijuluw (1995) says that each sasi regulation made by village government in Central Maluku should be legitimized by the Regent before its implementation. In South Sulawesi, a local NGO received strong support from the Indonesian Navy and provincial government to establish CBFM in coastal villages (Dja'ali, 1996).

#### **(g) Trade and Price**

In Bantean, North Sulawesi, CBFM on collection of milk fish fry was established because of coming of outsiders to fish in Bantean and villager's realization that collection of fry was a lucrative enterprise. When milk fish fry was low, coming of outsiders to Bantean was not of concern to villagers. However, conflicts between villagers and outsiders arose once the villagers realized that fry had a good price. Finally, outsiders were banned to enter milk fish fry collecting ground. Villagers then stipulated the rules on the use of fry-aggregating device in fry collection (PMB-LIPI, 1995).

In Saparua island, CBFM on sea cucumber and trochus resources were strongly influenced by trade. Increases of sea cucumber price and availability of traders in the village, shortened the period of closed season. Traders came from as far as Java to buy sea cucumber and gave a higher price. As a consequence, resources became heavily exploited as shown by declining size of sea cucumber harvested (Nikijuluw, 1995<sup>b</sup>). High demand for sea cucumber in Java brought fishers from East Java to seek this commodity in sasi-managed areas. In some villages, the right of exploit this commodity was leased to East Java fishers. Within a very short period, sea cucumber resources were exploited by using better equipment. Since the East Java fishers were not the resource owners, they

did not concern themselves with environmental and resource sustainability (Nikijuluw, 1995<sup>b</sup>).

#### (h) Structure of Society

In the area where villagers came from similar background, CBFM was easily established and survive. CBFM in Maluku and Irian Jaya existed in many places because the social structure of villagers in these two provinces was more uniform in terms of origin, religion, and economic status. In Alor Kecil, East Nusa Tenggara, where CBFM practice is vanished, the structure of society was dominated by non-native residents.

### IMPACT OF CBFM

Almost all references dealt with descriptions of CBFM system. Therefore, there was not so much information which could be used to analyze the impact of CBFM to society. Nevertheless, some qualitative information could be utilized.

In some villages in Maluku, CBFM provided opportunity for villagers to exploit fisheries resources for their domestic needs. However, in some other villages, the leasing of fishing or exploiting rights to outsiders decreased the local people's chance to use the resources. The leasing fee were normally said to be used by village government for public purpose. From the individual fisher viewpoint, however, this situation brought negative impacts due to loss of income.

Positive impact of CBFM implementation was perceived by people in North Sulawesi. The landings of *seke* were distributed proportionally to all villagers. This could be done because *seke* is collectively owned by villagers. From a sustainability viewpoint, the CBFM on the use of *seke* to catch *malalugis fish* did not harm the fish resource and therefore guaranteed continuity of resource utilization.

Villagers in Irian Jaya use very simple fishing gears to exploit CBFM-managed waters. The distribution impact to villagers were very clear since each clan or sub-clan has its own territorial waters.

In South Sulawesi, impact of CBFM to the villagers was shown by increasing income and less pressure on the resources. After the establishment of CBFM initiated by a NGO, people's livelihood was changed from only fishing to fishing and marine aquaculture. Working days increased and consequently income got higher. At the same time, excessive fishing pressure could be avoided.

## IMPLICATION

Articles collected for this review study were only confined to five provinces in Eastern Indonesia. The area covered in each province were also limited to a few villages or localities.. Except for Maluku, information of CBFM for other provinces were difficult to find. There are two possibilities why little information on CBFM is available. The first is that the CBFM practice does not exist. The second is that although CBFM practice exists, there are no studies or efforts to document the system. Priority, therefore, should be given to conduct documentation and inventory of CBFM in the all provinces.

The studies referred to and reviewed in this report were much concerned with describing the CBFM system. As the first step of research, the description of CBFM system in each area is indeed very important. However, since CBFM is now getting greater attention and is being thought of as a panacea for fisheries resource management failure, the impact of CBFM should be clearly understood. Research should be directed to evaluating the impact of CBFM to stakeholders and society. It is also important to understand sustainability of the resources managed under a CBFM system.

Comparative studies of CBFM in different areas should be undertaken in order to find out contextual factors which determine the performance of each system. Based on this information, transferability of the CBFM could be established into the areas where traditionally no CBFM are found or into the areas where CBFM once existed but has vanished.

CBFM is a local management approach. It is unique in the sense that the same system may not be found in other areas. At national level, therefore, CBFM could be at odds with the national resource management policy. Hence, a nationwide study should be carried out to evaluate the appropriateness of the CBFM approach with national policy, regulation, law enforcement, and judicial system. Finally, the impact of CBFM to fisheries sector development should be also evaluated, particularly in the aspect of macroeconomic issues such as investment, trade, and employment.

CBFM could be regarded as the stepping stone for the government to increase people participation in resource management. Although people participation in development of all sectors have been enacted in GBHN, in reality people participation does not fully exist. Since development in eastern Indonesia is currently being promoted, CBFM in this part of the country may become a basis for people participation in overall development program. In other words, from management of resources, local people could broaden their participation to cover areas of economic and community development other than fisheries and coastal zone management.

This study found that CBFM systems may survive and function better if the system could be tied with government. Local rules would be more respected if they are nested with formal rules and regulations. It could be also said that village-based rules need to be legitimized.

Most enduring and successful CBFM exists in villages whose social and cultural identity is well established. When this identity becomes unclear, for instance due to immigration, CBFM tended to gradually vanish. Based on these findings, government should be able to develop resettlement programs which do not affect the identity of local people. Conversely, resettlement or regional development should enrich local identity.

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Wahyono, A., F.I. Thufail, and I.G.P. Antariksa. 1994. *Socio-cultural Aspects of Maritime Societies in Eastern Indonesia. Marine Tenure in Sangihe Talud*. *Seri Penelitian PMB-LIPI*, No.64. 54 p.

## **ABSTRACTS OF COLLECTED ARTICLES**

<b>Title:</b>	Marine Tenure and Fisher Society Dynamic in Eastern Indonesia. Case studies in Bebalang Island and Sathean and Demta Villages.
<b>Author:</b>	Adhuri, Dedi Supriadi.
<b>Source:</b>	<i>Majalah Ilmu Sosial Indonesia</i> , 20(1):143-163.
<b>Publisher:</b>	Indonesian Institute of Science ( <i>Lembaga Ilmu Pengetahuan Indonesia, LIPI</i> ), Jakarta.
<b>Year of publish:</b>	1993.
<b>Language:</b>	Indonesian (with English abstract).
<b>Subjects:</b>	Description of marine tenure system in villages of Bebalang (North Sulawesi), Sathean (Maluku), and Demta (Irian Jaya). Changes in fishing technologies and their implication were also discussed..
<b>Objectives:</b>	Identify and document fisher society dynamic particularly the tangency between marine tenure stakeholders and fishing technique development.
<b>Coverage:</b>	Location: Bebalang Island - Manganitu - Sangihe Talaud - North Sulawesi, Sathean Village - Kei Kecil District, Southeast Maluku. Demta, Jayapura, Irian Jaya.
<b>Commodity:</b>	Malalugis ( <i>Decapeterus russeli</i> ), <i>julung-julung</i> .
<b>Technology:</b>	liftnet, <i>soma lingkar</i> (mini purse seine), <i>seke</i> (bamboo trap).
<b>Time of study:</b>	1991 - 1992.
<b>Method:</b>	Comparative descriptive analysis of marine tenure and fishing activities in three areas.
<b>Summary of findings:</b>	<p>Marine tenure in Bebalang is a kind of right belongs to Bebalang villagers to fish malalugis species at certain area. Villagers believe that malalugis is a species which is a playmate of prince of sea named <i>Prince Ading</i> The fish is allowed to be caught only in a particular fishing area which is exclusive just to villagers. Fishing gear allowed to be operated is <i>seke</i> (bamboo trap). In 1991, there were two <i>seke</i> in Belambang owned communally by the villagers. The first <i>seke</i> collectively belongs to the people staying in hamlets number one and two. The second <i>seke</i> is possessed by people from hamlet number three. The importance of malalugis species for the villagers encourage them to take care the environment and resource. Outsiders are permitted to enter this fishing area if they pay certain amount of money and use simple fishing gear. The MCS of these regulation is performed by the villagers themselves. If they find outsiders catch fish in this exclusive area they drive them away. If the non-permitted outsiders are found to have caught many fish, they are detained and judged by the villagers.</p> <p>In Sathean village, the community claims that the sea within village's <i>petuanang</i> (village territory) is belong to them. <i>Petuanang</i> is a coastal waters facing the village which extend from the shoreline toward the sea until the place where the depth of the waters suddenly drops. Although the right to fish within the <i>petuanang</i> is confined to Sathean community, in practice, outsiders are still allowed to fish for their own consumption. For commercial purpose, the outsiders should pay a rent named <i>ngasi</i></p>

In Sathean village, the community claims that the sea within village's *petuanang* (village territory) is belong to them. *Petuanang* is a coastal waters facing the village which extend from the shoreline toward the sea until the place where the depth of the waters suddenly drops. Although the right to fish within the *petuanang* is confined to Sathean community, in practice, outsiders are still allowed to fish for their own consumption. For commercial purpose, the outsiders should pay a rent named *ngasi*.

Similar to the Sathean community, people of Demta village also claim that sea territory around their village is their property and so outsiders are prohibited to exploit this territory. Currently, however, the boundary of the territory has been blurred and unclear. By certain rules and obligations, including type of fishing technology and fishing intensity (effort), outsiders are allowed to fish in this territory.

Introduction and application of new fishing technologies in the three villages brought about a quite similar implication. The new fishing technology tended to generate conflict and polarization among the community members and change the pattern of benefit distribution among the villagers.

**Title:** Bebalang: The Declining Function of *Seke*.

**Author:** Wahyono, Ary; Dede Wardiat; Thung Ju-Lan.

**Source:** Manuscript of the Center for Social and Cultural Studies, Indonesian Institute of Science. 77 pages.

**Publisher:** Center for Social and Cultural Studies, Indonesian Institute of Science (PMB-LIPI), Jakarta

**Year of publish :** 1991.

**Language:** Indonesian.

**Subject:** Sociocultural characteristics of fishery community in Bebalang Island. The traditional system offishery management, fishing technology change, and their sociocultural implication were also discussed.

**Objective:** To investigate sociocultural characteristics of the maritime community in Bebalang Island.

**Coverage:** Location: Bebalang Island, Sangihe-Talaud, North Sulawesi. Time of study: 5 - 31 August 1990.

**Method :** Data were collected through participant observation method. Depth interviews were conducted using a guidance questionnaire.

**Summary of findings:**

In Bebalang community, marine waters in their area is a communal property. Villagers used traditional fishing gear called *seke* to catch malalugis fish (*Decapterus russeli*). Outsiders are allowed to fish in this waters if they get permit.. To have a permit, they should pay certain amount. However, outsiders are prohibited to catch malalugis fish. *Seke* is a traditional fishing gear owned collectively by the villagers. Function of+ this gear has been declining due to the emergence of a new technology called pukot lingkak (*ring*)

*net*). Because ring net is owned by individual fisher, the shift from the *seke* to the ring net bring about several sociocultural implications particularly division of labor and distribution of fish caught by the community. The changes in the fishing gear, therefore, has resulted in a new approach in the management and utilization of malalugis fish resource.

