

# Community surveillance: how to incorporate customary community in monitoring marine area (study case *Panglima Laot* in Aceh)

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**Abstract.** Protecting and managing marine area of Indonesia is a daunting task for government agencies due to the huge and complex area to monitor with limited personnel, tool and fund. In addition, Illegal Unregulated Unreported (IUU) fishing activities become serious threat to environment, economy and sovereignty of Indonesia; therefore, incorporating fisheries community in protecting and managing marine area seems like viable solution for Indonesia government, especially to monitor the huge area. It will add more “eyes and ears” to watch violation in the sea. Customary fisheries community, such as *Panglima Laot*, is particularly useful to cooperate because it has more control over most fishermen in the area; moreover, most fisheries community already has custom and tradition to protect marine environment. However, incorporating the fisheries community in government system certainly requires some observation to make it work. Firstly, it has to be aligned with Indonesian law and regulations. Secondly, it needs designated authority agency to report on. Thirdly, Fisheries community in Aceh has regulation based on custom and tradition, called *Hukom Adat Laot*; therefore, it is important to determine where and which activities that will be punished by customary law and by government law. Lastly, some training is required to ensure the community understands the procedure in monitoring and reporting IUU fishing in their area and some communication devices may be necessary to facilitate information from community to authority. Consequently, these require some fund for training and devices provisioning but incorporating community in marine management will give better understanding