- Title:** Sociocultural aspects of maritime societies in Eastern Indonesia. Marine Tenure in Teblasufa Village, Depapre District, Jayapura, Irian Jaya.
- Author:** Imron. M. and S. Ali.
- Source:** Seri Penelitian PMB-LIPI No. 62/1994. 105 pages.
- Publisher:** Center for Social and Cultural Studies, Indonesian Institute of Science (PMB-LIPI), Jakarta.
- Year of publish:** 1994.
- Language:** Indonesian
- Subject:** Marine tenure in Teblasufa Village.
- Objective:** To describe marine tenure system, to evaluate function of marine tenure and dynamic of people in the implementation of the system. To identify problems in the implementation of the marine tenure system.
- Coverage:** Area of study: Teblasufa Village. Analysis centers on the impact of the marine tenure on the right holders. Legality and enforcement of the system are discussed. Analysis and discussion are based on the data collected through field survey carried out on September 1993.
- Method:** In-depth interview. Snowball interview technique was used by which information got from one respondents were further asked, elaborated, clarified, and cross-checked to other respondents.
- Summary of findings:**
- Teblasufa village is resided by three clans: *Demena, Appaseray, and Serontouw*. Each clans has its leader called *ondoafi*. The three clan leaders together with formal village leaders govern village and carry out village development program.
- People in Teblasufa recognize three marine areas: waters belongs to village, waters belongs to clan, and "free waters" which is not owned by villagers. The waters belongs to the village is basically village territorial waters bordered by imaginary lines drawn from the village borders in the land vertically toward the opened sea as far as the distance can be observed physically. This village territorial waters is further divided into waters for each clan. Ownership of each clan is subdivided into areas owned by sub-clan. Currently there are 10 sub-clans who own over the village territorial waters. The borders of the territorial of each sub-clan are also imaginary lines, but clearly defined. The "free waters" is the marine waters out of the village territorial waters.
- Historically, the village territorial waters was only owned by the clan of Serontouw. The ownership was shared and transferred to the other clans because of intermarriage and

realization that fellow villagers also needed food from sea.

Now that fishing activities are intensively done by many villagers of Teblasufa, the territorial fishing right for each sub-clan tended to be unclear. However, particular fisher who wants to enter the area of other sub-clan, he still should have to get permit from the leader of the clan (*Ondoafi*). To enter fishing in the village territorial waters, non-villagers should have permit from the village leader. In the process of issuing permit, village leaders should consult and get agreement from three *Ondoafi*. Apparently, the decision of village leader in this matter is fully influenced by the decision of the three *Ondoafi*.

Another type of fishery resource management which is also found in Teblasufa is known as "*pele karang*", literally means "putting fence over coral areas". *Pele karang* is a prohibition for the villagers to fish at particular time (usually one year) in certain area. The objective of *pele karang* is that to let the fish live until the time to be harvested. Time of harvesting (opened season) is always connected to the village program such as inauguration of the church, other public building, or village festival.

These fishery resource management system in Teblasufa have been recognized by the Regencial Fisheries Service. For non-villagers and big enterprise who want to fish in the waters of or closed to Teblasufa village, before they have permit from the Fisheries Service, they are required to have permit beforehand from the Teblasufa Village Government.

Title:	Socio-cultural aspects of maritime societies in Eastern Indonesia. Marine tenure in Endokisi Village, Demta District, Jayapura, Irian Jaya.
Author:	Imron, M.; D.S. Laksono; S. Ali.
Source:	Seri Penelitian PMB-LIPI. No.2/1993. 65 pages.
Publisher:	Center for Social and Cultural Studies, Indonesian Institute of Science (PMB-LIPI), Jakarta.
Year of publish:	1993.
Language:	Indonesian.
Subject:	Marine tenure system in Endokisi village.
Objective:	Describe marine tenure system in the village
Coverage:	Decision-making process, right holders, boundaries of territorial right, type of technology used, type of penalties on the rule violations. Area of study: Endokisi village, Demta District, Jayapura. Time of field survey: 29 days (July-August 1992).
Method:	Field survey. Semi-structure interview. Snowball interview technique was applied.

### Summary of findings:

Endokisi village is resided mainly by 4 clans: *Mattiseray*, *Nerokepoaw*, *Kereway*, and *Demena*. These four clans have the ownership over the waters facing their village. By the ownership of the marine waters, the Demena is the biggest clan because it was the first who stayed by the sea. By inter-marriage with other clans, ownership of the marine waters is shared and transferred to the other clans.

Each clan has their leader (Ondoafi). The *ondoafi*, formal village leaders and church leaders are altogether form the *Dewan Adat (Customary Council)*. The council was established in 1986 functioning in undertaking all village concerns, including implementation marine tenure laws in the village.

Boundaries of the territorial waters for each clans are determined by physical marks. Toward the opened sea, boundaries of the territorial waters are as far as the sea bottom can be seen.

Currently, member of a particular clan can fish in the other clan area as long as he uses simple fishing gear such as hook-line and spear. This practice provides a chance to fish for member of the clans other than the four clans who own the waters. For the use of more commercial gears like gill net and surface waters *rumpon*, if it is not in the territorial belongs to his clan, a fisher should have permit from *Dewan Adat*. To issue the permit, *Dewan Adat* should have agreement from the members of the clan whose areas will be exploited. Use of poison in fishing is strictly prohibited.

Gradual sanctions on the violations were first applied. The sanction ranged from: warning, social sanction of providing cooking oil to be used in a village party, hunting wild pig and providing pork to all villagers in a village party, dead penalty. \*The sanctions is no longer applied since the villagers were converted to be christian. If there is violation now, the case is brought to be solved and judged by *Dewan Adat* or by local police. The kinds of penalties are fine and warning.

Title:	Socio-cultural aspects of maritime societies in Eastern Indonesia. Marine Tenure in Sangihe Talaud.
Author:	Wahyono, A.; F.I. Thufail; I.G.P. Antariksa.
Source:	Seri Penelitian PMB-LIPI No. 64/1994. 52 pages.
Publisher:	Center for Social and Cultural Studies, Indonesian Institute of Science (PMB-LIPI), Jakarta.
Year of publish:	1994:
Language:	Indonesian.
Subject:	Description and comparison of marine tenure in two villages in Sangihe Talaud.
Objectives:	Identify types of marine tenure. Evaluate functions of marine tenure to society.
Coverage:	Salurang village and Para villlage. Comparison between marine tenure systems in the two villages.

**Method:** A comparative analysis was applied by looking at the type, function, and impact of marine tenure in the two villages. Field survey was done to collect primary data.

**Summary of findings:**

Salurang village is a fishing village located at Sangihe island, North Sulawesi. Fishers employ small-scale fishing gear with non-powered boat. They can only go out fishing as far as 2 miles from the shore. A traditional practice of fishery resource management in this village is known as "*melombo*", that is, activity of catching "*tude fish*" (*Selar umenopthalmus*). This activity was only at South Moonson, normally from June to August. *Melombo* is led by an experience fisher called *tonaas*. It begins with directing the tude fish to come to waters closed to the beach so that the fish can be easily caught. If the fish have been in the shallow waters, *tonaas* calls all other fishers come closer to the areas and with their respective boat, fishers are ready to cast their net. First casting of the net is done by the *tonaas*, then followed by other fishers. The *tonaas* determines number of total catch or length of fishing hour. *Melombo* is done three times a week, every monday, wednesday, and Saturday. Aside from *melombo*, there is no other fishery resource management practice.

Para village is a fishing village which consist of several small islands located in the South of Sangihe Island, North Sulawesi. Type of fishery resource management practised in this village is the use of *seke* (bamboo trap to catch decapterus species) and *soma tatenda* (small purse seine to catch small pelagic fish). Since these two gears have the same target species, the location and time of the gears to be operated are managed and regulated by Head of the village. Fishing grounds for these two fishing gears are then separated. Besides, rotation of the schedule of fishing are arranged so that every gear can have a chance to be operated in the different fishing ground. In 1993 when field survey was conducted, there were 6 *seke* and 42 *soma tatenda*.

*Seke* is a gear owned collectively by villagers (group of fishers) while *soma tatenda* is owned individually. Operation of these two gears brought equity implications. Since *seke* is owned collectively, some shares of the catch are also given to the head of the village and other village personnel, pastor, teacher, widow, and midwife. The shares are also allocated to the church and village development activities. For the case of *soma tatenda*, shares of the catch are only divided among the owner and crew, although there are also shares to the church village programs.

**Title:** Socio-cultural aspects of maritime societies in Eastern Indonesia: Marine tenure in Para Village, Manganitu District, Sangihe Talaud.

**Author:** Wahyono, A.; Sudiyono; F.I. Thufail.

**Source:** Seri Penelitian PMB-LIPI No. 4/1993. 51 pages.

**Publisher:** Center for Social and Cultural Studies, Indonesian Institute of Science (PMB-LIPI), Jakarta.

**Year of publish:** 1993.

**Language:** Indonesian.



**Subject:** Marine tenure system in Para village through management of *seke* and *soma tatenda* fishing gears.

**Objective:** To trace development *seke* and *soma tatenda* and their implication on the resource management.

**Coverage:** Field survey was conducted on 13 July - 11 August 1992.  
Location: Para village, Sangihe Talaud.

**Method:** In-depth discussion deescription based on the primary information.

**Summary of findings:**

Para is a fishing village whose territorial covering several small islands. *Seke* is a traditional fishing gear which can be categorized as a trap used to catch small pelagic fish, especially malalugis. *Seke* is made of bamboo and other natural materials found in the village. It is owned collectively by group of fishers. In 1950, there was six units of *seke*. Villagers still maintained this number of *seke*.

*Soma tatenda* is the local name for mini purse seine. The gear is owned individually. Hence, the operation of the gear requires other fishers as labors. In 1950, there was only eight units *soma tatenda*, increasing to be 42 units in 1992.

Village government manages the time and location to operate the two gears. It is formally enacted by village regulation that only 4 units *seke* can be operated per day, every monday to saturday. The schedule of *seke* operation is arranged so that each *seke* has chance to be operated 4 times a week or about 16 times a month. The location for each day operation is determined.

There are 18 locations or fishing grounds which are destined to *soma tatenda*. Therefore, each day, there are 18 *soma tatenda* which can be operated. Since, sunday is off day for fishing, on the average each *soma tatenda* can be operated 10 times a month.

The regulation on the time and location of fishing is efficient. The village government enacted penalty for the violation of the regulation. Each violator should pay 5-10 bags of cement which is used for village development program.

Two reasons why *seke* is still maintained are: (1) use of this gears fosters solidarity and unity among the villagers, (2) catch of *seke* is shared and distributed not to only to fishers but also others villagers who need and deserve, and (3) there is no enough capital and technical capability to have and use *soma tatenda*.

**Title:** Territorial rights of maritime societies: Change of traditional marine resource management in Alor Kecil Village, Alor Regency, East Nusa Tenggara.

**Author:** Patji, A. R.

**Source:** Seri Penelitian PMB-LIPI No. 012/1996. 110 pages.

**Publisher:** Center for Social and Cultural Studies, Indonesian Institute of Science (PMB-LIPI), Jakarta.

<b>Year of publish:</b>	1996.
<b>Language:</b>	Indonesian
<b>Subjects:</b>	Declining function marine tenure in Alor Kecil Village.
<b>Objective:</b>	To analyze the devolution of marine tenure in Alor Kecil Village To evaluate the influence of social, cultural, technology, and economic factors on the existence of marine tenure.
<b>Coverage:</b>	Alor Kecil Village. Field survey was conducted on February 1996.
<b>Method:</b>	Participant observation, in-depth interview, collection of life history.
<b>Summary of findings:</b>	<p>Population of Alor Kecil Village by origin consist of 8 tribes which are native from the island of Alor or come from surrounding islands or provinces. The tribe of Manglolong is recognized as the one who have sovereignty over territorial waters of Alor Kecil, that is the waters between Alor Island and Pura island. This is because first fisher in Alor Kecil was a member of the tribe of Manglolong. Although waters is owned by the Manglolong, other tribe can utilize marine resources without having special permit. The head of Manglolong tribe is the one who is called to be counsulted and asked if fishers and other villagers who use the sea want to have information about the sea.</p> <p>This marine tenure system tended to vanish due several reasons. The first is the in-migration who bring in other people who do not understand the system. It is also caused by the development fishing technology, fishing enterprises which hire and use villagers as crew fishers, economic development which makes many villagers do not pay so much attention on the activities on the sea, and educational attainment of young people which delimit them from undestanding village tradition. Above all, this marine tenure system has no concrete foundation in the form of regulation and organization (institution) and no support and involvement of village government.</p>

<b>Title:</b>	Territorial rights of marine societies. The changes of traditional marine resource management in Alor Kecil, Bentenan, and Dufa-dufa.
<b>Author:</b>	Research Team, PMB-LIPI.
<b>Source:</b>	Project on the Study of Soci-cultural Dynamic in Industrialization Process. PMB-LIPI, 30 pages.
<b>Publisher:</b>	Center for Social and Cultural Studies. Indonesian Institute of Science (PMB-LIPI), Jakarta.
<b>Year of publish:</b>	1995.
<b>Language:</b>	Indonesian.

**Subject:** Marine tenure in Alor Kecil Village (East Nusa Tenggara), Bantenan (North Sulawesi), and Dufa-Dufa (North Maluku).

**Objective:** To compare marine tenure systems in the three villages.

**Coverage:** Location: Alor Kecil, Bantenan, and Dufa-dufa.  
Commodity: coastal water fish, milk fish fry.  
Time of study: Fiscal year 1995/1996.

**Method:** Comparative descriptive analysis of marine tenure in three villages.

**Summary of findings:**

In Alor Kecil village, marine tenure system seems to have disappeared because the system does not have concrete regulation and institution which is responsible in carrying out the system. There is no exact information about the period when the system took place. The villagers recognized that marine water in their village once belonged to the tribe of Manglolong, one of the eight tribes who stay in the village. Currently, every villager can fish in the waters without getting permit from the tribe of Manglolong. In addition, there is no any local regulation about utilization of marine resources in the village.

In Bantenan village, marine tenure system was established in 1995. Before, there was no system which guided and managed the utilization of marine resources. As price of milk fish fry increased substantially in 1995 from Rp10 to Rp40 per tail, many fishers including outsiders came to the village to catch the fry. Competition among outsiders and villagers could not be avoided. In response, villagers set up the system of fry collection which bans outsiders to fish. Other regulations are also established including the use, number and placing of bound of coconut leaves as fry aggregating device. Waters around the fry aggregating device is exclusive fishing area for the owner of the device. However, if the owner do not use the device, other fishers can use it.

In Dufa-dufa village, the system of marine tenure has been totally forsaken. When the kingdom of Ternate still existed, the waters around the Ternate island was the kingdom territory. Fishing and other activities in the water had to be preceded by getting permit from the king. Since the system is no longer practice, fishing in the waters of Ternate and particularly in the village of Dufa-dufa follow the positive rules and regulations stipulated by government.

**Title:** Rumpon., A Coastal Waters Management Tradition in Bugis-Makasar Societies.

**Author:** Saad, Sudirman.

**Source:** Era Hukum, 2:35-48.

**Publisher:** Faculty of Law, University of Tarumanegara, Jakarta

**Year of publish:** 1994

**Language:** Indonesian (English abastract)

**Subjects:** Description on the fishing rights in the waters around rumpon.

**Objectives:** -Present profile of rumpon fishers and investment requirement of having a rumpon.  
-Discuss role of rumpon as a community-based fisheries resource management mechanism.  
-Investigate if a rumpon as a part of customary law.

**Coverage:** The study was done in Bentengnge village, Regency of Bulukumba, South Sulawesi Province. It covered fishers from Bugis and Makasar tribes.

**Method:** Location was purposively selected. The location is an area where Bugis and Makasar people lived together. 120 fishing households lived in the village, of whom 20 were sampled for this study. Data were collected by using questionnaire interview and analyzed descriptively.

**Summary of findings:**

Rumpon is defined as a bunch of bamboo poles which are tied together and drifted on the water. The bunch is connected with a sinker (normally a stone) so that it may not drift away. It functions as a fish hiding place and so fish can be easily caught. Every fisher in the average owned 5 units rumpon. The owner of rumpon is called "*parrompong*". The cost of a unit rumpon approximately Rp 200 thousand. Five fishers (4 crews and 1 owner-operator) operated one fishing boat whose cost is about Rp 5 million. Every owner of rumpon has a traditional fishing right in the waters around rumpon. The area covered by each rumpon is about 10 000 square meters. Except for using hand-liners, other fishers are not allowed to fish in this area. Right to use the waters around rumpon can be bequeathed. If the waters around a rumpon is not used for sometime, other fisher who want to install new rumpon or use the existing one should have permit from the previous owner. Area of rumpon is opened for shipping lane. The owners of rumpon are not obliged to pay any fee.

**Title:** Model of Maritime Development. A case of BPPK in South Sulawesi.

**Author:** Dja'ali.

**Source:** Paper presented at Seminar on the Formulating Models for Coastal Society Empowerment. Jakarta-Bogor, 12-13 January 1996. 10 p.

**Publisher:** Unpublished. Paper may be foud from the State Minister of Environment, Republic of Indonesia, Jakarta..

**Year of publish :** 1996.

<b>Language:</b>	Indonesian
<b>Subjects:</b>	Reports on the activities of BPPK ( <i>Badan Pengkajian dan Pembangunan Kemaritiman</i> , or Institutes for the Maritime Assessment and Development) in South Sulawesi. The activities of BPPK include extension, training, demonstration, and credit provider.
<b>Objectives:</b>	Describe process of establishment and objectives of BPPK in South Sulawesi. Present activities of BPPK in the empowerment of coastal societies
<b>Coverage:</b>	Activities of BPPK includes training, extension, demonstration, and capital (credit) provider. Location of the activities are (1) Kambuno Island, Sinjai Regency, (2) Sabangko Island, Pangkep Regency, (3) Likungan Macini, Pangkep Regency, (4) Sembilan islands, (5) Mamuju Regency, (6) Polmas Regency, (7) Jeneponto Regency. Commodity coverage are sea cucumber, mud crab, sea grass. Technologies introduced are aquaculture and environmentally-sound fishing methods.
<b>Method:</b>	The report is an extensive elaboration of BPPK activities in South Sulawesi. Therefore, there is no a thorough analysis.
<b>Summary of findings:</b>	<p>Establishment of the BPPK was initiated in August 1993 by the Provincial Navy Commander. In 20 September 1993, the Governor of South Sulawesi Province passed the Governor Decree No. 587/IX/1993 on the establishment of the BPPK. The activities of the BPPK aims at increasing sustainable use of coastal zone through training, extension, and demonstration. The final target of the BPPK is that coastal society, especially fishers, will have a better living condition. Specifically, the objectives of the BPPK are (1) to pacify and conserve the environment by improving people awareness, (2) to gather information, innovation, and technologies which can be spread to and used by the people in order to improve their living condition, and (3) to increase income of the people through proper and responsible utilization of coastal resources.</p> <p>Activities of the BPPK which are being undertaken are demonstration of sea cucumber culture, breeding and restocking sea cucumber, extension activities in order to improve people awareness on the management and utilization of coastal resources, training on responsible fishing and processing technologies, and providing non-interest credits to fishers.</p> <p>After one year of the BPPK establishment, impacts of the BPPK programs have been experienced by fishers. For instance, in Salemo island, fishers who were formerly practising dynamite and cyanide fishing currently stop fishing and begin to produce mud crabs resulted from aquaculture. They totally stopped using destructive fishing methods and primarily depending their livelihood on aquaculture.</p>

<b>Title:</b>	Sociocultural Elements of the Farmer and Fisher Societies in Rural Area.
<b>Author:</b>	Jonathan, D. Pualillin.
<b>Source:</b>	Research Project of the University of Hasanuddin. No. 04/BGN/UH/85/06, 28 p.
<b>Publisher:</b>	Research Center of the University of Hasanuddin.
<b>Year of publish:</b>	1985.
<b>Language:</b>	Indonesian (with English abstract)

- Subjects:** Sociocultural variables which affect and determine behavior and activities of farmers and fishers.
- Objectives:** Find out sociocultural elements which affect farmer and fisher activities.  
Evaluate which of those elements affecting farmer and fisher behavior in production process.
- Coverage:** Location of study: Pajjukukan Village, Maros Regency, South Sulawesi Province.  
Time of study: 1985.
- Method:** Data were collected by using questionnaire interview. 30 respondents were chosen based on a stratified random sampling. The strata of sampling were occupation of the respondents. The respondents were 10 fisher, 10 brackish water pond farmers, and 10 farmers. Before interview was carried out, an inventory of social institutions found in the village was undertaken. Analysis of data was done descriptively.

**Summary of findings:**

Pajjukukan village was divided into five hamlets. In 1985, the population was 3502 consisting of 674 households. The main occupation of the villagers were farmers, brackish water pond farmers, and fishers.

Traditional institutions related to the production system which could be found in this village were "*tudang sipulung*", "*mala ulu ase*", "*pinati*", "*barazanji*", "*mappano bale*", and "*majjaga bale*".

*Tudung sipulung* meaning sitting together was a ritual ceremony in which formal and informal leaders and farmers convened to decide the right time for paddy seeding. The ceremony was taken place at the beginning of each cropping season and sponsored by the Regencial Food Crop Service. The objective of the ceremony was to ask farmers to plant seed at the same time so that the risks of failure in production may be lessened. *Mala ulu ase* meaning rice harvesting was ceremony to begin rice harvesting. The ceremony aims at appointing certain day (good day) as the harvesting day.

*Pinati* was a ceremony at which fishers are going to visit the customary leader to aks for the success of fishing operation. The customary leader will tell the fishers on the right time to leave the village for fishing and the area to fish (fishing ground). Generally, the day for fishers to leave the village was either monday or friday. After knowing the time to leave and place for fishing, owner of boat (pongawa) and crew fishers (*sawi*) prepared their boat and net following certain ritual prayers.

*Barazanji* was a ceremony to utter a prayer for success and safety in the sea. The ceremony was performed on fishing boat which was about to leave. The ceremony was led by a customary leader and followed by all fishers. After uttering the prayer, all the fishers had meal together before leaving to the sea.

*Mappano bale* a practice among fish pond raisers in which they decide certain day to stock the pond. *Majjanga bale* was a practice of the farmers to manage the water according to tidal condition.

All above traditional practices were still held by villagers. They believed that absence of these practices could bring about misfortune, unsuccessful, failure, and accident.

<b>Title:</b>	A Reflection of Assistance to Coastal Society
<b>Author:</b>	Laude, Sufri
<b>Source:</b>	Unpublished paper of the <i>Lembaga Pengkajian Pedesaan, Pantai dan Masyarakat</i> (Center for Rural, Coastal, and Society Studies), Ujung Pandang. 15 p.
<b>Publisher:</b>	<i>Lembaga Pengkajian Pedesaan, Pantai dan Masyarakat (LP3M)</i> , Ujung Pandang.
<b>Year of publish:</b>	1996.
<b>Language:</b>	Indonesian
<b>Subjects:</b>	The paper focuses on the strategy taken by LP3M to build people participation in the management of coastal resources. The strategy was implemented to assist fishers in Barang Caddi, Ujung Pandang, community of the Marine Park of Taka Bone Rate, and fishers in Kapoposang Pangkep.
<b>Objectives:</b>	Show that participatory development is a new strategy to empower fishing community.
<b>Coverage:</b>	Fishers in Barang Caddi, Marine Park of Taka Bone Rate, and Kapoposang.
<b>Method:</b>	The paper is a description of the LP3M approach in assisting fishing community.
<b>Summary of findings:</b>	<p>LP3M was established 10 years ago. The objective of this organization is to help increase standard of living of fishers in South and Southeast Sulawesi. Strategy taken by the LP3M is to use informal institution existed in the village to develop local initiative and participation. Beside villagers as the core of the development process, other group of people who also hold prominent roles in the village development are village government, informal leaders, and technical officers. The success of any development program in the village depends on the participation and involvement of these group of people.</p> <p>To conserve the Taka Bone Rate area, a conservation group consisting of local people, government, and NGO was founded. The activities of the group are to spread information on the status of the marine park, to introduce endangered and protected species to the people and government officers, to conduct MCS and make written or unwritten reports if they find illegal and destructive methods of resource exploitation.</p>

<b>Title:</b>	Law enforcement to conserve marine living resources in Ujung Pandang waters.
<b>Author:</b>	Asikin, M.
<b>Source:</b>	Research Center of the University of Hasanuddin.
<b>Publisher:</b>	Unpublished typecript.
<b>Year of Issue:</b>	1987.
<b>Language:</b>	Indonesian.
<b>Subject:</b>	Identification of methods and approaches which could be applied to manage marine

resources in Ujung Pandang waters.

**Objective:** To find information on destructive practices on the exploitation of fish resources and the implementation and enforcement of the related laws. To provide alternative of marine fish resource management.

**Coverage:** Location of study: District of Ujung Tanah and Mariso, Ujung Pandang, South Sulawesi.  
Time of data collection: Fiscal year 1986/1987.

**Method:** Document (literature) studies, observation, and interview.

**Summary of findings:**

Two main problems identified as destructive practices in the utilization of marine resources were use of dynamite fishing and collecting of coral and beach sands. Although the use of dynamite of fishing was common, during the period of 1982-1985, there were only 10 cases which were brought to the provincial justige court. In the mean time, taking and collecting of coral and beach sand, although were prohibited by law, were not judged in the court. The reason of inefficient enforcement and implementation of the laws were lack of personnel and facilities for monitoring, controlling, and surveillance. The author suggested to increase number of personnel and improve facilities.

**Title:** Territorial fishing rights and villagers participation in coastal fisheries resource management.

**Author:** Nikijuluw, V.P.H.

**Source:** Survey Report of the Marine Resource Evaluation and Planning Project in Biak-Numfor Regency, Irian Jaya. Center Research Institute for Fisheries, Jakarta.

**Publisher:** Unpublished Report

**Year of issue:** 1995.

**Language:** Indonesian.

**Subject:** Identification of traditional resource management practices.

**Objective:** Identification and classification of traditional resource management practices.

**Coverage:** Location: 19 coastal villages in Biak island. Time of data collection: November 1995.

**Method:** In-depth interview with fishers and community leaders, Observation. Position each village was recorded by using Geographycal Positioning System (GPS).

**Summary of findings:**

Villagers have exclusive right in utilizing fishes resources in the waters facing their village. This kind of right was found in 9 villages. Commodities covered by the right are normally coral species. Outsiders are allowed to exploit resources in the territorial use area if they have permit. In villages, permit to outsiders is issued on the basis of some payments. As village in Biak are closed one another, territorial use area of a particular village may be entered by neighboring villagers. In that case, this entering is allowed



without requiring any permit.

Dynamite fishing is strictly prohibited in 10 villages. In the village of Tanjung Barari, the use of mangrove forest is managed. Logging of mangrove woods by villagers or outsiders should pay some fees. Beach sand is not freely taken. For domestic purpose, sand and coral can be taken. However, it is strictly prohibited for commercial purpose.

In some villages, indigenous technologies are found. "*Sek Asas*" is the indigenous fishing gear used to catch shark fish. "*Arsam*" is the indigenous fishing gear used to catch flying fish.

There is no special organization, individual, or institution which responsible in carrying out and implementing these system of resource management. Formal village institution and local people undertake impementation of the system.

**Title:** Current and future community-based fishery management in Indonesia.

**Author:** Nikijuluw, V.P.H. and N. Naamin.

**Source:** Indonesian Agriculture Research and Development Journal, 16(2):19-23.

**Publisher:** The Agency of Agricultural Research and Development, Misnistry of Agriculture, Indonesia.

**Year of publish:** 1994.

**Language:** Indonesian

**Subject:** Lessons learned from community-based management practices.

**Objective:** to shortly explains the positive impacts of community-based management in fisheries.

**Coverage:** *Sasi* in Maluku, *Panglima laut* (sea commander) in Aceh, *Rumpon* (fish aggregating device) system in South Lampung.

**Method:** In-depth discussion based literature survey.

**Summary of findings:**

*Sasi* system seems to persistently work because of no direct interference of the government. It appears that all villagers are responsible in maintaining the system as this task is part of their moral obligation.

The *panglima laut* system has survived under changing political regimes from the Sultanate of Aceh, the Dutch colonial, till the present state of the Government of Indonesia. Currently, the system is no longer widely and actively observed. This is presumably caused by lack of information on the system to the present generation. Government initiative to coordinate the system into more formal institution can pave the way toward its revival and application.

Installation of *rumpon* in South Lampung can be regarded as a way to create and claim a territorial use rights on the certain waters. The territorial user right is opened to be entered by small-scale fishers. Thereby, equity principle among different classes of fishers is guaranteed.

<b>Title:</b>	Indigenous Fisheries Resource Management in the Maluku Island
<b>Author:</b>	Nikijuluw, Victor P.H.
<b>Source:</b>	Indigenous Knowledge and Development Monitor 2(2):6-8.
<b>Publisher:</b>	Nuffic, the Netherland.
<b>Year of publish:</b>	1994.
<b>Language:</b>	English
<b>Subjects:</b>	Discuss sasi as a traditional approach practised by villagers in Maluku Province to manage coastal fisheries.
<b>Objectives:</b>	Briefly introduce sasi as a resource management approach. Discuss prospects and challenges of sasi in the future.
<b>Coverage:</b>	Cases in Haruku and Saparua Islands were spotlighted. Conclusion, however, may be applied for the whole villages in Maluku.
<b>Method:</b>	The paper was a result of a literature survey.

**Summary of findings:**

The practise of sasi entails a closed season and a number of closed areas. At certain times villagers are not allowed to fish in the waters bordering their village; that is the area which can be seen with naked eye from land. In addition to sasi, there is a kind of territorial fishing rights known as *petuanang*. The area covers bays, lagoons, submerged atolls, and underwater reefs. As a rule, the *petuanang* may not be entered by people from other villages. However, if they are permitted entry, the gear they use must be of the same size and type as that employed by the local people. Besides, they are obliged to pay a monetary fee (*ngase*) for a permit.

The *sasi* and *petuanang* apparently work so well because villagers are responsible for maintaining the system. This task is considered part of their social obligations. The system governs rewards and sanctions. Violators are sentenced by the village leaders and punishment may be anything from public shaming, doing community works, denial of the right to fish, or a fine, to the most severe penalty; permanent banishment from the village.

Although the system is commonly viewed as the best option coastal fisheries management approach, there are signs that it is gradually dying out. Factors that affect the future existence of the system are migration and urbanization, trade development, expansion of industrial fisheries, and competition of different fishing fleets. If this system of indigenous resource management to be maintained, provincial government should take action and have a political will to protect the system.

**Title:** Highlight of Customary Institute and "Kewang" (Village Police Corps).

**Author:** *Lembaga Kebudayaan Daerah Maluku (LKDM).*

**Source:** Paper presented by the Organizing Committee of the Forth Reforestation and Natural Conservation Program, 5 p,

**Publisher:** Museum of Maluku Province, Siwalima, Ambon..

**Year of publish :** 1994.

**Language:** Indonesian

**Subjects:** Short description of nine characteristics of sasi law.

**Objectives:** Present history of sasi practices in Maluku.

**Coverage:** Souteast Maluku, Central Maluku, North Maluku.  
Marine and terrestrial comodities.

**Method:** Qualitative explanation of sasi history and current existence.

**Summary of findings:**

In 1970's *sasi* was still practised in Batumerah Village, Ambon island, as can be seen from *sasi* signs of bamboo pools with young cocunut leaves placed in the coastal waters. Currently the same signs is no longer there and perhaps will not be found anymore. This is because Batumerah Village is now a part of Ambon Municipality territory and consequently people leaving in this area are not the village origin.

*Sasi* law in Maluku can be found throughout the island. In Southeast Maluku, the law is named *Yot-Huwear*. In Ternate Island, *sasi* law is termed as *Fusu*. In Sula islands, *sasi* law is named *Siboboso Game*. While in Central Maluku and Ambon Island, *sasi* term is commonly used.

The nine characteristics of *sasi* law are: (1) The law entails both prohibition and permission, (2) The law has socio-yurisdiction functions and therefore it is a customary law, (3) The areas covered by the law are waters and lan, (4) The law is implemented with the aid of physical marks or signs, (5) The law is formed and established by villagers themeselves, (6) Enforcement of the law is executed by village police corps (*kewang*), (7) The law has sanction and punishment system, (8) The law has its own yudicial system, (9) The law is basically based on the local values such as peace, security, prosperity, environment protection and awareness, and sustainability of rights and responsibilities.

**Title:** Harvesting *Trochus niloticus* in Nolloth Village, Saparua Island, through sasi system.

**Author:** Andamari, Retno., Subagiyo, and Sitti Hadijah Talaohu.

**Source:** Jurnal Penelitian Perikanan Laut, 60:31-36.

**Publisher:** Research Institute for Marine Fisheries, Jakarta

**Year of publish:** 1991.

**Language:** Indonesian (English abstract).

**Subjects:** Implementation of sasi system for the utilization and management of top shell (*Trochus niloticus*) resource. System of sasi was explained and economic analysis of harvesting top shell was undertaken.

**Objectives:** Explain mechanism of sasi in the collecting of top shell.  
Estimate economic returns from top shell collecting activity.

**Coverage:** Location: Nolloth village, Saparua island, Central Maluku.  
Commodity: top shell  
Time of study: February - March 1989, June 1990.

**Method:** Data were collected by interviewing key respondents. Participatory approach was performed during the collecting of the shell.

**Summary of findings:**

Collecting of top shell in Nolloth has been practised since before the second world war. People at that time harvested the shell just for taking its meat. In 1953, villagers began to utilize the whole part of the shell as there was a demand for the shell itself. Since 1968, the collecting of the shell has been managed by sasi system. There are two system of sasi in Nolloth; the church-organized sasi and the village-organized sasi.

The collecting time (opened of sasi or opened season) was once a year. Before 1986, the opened season was once every three year. Since period of closed season (closed of sasi) was shorten, amount of the shell harvested declined substantially. Although price of the shell increased, it was not enough to compensate the declining of harvest. As a result, income derived from this shell collecting decreased. In 1990, the net income for the whole village was about Rp1.8 million, a 36% decrease from the 1988's Rp2.8 million.

**Title:** Community-Based Fishery Management (Sasi) in Central Maluku.

**Author:** Nikijuluw, Victor P.H.

**Source:** Indonesian Agricultural Research and Development Journal, 17(2):33-39.

**Publisher:** Agency for Agricultural Research and Development, Ministry of Agriculture. Republic of

	Indonesia.
Year of publish:	1995.
Language:	English.
Subjects:	Comparison of sasi performance in seven villages in central Maluku. System of sasi in each village was described on the basis of their institutional bases, objectives, shared norms and behaviors.
Objectives:	<ul style="list-style-type: none"> <li>- Feature and compare practices of sasi in some villages</li> <li>- Evaluate performance of sasi.</li> </ul>
Coverage:	<p>Location: Nolloth, Paperu, and Siri Sori of Saparua island; Amahai and Kairatu of Seram island; Pelauw and Haruku of Haruku island.</p> <p>Commodity: Shells, sea cucumber, fish, and other coral organisms.</p> <p>Time of data collection: January 1995.</p>
Method:	Semi-structure interview was applied. Respondents were fishers, religious leaders, customarily leaders, and head of the villages. Identification of sasi system was based on the same key components: objectives, shared norms, shared behaviors, violations, and penalty or sanction. Performance of sasi was evaluated based on the efficiency, sustainability, and equitability criteria. Comparison of the sasi performance across villages was qualitatively measured.
Summary of findings:	<p>Overall, objectives of sasi are to increase income, conserve resource, and protect tradition or local practices. Rules of sasi deal with stipulation on kinds of managed species, types of allowed and disallowed fishing gears and methods, and boundaries of the managed areas. Closed and opened season (closed and opened sasi) are also regulated. Opened season could be at short of one week and at long of one month. Closed season varies from one month to one year. Violation of regulation seemed not to happen. This was indication that the sasi rules were effective. Each village had its own penalty system. Fine, gear confiscation, admission of guilt before people and God, public shamming, doing social works were the types of penalty to the violation. Fishing rights were owned by villagers as individual and/or communities. In some villages, the rights could be transferred to individual fishers who might come from other place. All the rules and regulations as well as penalty system were passed through written and unwritten regulations. The written regulation were found in Nolloth, Paperu, Haruku, and Amahai. The unwritten regulations were found in Siri Sori, Pelauw, and Kairatu.</p> <p>Implementation and enforcement of sasi were undertaken by village police known as kewang. The number of kewang reflected the number of native clan in the village. Based on efficiency criterium, the performance of sasi in Nolloth was slightly lower than that in other villages. The sustainability impact seems to be equal in all villages. Equitability criterium was valued higher in Nolloth than in other villages.</p> <p>One of the conclusions was that although sasi is still exist, some challenges may dismiss its continuity. Factors may hinder the existence of sasi are the coming of industrial fishing fleet to the area, limited availability of coastal fisheries resources, economic forces, and migration of people.</p>

<b>Title:</b>	Functions of Sasi Institution to Social Welfare of the People in Haruku Village, Haruku District, Central Maluku.
<b>Author:</b>	de Kock, Johan.
<b>Source:</b>	Unpublished bachelor thesis at the Faculty of Social and Political Sciences, <i>University Kristen Indonesia Maluku</i> , Ambon. 65 p.
<b>Year of publish :</b>	1992.
<b>Language:</b>	Indonesian
<b>Subjects:</b>	Description on the scope of sasi institution in Haruku village. Effect of sasi law implementation on the conservation and management of natural resources and social condition of the villagers were discussed. The social and demography background of Haruku village were presented.
<b>Objectives:</b>	Identify the effect of sasi law on natural resource management. Identify the role of village government officers in the implementation of sasi law. Find out the impact of sasi implementation on the social condition of the villagers. Trace the development of the sasi institution and social cultural factors which may affect its implementation.
<b>Coverage:</b>	Location: Haruku village, Haruku District, Central Maluku Regency. Commodity: a kind of pelagic fish named <i>ikan lompa (Krisna baelama)</i> . Ecosystem: estuary and coastal waters. Time of study: 1991-1992.
<b>Method:</b>	Data were collected by questionnaire interviewing with 40 samples. The respondents were head of household. Formal and informal leaders were also interviewed. Field observation and literature survey were also performed by the author. Data were presented tabularly and analyzed descriptively.
<b>Summary of findings:</b>	<p>Haruku is the nearest village in Haruku island which can be reached from Ambon. In 1991, the total population of Haruku were 2253 people consisting of 1113 female and 1140 male. The age class distribution of the population followed a bell-shape-curve. The majority of the people were christian. The main occupation was food crop and estate crop farmers. Fishing was done by a few villagers and not a commercial activity.</p> <p>Based on the ecosystem, four types of sasi institutions could be identified in Haruku; marine sasi, forestry sasi, estuary sasi, and sasi concerning the activities of the villagers in the village. Of the four type sasi, estuary sasi was the one which functions and works efficiently since the sasi laws regarding the exploitation and management of estuarine pelagic fish were respected by the villagers.</p> <p>The analysis of the impact of sasi institution on the social and economic condition of the people was performed by taking together all the four types of sasi at once. However, variable or indicator of sasi impact performance was confined to income of the</p>

respondents. 92.5% respondents said that sasi in Haruku village was useful and 7.5% respondents revealed that sasi was not so useful. Annual income which could be earned by sasi-controlled activities was distributed as follows: 10% respondents could derive Rp50,000 to Rp100,000; 2.5% respondents could have Rp101,000 to Rp149,000; 12.5% earned Rp150,000 to Rp199,000; and 75% respondents had Rp200,000 or more.

<b>Title:</b>	Sasi as a Community-Based Resource Management (CBRM) in Saparua island, Mollucas.
<b>Author:</b>	Nikijuluw, Victor. P.H.
<b>Source:</b>	Jurnal Penelitian Perikanan Laut, 93:79-92.
<b>Publisher:</b>	Research Institute for Marine Fisheries, Jakarta.
<b>Year of publish:</b>	1995.
<b>Language:</b>	Indonesian (with English abstract)
<b>Subjects:</b>	Comparison of sasi law in three villages in Saparua Island. Impact of sasi performance was evaluated with respect to equity, sustainability, and efficiency criteria.
<b>Objectives:</b>	Compare sasi law in three villages. Assess the impact of sasi to society Identify factors which may affect the practice and implementation of sasi..
<b>Coverage:</b>	The study areas covered Nolloth, Siri Sori, and Paperu villages in Saparua Island, Central Mollucas. Fisheries resources which are managed by sasi law are sea cucumber and top shell in Siri Sori, top shell and other shells in Nolloth, and small pelagic in Paperu. Field survey was carried out on February 1995.
<b>Method:</b>	Data were collected by using semi-structured questionnaire. Respondents were formal leaders (Head of Saparua District, Chief of each village, other village officers), informal leaders (Chief of customary institute, senior villagers, implementors of sasi law), functional group (teachers, pastors), village organization (women organization, youth organisation), and fishers. Sasi law in three villages were presented by looking at their structure of organization, the objectives of the law, the regulations, the implementation, the enforcement and penalty system. The impact performance of sasi was performed on the basis of efficiency, sustainability, and equity criteria.
<b>Summary of findings:</b>	Sasi as a community-based fisheries resource management has been practised for decades. As a tradition, sasi also dealt with religion and faith. At the beginning, only government at village level which involve in this grassroot institution. Currently, the district and regencial governments are also involve by providing legal backup to sasi regulations. Therefore, management regime with sasi institution could be now classified as co-management where people and government jointly take their responsibility. Implementation of sasi law was not yet satisfactory, being evaluated from its impact to the villagers. The social costs

incurred by villagers through their obedience to the regulations was under-compensated by resulted benefits. In most cases, villagers could not directly individually or in group utilized natural resources managed by the sasi institute. The penalties on the violation of the regulation was dominated by monetary penalty or fine. This was an indication that other kind of penalties such public shaming and social work seemed to disappear. The impact performance analysis showed the efficiency and sustainability criteria had higher scores than those of the equity criterium. Thus, the sasi institution succeeds to increase productivity and maintain natural condition of resources and their environment but failed to fairly distribute the benefits to the society.

**Title:** Roles of *Sasi* in Natural Resource Conservation and Its Impact on Household Economic in Luang Timur Village, Babar Islands District, Southeast Maluku.

**Author:** Letelay, Simon.

**Source:** Unpublished bachelor thesis at the Faculty of Social and Political Sciences, *University Kristen Indonesia Maluku*, Ambon. 91 p.

**Year of publish :** 1993.

**Language:** Indonesian

**Subject:** History of *sasi* in Luang Timur village. The characteristics of the village are presented in terms of geography, demography, and governmental structure. Respondents were described by educational level, occupation, income, and expenditure as well as their perception on sasi implementation.

**Objective:** Find out the impact of *sasi* on the household economy.  
Understand villagers perception on the role of sasi institution in the conservation of environment.

**Coverage:** Location of the study: Luang Timur Village.  
Commodities: sea weed, top shell (*Trochus niloticus*), sea cucumber, and green turban shell (*Turbo marmoratus*)

**Method:** Stratified random sampling procedure based on educational attainment of respondents was applied to gather primary data. In addition, library research was conducted to find data on characteristics of the village. The sample were 51 fishers or 20% of the head of fishing households. Data were presented tabularly as a basis for discussion.

**Summary of findings:**

Sasi locally called "hghera" is set of prohibitions to the villagers to take natural resources both from terrestrial and marine. Sasi has been practised in this village since prior to the coming of formal religion into the village. There was no exact date which can be referred as the beginning of sasi. Violation of the sasi, at that moment, always led to the opened battle between the violators and the owner of the resources or the society. Since villagers currently trust and follow certain religion (christian), a new penalty system to the



violators has been set up. Violators are punished to pay in forms of gold, cattle whose horn is more than 20 cm length, and distilled palm wine. The total population of Luang Timur was 1059 people consisting of 259 households in 1992. About 44% of the population was below 15 years old. Occupation of the villagers were fishers (54.2%), farmers (41.2%), local government officers (2.2%) and middlemen and carpenter (2.4%). About 65% of the population are still in elementary school or never attending any school, 16% passed the elementary school, 9% finished junior high school, and the rest (9%) passed senior high school or college.

More than 92% respondents perceived that sasi implementation brought about good and satisfied results. About 59% respondents wanted the period of sasi (closed season) was less than 6 months while 75% respondents said that the opened of sasi (opened season) should be about 4 days.. Sasi could increase income (73%) and conserve environment (22%). The rest 5% respondents admitted that they did not know about the impact of sasi.

During the closed season, monthly income of respondents was less than Rp30,000 (20%), between Rp30,000 to Rp60,000 (49%), and higher than Rp60,000 (31%). Additional income generated by respondents during the month when sasi is opened (opened season) was Rp10,000 to Rp15,000 (50%); Rp15,000 to Rp,25,000 (19%), and higher than Rp25,000 (17%).

<b>Title:</b>	Customary society and human development toward the wholeness of Indonesian people.
<b>Author:</b>	Titahelu, R.Z.
<b>Source:</b>	Typescript, University of Pattimura. 30 p.
<b>Year of publish:</b>	1996.
<b>Language:</b>	Indonesian.
<b>Subject:</b>	<ul style="list-style-type: none"> <li>- Customary society is an asset of country which should be saved, maintain, utilized, and empowered.</li> <li>- The importance of customary society in development.</li> </ul>
<b>Objectives:</b>	<ul style="list-style-type: none"> <li>- Show the importance of customary society and that the existence of the society has been internationally recognized.</li> <li>- Pinpoint the position of customary society in the Indonesian legal system.</li> </ul>
<b>Coverage:</b>	Explain that customary societies in the whole provinces of Indonesia have their attributes and traits which should be used and considered in the development process.
<b>Method:</b>	In-depth discussion based literature analysis.
<b>Summary of findings:</b>	<p>The roles of customary society in the national development is required to maintain the unity of the nation. In reality and by virtue of legal system, the existence of customary society cannot be ignored. The existence of the customary society is embodied in their traditional knowledges, cultural heritages, and properties which are beneficial to the</p>

nation. Introduction of new technologies and methods should not change the life pattern of the traditional society. The introduced technologies and methods could live side by side with the existing practices found in the traditional society.

**Title:** Land law. Customary laws of Ambon and Lease.

**Author:** Effendi Ziwar.

**Source:** Chapter VIII (pages 91-114) of the book entitled Customary Laws of Ambon and Lease.

**Year of publish:** 1987.

**Language:** Indonesian.

**Subject:** Description on the right of *petuanang* (area owned by a village)

**Objectives:** Explain the right of *petuanang* in connection with land ownership.

**Coverage:** The right of *petuanang* in Ambon, Saparua, Haruku and Nusa Laut islands. The resource coverages are marine and terrestrial.

**Method:** In-depth discussion based literature analysis..

**Summary of findings:**

Petuanang is defined as an area owned by a village. There are no definite boundaries of petuanang. Generally, the boundaries of petuanang are natural signs such as river, hill, ravine, and big (old) tree. Because of unclear boundaries of the petuanang, clashes with neighboring villages always occur. In petuanang, villagers have the rights to exploit and utilize its resources. The petuanang are not only confined to the land but also marine waters whose bottom can still be seen with naked eyes. In line with village development, some of the petuanang rights are transferred from the ownership and direct control of the village to individual or group. The control and ownership over petuanang by village has internal and external implications. The internal implication is that village can limit and control the activities of individual or group villagers in regard to the use of natural resources in the petuanang. The village through its leaders can also stipulate rules and regulations as well as judge problems arising from the conflicts between villagers. The external implication is that the rights to exploit and utilize available natural resources are prioritized to native villagers. Non-villagers are permitted to utilize the petuanang resources after they pay some money as a sign of recognition that the petuanang is owned by that village.

**Title:** Regulation of sasi in Paperu village, 1913-1922.

**Author:** Paperu Village Council

**Source:** Commissie Van Adatrecht, Bundel 24:318-323

<b>Year of publish:</b>	1929
<b>Language:</b>	Indonesian (Ambonese Malay).
<b>Subject:</b>	Regulations and objectives of sasi in Paperu village
<b>Objectives:</b>	Explain the regulation and function of sasi so that it can be understood by villagers.
<b>Coverage:</b>	The reasons to carry out sasi. The regulations, objectives, and penalty system of sasi.
<b>Method:</b>	In-depth explanation on the sasi regulation

**Summary of findings:**

The practice of sasi has been taken place since the village of Paperu was located in the mountain (old village), that was the place where currently are used for plantation of food and perennial crops. Sasi was defined as a prohibition sign shown by placing young coconut leaves at strategic places where every villager could see and at the place (area) whose natural resources were prohibited to be taken or harvested.

Six function of sasi were mentioned. They are: (1) All fruits and crops must be picked or harvested when they are ripe, (2) To avoid conflicts between villagers, (3) To conserve land and waters which belong to the village territory, (4) To increase number of cropping and to well maintain the existing plants, (5) To put in order the function of woman in resource exploitation and management, (6) To stop the bad practices such as robbery and thief.

These six functions of sasi are elaborated by rules and penalties for the violation of the rules as well. One of the rules is that to forbid the use of poison in fishing. If the violator of the rule is from the village, he is punished by paying some money. If he is from other village, the gears and tools he used are confiscated. If the violation is so heavy that the village leaders cannot solve it, then the case is sent to formal judicial system in Saparua, the center of district government.

<b>Title:</b>	Sasi violations and their penalties in Paperu village.
<b>Author:</b>	Paperu Village Council
<b>Source:</b>	Keputusan Desa Paperu (KDP). The act of Paperu village No.144 /13/ KPTS/ PRU/1991.
<b>Publisher:</b>	Unpublished
<b>Year of publish:</b>	1991.
<b>Language:</b>	Indonesian (Ambonese Malay)
<b>Subject:</b>	Regulation of sasi in Paperu village and the fines for each violation.
<b>Objectives:</b>	Rules of sasi are enacted so as to conserve natural and environment, to foster peace and order situation in the village of Paperu.
<b>Coverage:</b>	Rules concerning sasi of coconut, palm sago, fruits, bamboo, forest management, and coastal waters management.
<b>Method</b>	Explaining the possible violations and determining their respective penalties.

**Summary of findings:**

Fishing in coastal waters is managed through the system of license. Payments to have a fishing licensee are as follows:

- Beach seine fishing by non-villagers: Rp 5000 per trip with prior notice and Rp 10.000 per trip without prior notice.
- Fishing by using bamboo trap: Rp15 000 per year.
- Fishing by using cast net: Rp 3000 for villagers with prior notice (have permit) and Rp 10 000 for villagers without prior notice (violation).  
For non-villagers, the payment is Rp 5 000 with prior notice (have permit) and Rp15 000 without prior notice (violation).

Areas which are managed by this regulation are divided into two; the area of sasi which prevails only for non-villagers and the one which are dealt with both villagers and non villagers. The latter area is always called special area of sasi. Type of fishing gear that can be operated in the special area of sasi are determined at the announcement (ceremony) of opening the sasi season. Violations on this special area are punished by warning and fine. The non-villagers are fined Rp25 000 and the villagers are fined Rp 10 000.

It is strictly prohibited to fish by using dynamite, bomb and poison. It is also forbidden to take corals and to cut mangrove tree.

**Title:** Regulation of sasi in Nolloth village.

**Author:** Nolloth Village Council

**Source:** Village Government.

**Publisher:** Unpublished material

**Year of publish (issue):** 1994

**Language:** Indonesian (Ambonese Malay)

**Subject:** Regulation of sasi, implementation of sasi regulation by *kewang* (village police), and penalties for the violations of sasi regulation.

**Objective:** Introduce sasi regulation. Explain the functions of *kewang*.

**Coverage** Regulation on the exploitation of coastal fishery resources, logging, harvesting of coconut, cutting and harvesting of sago, harvesting of fruits. Penalties of sasi rule violations are stated by commodities. Mandate, function, and responsibility of *kewang* are explained.

**Method:** Elaboration of sasi rules by commodities and resources.

**Summary of findings:**

Regulations of sasi consist of two chapters. Chapter one is about coastal and marine resources while chapter two is on agricultural commodities. The article one of chapter one says that since 1 January 1990, area of coastal and marine sasi has been extended to 2.5 km length, starting from Umisin beach till Wailessy beach. The width of the sasi area is from shore line down toward the sea up to 25 m water depth. The article two of chapter one says that within this sasi area, it is prohibited to use gill-net which requires fishers to swim, use spear fishing, and swim. Tourists can swim if they get permit from the village. Commodities which are strictly banned are top shell, sea cucumber, green turban shell, and cockle shell. Villager who wants to take beach sand for personal use should have permit from the head of the village. The sand should not be sold to other people. Its is also strictly forbidden to fish by using poison and chemicals.

Violations of the above rules are punished to fine. *Kewang* are responsible to control and implement the rules. *Kewang* are appointed according to their clan or family.

**Title:** Implementation of sasi and its enforcement personnel in Amahai village.

**Author:** Amahai Village Government

**Source:** Decree of the Head of Amahai village No. 01/KPTS/KADES/AMH/94.

**Publisher:** Unpublished

**Year of publish (issue):** 1994.

**Language:** Indonesian (Ambonese Malay)

**Subject:** Decree on the natural resources which are managed and conserved through sasi system.  
Appointment of members of *kewang*. Elaboration *kewang* rights and duties.

**Objective:** Explain commodities whose harvests are regulated by sasi system.

**Coverage:** Type of marine species which are managed by sasi, boundaries of sasi, type of fishing gear allowed, type of forest and terrestrial commodities managed by sasi.

**Method:** Extensive elaboration on sasi system

**Summary of findings:**

Marine species managed by sasi system are sea cucumber, live coral, mangrove wood, all riverine and estuaine species, and pelagic fish living close by the shore. The boundaries of sasi area is about 300 meters from the shore. The exact area of sasi are from Wairano river until Ahuralo cape, all the marine shelf area, Omoluono and Waipo waters. Fishing gears which are not allowed to be used are all kinds of nets, cast net, traps, poison and dynamite or bomb fishing.

Kewang are appointed by the head of the village. They are divided into two groups; those responsible in guarding the marine and coastal area, and those taking care the forest and terrestrial areas. The kewang are coordinated by two village government personnels. So the kewang members are included in the organisational structure of village government. Any costs which should incurred because of implementation of the sasi rules are born by village government.

**Title:** Sasi law in Maluku. A potrait of rural environmental management which is searched by the government.

**Author:** Lokollo, J. E.

**Source:** Faculty of Law, University of Pattimura, 47 p..

**Publisher:** Unpublished.

**Year of  
publish (issue):** 1988.

**Language:** Indonesian and Ambonese Malay

**Subject:** Background of sasi law in Maluku,

**Objective:** Describe the historical background of sasi in Maluku.  
Evaluate the existence of sasi in the context of regulatory system on resource management and utilization.

**Coverage:** Sasi in Maluku covering Ambon, Saparua, Nusa Laut, Haruku, Buru, Southeast Maluku, and Halmahera island. Various agricultural commodities are included.

**Method:** Approached used in this paper is intensive analysis by using framework of structure, culture, and substance of the sasi law.

**Summary of findings:**

By substance of the law, sasi is defined as regulations which contain prohibition and permission in which the penalties are sentenced by fine. Sasi law is divided into material law and formal law. The material law deals with prohibition and permission while the formal law concerns with mechanism of implementing the law.

By structure of the law, sasi is defined as regulations which arrange institutes which inter-related in the implementation of sasi. The institutes are Head of village (*raja*), *kewang*, village parlemen (*saniri negeri*), and village messenger (*marinyo*).

By culture of the law, sasi may be defined as regulations which show attitude, expectation, belief and faith, and idea of how to avoid conflicts among villagers, how to conserve the resource and environment, how to avoid robbery and thief, how to avoid the possibility of forest fire, and how to manage for harvesting or taking the commodities at proper time.

As sasi has complete component of a legal system, sasi which exist in villages in Maluku fulfill the condition to become a model of nationwide village-based resource management.

Until the time when this paper was written, there were no concrete actions of the local government to codify sasi law in Maluku. This was a reflection of policy of culture of policy-makers on the sasi law in Maluku. It was also a sign of uncertainty of the sasi law in the future.

- Title:** *Sasi Aman Haru-ukui*. Tradition of sustainable resource management in Haruku village.
- Author:** Kissya, Eliza.
- Source:** The book with the same title, iv + 22 p.
- Publisher:** Yayasan Sejati, Jakarta
- Year of publish:** 1993.
- Language:** Indonesian.
- Subject:** History and the regulations of sasi in Haruku village.
- Objective:** Describe the sasi as legal system of environmental management in the village.
- Coverage:** Sasi on the river and coastal waters. The main commodity is pelagic fish. Others are coral commodities in found in the coastal waters of the village.
- Method:** In-depth description based observation and experience of the author.

**Summary of findings:**

Based on the resources types, sasi in Haruku are classified into (1) marine sasi, (2) riverine (estuary) sasi, (3) forest sasi, and (4) sasi within the resettlement. Boundaries of marine and riverine sasi areas are clearly defined. In both marine and riverine sasi, conservation and exploitation of ikan lompaa (a kind of pelagic fish) is managed. In addition to ikan lompaa, other marine organism, especially coral fish are also managed. Regulations of sasi include types of allowed fishing gear and procedure to catch ikan lompaa when sasi season is opened. Regulations of sasi in the river include littering, cleaning or washing kitchen utensil in the river, parts of the river which are used for bathing and source of drinking water, mooring fishing boat in the river, and conservation of trees growing by the river. Regulations of forest sasi encompass prohibition to pick young fruits, cut and prune trees, and take leaves of sago palm for roof-making. Regulation of sasi in side the village (resettlement) include prohibition to make noise at Saturday night as the night should be dedicated for preparation before Sunday, the day when villagers go the church. It is also prohibited to go for fishing on Sunday, except for the very important reason. There is penalty for each violation of regulation. Kind of penalty is only limited to fine.



**Title:** Study on the roles of *kewang* institution and *sasi* law in Haruku village in relation to the environmental law in Indonesia

**Author:** Birahy, E.J.B.

**Source:** Bachelor thesis at the faculty of law, University of Pattimura, Ambon

**Publisher:** Unpublished

**Year of publish:** 1987.

**Language:** Indonesian.

**Subject:** *Kewang* and *sasi* in Haruku village.

**Objective:** Describe function of *kewang* in the implementation of *sasi* law.

**Coverage:** *Sasi* on the river and coastal waters. The main commodity is pelagic fish. Others are coral commodities found in the coastal waters of the village.

**Method:** Descriptive analysis.

**Summary of findings:**

*Kewang* is a customary institute whose function is to implement *sasi* law. The tasks of implementing *sasi* law are carried out collectively by *kewang* members. Organizational structure of *kewang* institution consists of Head of *Kewang*, vice-head, secretary, treasurer, and members of *kewang*. There are two heads of *kewang*; the head of marine and river *sasi* and the head of terrestrial *sasi*. There are some requirements to appoint and select *kewang* members and head of *kewang*. The most important requirement is that one should be a village native and should come from the family or clan traditionally destined to be member or head of *kewang*.

**Title:** "Lawrul Ngabal". Customary Law of Kei in the Changing Environment.

**Author:** Rahail, J.P.

**Source:** The book with the same title. 22 + iv pages

**Publisher:** Yayasan Sejati, Jakarta.

**Year of publish:** 1993.

<b>Language:</b>	Indonesian.
<b>Subject:</b>	Customary Law, including sasi law, in Kei islands, Southeast Maluku
<b>Objective:</b>	Describe customary laws which relate to the social norms and utilization of natural resources.
<b>Coverage:</b>	The book is divided into six chapters. Chapter I is the introduction stating about the objectives of the book. Chapter II to V elaborate the background of customary law in Kei islands. The laws consists of seven articles which govern social and economic aspects of village residents. Chapter VI of the book focuses on the discussion of sasi law.
<b>Method:</b>	Descriptive analysis.

**Summary of findings:**

Sasi law is an embodiment of customary laws of the Key Island society. It is defined as a protective prohibition on a particular natural resource which is marked by special sign. The laws prevails and has the same legality to individual and group. Sasi law is named "yot" in the Small Key Islands, and "yutut" in Big Key Island. The foundation of sasi laws as mentioned in the customary laws is that "we stay in the village and so we live and eat from what land and nature give." This foundation emphasizes close relationship between men and their environment. The laws of sasi embrace (1) *sasi tetauw* which is taken place in order to protect individual properties especially sago palm; (2) *sasi walut* which is established to conserve special area, especially sago plantation. The area is opened to be utilized if the palm is ripen enough to be harvested; (3) *sasi mitu* which is a marker to protect a sacred place used for devotion and pray, or a marker placed to protect natural resources in special area. As the village becomes more opened to development process, currently the prevailing sasi laws are (1) individual sasi to protect individual property; (2) public sasi which is enacted collectively by villagers; (3) church sasi which is enacted by church organization, and (4) village sasi which is intitutionalized as a response to solve problems due to the conflict and quarrel between villages. There are penalty system for the sasi law violation, mostly in the forms of social sanctions.

<b>Title:</b>	Sasi as a Marine Resource Management Practice in Southern Part of Seram Island, Central Maluku.
<b>Author:</b>	Bandjar, H. and B. Irianto.
<b>Source:</b>	Report of the collaborative study jointly carried out by Ambon Assessment Institute for Agricultural Technology (AIAT) and the Rockefeller Brothers Foundation. New York, USA, 29 p.
<b>Publisher:</b>	Unpublished

**Year of publish:** 1996.

**Language:** Indonesian.

**Subject:** Description and comparison of sasi laws in villages of Amahai and Haya.

**Objective:** To evaluate the existence of sasi law.

**Coverage:** Marine sasi in Amahai and Haya villages, Central Maluku.

**Method:** Descriptive and comparative analysis.

**Summary of findings:**

Procedures of closing and opening of fishing season (closed and opened sasi) are described. In

Amahai village, the area closure tends to be inefficient since some fishers are found to violate the law. The reason for this violation is that fishers are burdened to pay dues for various village ceremonial activities. In Haya village, the existence of sasi law is threatened by development of fishing gear and inter-married between villagers and outsiders. When people still used traditional net made of natural fibers, sasi laws was fully respected. However, the use of nylon nets brought about by outsiders who married a local woman made violation of sasi laws began to take place. Further, the use purse seine and capture of coral fish for live commodities brought more heavy pressure for the implementation of sasi laws in Haya village. Currently, although sasi is still being practised in Haya village, orientation of villagers have been changed from resource conservation and management to the exploitation and benefit distribution.

**Title:** Shifting the roles of sasi as socio-economic institution in Seith Village, Leihitu District, Central Maluku.

**Author:** Tala, Djaffar.

**Source:** Bachelor Thesis at the Faculty of Social and Political Sciences, University of Pattimura, Ambon.

**Publisher:** Unpublished

**Year of publish:** 1989.

**Language:** Indonesian.

**Subject:** Description of sasi laws in Seith village.

**Objective:** Understand types of shift in the roles of sasi. Identify factors which shift the roles of sasi. Evaluate the sasi impact on socio-economic condition of people.

**Coverage:** Agricultural commodities in Seith village.

**Method:** Questionnaire survey of 170 respondents whose ages were more than 17. Descriptive analysis are used to come to conclusion.

**Summary of findings:**

Majority of the respondents agreed that they begun to recognize sasi law when they were adult. Sasi law is verbally transferred by old to young generations. There was tendency that some villagers did not pay respect to the sasi law since they violated the law by harvesting or taking agricultural products during the closed season. The main reason was because there was no structured and definite penalty mechanism on the law violations. By cross tabulation, it was proved that if people obeyed and followed the rules of sasi, their income derived from sasi-managed commodities was higher. The author suggested to add number of commodity coverage by which income of villagers might be increased. He also asked to activate the roles of kewang and form more solid penalty system.

**Title:** A study concerning sasi laws for the management of natural resources in Maluku Province. Cases in Ambon and Lease.

**Author:** Ruhulesin, H.

**Source:** Master Thesis at the Graduate School, University of Hasanuddin, Ujung Pandang. 181 p.

**Publisher:** Unpublished

**Year of publish:** 1990

**Language:** Indonesian with English abstract.

**Subject:** Effectivity of sasi. Substance, structure, and culture of the sasi law.

**Objective:** To find out if the sasi laws can be lifted from village to higher levels.

**Coverage:** Villages of Haria, Ihamahu, Ameth, Titawai, Aboru, Haruku, Waai dan Soya. Agricultural commodities

**Method:** Questionnaire survey of 160 mostly the formal and customary leaders. Descriptive analysis are used to come to conclusion.

**Summary of findings:**

Four main reasons to have sasi laws are (1) to secure social and economic welfare, (2) to use natural resources with sustainable manner, (3) to manage resource in the proper way, and (4) to improve people awareness on the environment. Factors regarded as the constraints in the law implementation are: economic pressure on the villagers, lack of coordination and cooperation among institutes, lack of enforcement mechanism, and area of sasi which is naturally so larger that kewang members were unable to effectively work.

The prevailing sasi laws essentially follow the criteria of law system. Therefore, sasi law can be developed as a basic model of the national natural resource management concept.

The author suggested the involvement of the Provincial Government of Maluku to enact sasi law in the Provincial Code. It is expected that implementation of sasi will be more effective providing that there is formal backup of the provincial government.

- Title:** Report on the study of marine customary rights in Maluku.
- Author:** Nirahua, S.E.M.; E. Baadilla; O. Lawalata; J.E. Saiya; H.L. Soselisa; F.M.L. Manuputty.
- Source:** Yayasan Hualopu (Hualopu Foundation).
- Publisher:** Unpublished Report
- Year of issue:** 1991.
- Language:** Indonesian
- Subject:** Marine customary rights in some villages in Maluku.
- Objective:** Inventory and conduct policy study on the available regulations, spread out the available regulation so that they can be widely understood, provide suggestion and recommendation to the government regarding the management of marine ecosystem.
- Coverage:** 23 villages in North Maluku, 14 villages in Central Maluku, 15 villages in Southeast Maluku.
- Method:** Field research was conducted in two months. Open-ended interview was applied. Respondents were informal and customary leaders, chief of village, head of district, the youth, women, fishers, and traders. Besides, field observation and participation were performed to understand and have first-hand experience on customary ceremonies and festivals.

**Summary of findings:**

Perception of people North Maluku about sea and its resources is that the sea is an endowment of God and therefore care should be taken and the sea should be used properly because the sea will sustain their life. The "*lalohi*" ceremony is carried out to ask God for more fish if villagers experience declined landings.

To catch "*Bai Fish*" in Ternate, there should be a permit from *fanyira* (chief of a clan). The allowed fishing gear is hook and line. The number of fish which want to be caught should be also determined before. If one catches more, he is penalized for the excess of the catch. Capture of this species is only for special purposes such as wedding, circumcision, and baptize parties. A 10% of the value of the catch should be paid to village government as a village tax (*ngase*).

"*Fuso*" is a term in Ternate and "*Siboboso Game*" is a term in Sidangole used to denote a season where all fishing activities are stopped temporally. This season closure takes about two months.

Mangrove forest are protected in Tobelo and Galela districts. The reason for the protection is because in the forest there is a shell species which is eaten by villagers.

People build a kind of raft named Mahohohongo (in Tobelo district) and a kind of bamboo bridge covered with coconut leaves named Dodadu in Galela as fish aggregating devices. Waters around these fish aggregating devices are territorial use rights of the owners.

**Summary of findings: Continued.**

Type of permitted fishing gears are defined by each village. There is also regulation on the collection coral reefs and species. Village waters territorials are determined by the King of Ternate Sultanate. There is special group named *Naoko Magogoana* whose function is to guard marine and coastal area. If they find any violation of the rule, they report it to village government.

People of Key Islands perceive that sea is an inundated land. Hence for these people, land and sea are not separated each other. Both land and sea should be protected and cared as they support people life. As a consequence of this perception, people established their own rules on the utilization and management of natural resource. The system of regulation is named *sasi* whose embraces closed and opened areas, closed and opened season for harvesting or fishing, type of fishing gears used to catch fish as well as type of penalty to trespassers.

*Sasi* on coral or coastal species is usually addressed to manage the collecting of shells and sea cucumber. However, as the species are components of the ecosystem, habitat of the species are automatically managed too.

Basically, penalties to *sasi* rule violations aims at recovering the relationship between violators, society, and God. Thereby, ultimate penalty from God or from the ancestors can be avoided. Formerly, types of punishments were physical and social ones. Currently, most of the punishment is economic by which violators are fined certain amount of money.

**Title:** Territorial rights of maritime societies. Latuhalat Village, Nusaniwe District, Ambon.

**Author:** Masyuri. I.

**Source:** Seri Penelitian PMB-LIPI. No. 86/1995.

**Publisher:** Research and Development Center for Society and Culture, Indonesian Institute of Science, Jakarta.

**Year of publish:** 1995.

**Language:** Indonesian

**Subject:** Territorial fishing right in Latuhalat village.

**Objective:** To describe system of territorial fishing rights in Latuhalat village.

**Coverage:** Latuhalat village, including the Lucipara (turtle) islands.  
Time of study: November 1994.

**Method:** Field survey, in-depth interview with key respondents.

**Summary of findings:**

Residents of Latuhalat recognize two ownership types of marine waters; waters owned by

everybody (common property) and waters owned by village. The waters owned by village is called "*petuanan laut*" (sea territorial). Boundaries of the sea territorial is imaginary lines projected from the land boundaries between Latuhalat and its neighboring villages. Toward the open sea, the sea territorial includes coastal shelf. The border of the sea territorial and common waters is called "*saoro*". Beside the waters facing the village, sea territorial also includes the waters around Lucipara islands. The Lucipara islands is a group of unpopulated islands situated about three hours sailing by small powered boat from the Latuhalat village. The islands is part of the Latuhalat village territorial.

The sea territorial is exclusive fishing rights for villagers, using any kind of fishing gear. Without requiring to have permit, outsiders may fish in the sea territorial but only using hook and spear fishing. The reason for allowing outsiders to use these fishing gears because the same fishing gears have been also used by villagers for years. To use other fishing gears, outsiders should have permit from the village.

Although, outsiders have got fishing license from the Municipal Fishery Service, it is not applied for the outsiders to fish in the sea territorial of Latuhalat. In other words, the outsiders should complete his license with the local permit issued by village government. Application by outsiders is not always admitted. The application for fishing in the sea territorial will be rejected if (1) using destructive fishing gears, (2) target species to fish is limited available in the waters.

Fee which should be paid by outsiders are: turtle fishing Rp150,000 per year; lifte net and rumpon Rp50,000 per unit per year, mooring boat in sea territorial Rp2,500 per day. The fee system is formally stipulated in the Village Decree No. 3/1990. The decree was legalized by Decision of the Ambon Mayor No. Kep. 188.45.322/ KMA dated on 23 April 1990.

Case of violation of using destructive fishing is sent to be solved by local police.

<b>Title:</b>	Socio-cultural aspects of maritime societies in Eastern Indonesia. Marine tenure in Haruku Village, Haruku District, Central Maluku.
<b>Author:</b>	Abdussomad; D. Supriadi; R.Indrawasih.
<b>Source:</b>	Seri Penelitian PMB-LIPI NO,63/1994. 60 pages.
<b>Publisher:</b>	Research and Development Center for Societies and Culture. Indonesian Institute of Science. Jakarta.
<b>Year of publish:</b>	1994.
<b>Language:</b>	Indonesian
<b>Subject:</b>	Coastal resource management in Haruku village.
<b>Objective:</b>	To describe traditional approach in coastal resource management in Haruku.
<b>Coverage:</b>	Location: Haruku village, District of Haruku, Central Maluku Regency. Time of study: 20 days in September 1993. Ecosystem: river and coastal waters.



**Method:** In-depth interview. Descriptive analysis.

**Summary of findings:**

Local traditional approach in natural resource management (*sasi*) exists in Haruku village. Coastal waters in Haruku is divided into three parts: estuary (river), coastal shelf waters (*labuhan sasi*), and off-shore waters (*labuhan bebas*).

In estuary, *sasi* is the system of regulation which manage the capture of "*lompa fish*" (*Trisima baelama*). Closed season is applied for this fish. Fishing season is opened where there is an evidence that fish school has been abundance.

In coastal shelf waters fishin season is closed at particular period. Opened season depends on the availability of fish and purpose of fishing, Although the season is closed, fishing bu using cast net without boat is still allowed for the villagers. The use of cast net should not be done beyond one meter waters depth. "*Lompa fish*" in coastal shell waters is allowed to be caught not for consumption but for bait fish.

Fishing in the off-shore waters is not regulated. However, if conflicts arise between fishers who exploit the same fish in the off-shore waters, closed season is temporarily applied for this waters. Under such circumstance, fishers should go farther for fishing.

**Title:** Marine tenure of maritime societies. Kei Kecil District, Southeast Maluku Regency.

**Author:** Antariksa, I.G.P.

**Source:** Seri Penelitian PMB-LIPI No.85/1995. 79 pages.

**Publisher:** Research and Development Center for Society and Culture, Indonesian Institute of Science, Jakarta.

**Year of publish:** 1995.

**Language:** Indonesian.

**Subject:** Marine tenure in Kei Kecil.

**Objective:** Identify problems related to the implementation of marine tenure.

**Coverage:** Location: Kei Kecil islands which consist of 72 villages. Time of study: September 1994.

**Method:** In-depth interview, Observation. Descriptive analysis.

**Summary of findings:**

Traditional coastal resource management practice (*sasi*) exists in Kei Kecil. For Kei tribe, sea is called "the land which is inundated with water". Therefore, sea territorial of a village is looked as a part of land territorial. Within the sea territiroal of a village, each clan has an exclusive right. This exclusive right, however, tend to be no longer exist.

Sasi in the forms of closed season and ban or restriction of fishing gear is firstly applied to sea cucumber resource. Then, it is extended to cover other coral commodities and fish. This evolution of sasi is due to development trade of sea cucumber and other commodities. The price of sea cucumber is higher than those of others.

Violator of sasi system was traditionally punished by social and physical sanction. However, the penalty to violators has totally changed to monetary sanction in which the violators should pay certain amount of money, depending on the type of violation.

Some villages rent their sea territorial to the outsiders to be used for marine culture. For example, Debut Village has rented part of their sea territorial for a pearl culture company with the rental cost of Rp10 million for 20 years.

Church organization has influenced *sasi* system and its implementation. Currently, church can organize *sasi* by determining closed and opened seasons as well as type of commodities to be managed by *sasi*.

- Title:** Socio-cultural aspects of maritime societies in Eastern Indonesia. Marine Tenure in Nolloth Village, Saparua District, Central Maluku.
- Author:** Antariksa, I.G.P.; R. Indrawasih; D.S. Adhuri.
- Source:** Seri Penelitian PMB-LIPI. No.3/1993. 67 pages.
- Publisher:** Research and Development Center for Society and Culture, Indonesian Institute of Science, Jakarta.
- Year of publish:** 1993.
- Language:** Indonesian
- Subject:** Marine Tenure in Nolloth Village.
- Objective:** Describe marine tenure system.
- Coverage:** Location: Nolloth Village, District of Saparua, Central Maluku.  
Time of study: Fiscal year 1992/1993.  
Traditional approach in natural resource management (*sasi*)
- Method:** In-depth interview. Observation. Descriptive analysis.
- Summary of findings:** ·

Nolloth village has an exclusive rights over coastal shelf waters. The area is called sea territorial (*petuanang*). In *petuanang*, marine commodities are managed by *sasi* system (opened and closed of harvesting/collecting seasons, and use of fishing gears).

Implementation of *sasi* regulation is undertaken by village police (*kewang*). Violation of *sasi* regulation is punished according to village regulation on *sasi* violation. All the punishments are in the form of fine that should be paid by the violators.

Top shell (*Trochus niloticus*) is the first species which was managed by sasi system. Since 1968, other commodities in the sea territorial have been also managed by sasi. Top shell has a high price compared to other commodities. Decision of expanding sasi to cover other commodities is based on the fact that many outsiders intend to enter the village sea territorial and growing importance of marine commodities for the livelihood of the Nolloth people.

**Title:** Through a green lens: The construction of customary environmental law and community in Indonesia's Maluku islands.

**Author:** Zerner, C.

**Source:** Law and Society Review, 28(5):1079-1122.

**Publisher:** The Law and Society Association.

**Year of publish:** 1994.

**Language:** English.

**Subject:** Hystory of *sasi* institute.

**Objective:** To critically the evolution of sasi institute since precolonial era.

**Coverage:** Location: the whole islands of Maluku.  
Field work: 1991, July 1994,  
Precolonial era, colonial era, influence of reigion on sasi,  
sasi in era environmentalism

**Method:** In-depth study. Observation, Literature survey.

**Summary of findings:**

In the Maluku islands, a center of global diversity in coral reef systems and the historic center of trade in cloves and other spices, tenure practices known as sasi have flourished for at least a century. This article analyzed changes in the ways Dutch colonial officials, Indonesian government officials, and environmentak NGOs have interpreted mollucan customary law and local instittitions. Dutch colonial acoounts of sasi as highly variable body of practices linked to religious beliefs and local culture ideas of nature. During the past two decades, ,as international and national conservation discourses have proliferated and a movement has developed to support indigenous Indonesian cultural communities, Indonesian NGOs and the ministry of the Environment have promoted, and largely created, images of sasi as an environmental institution and body of customary law promoting sustainable development, conservation, and social equity. The article focuses on how sasi has continuously reinterpreted by a variety of actors, following the trajectory of changing institutional interest and images.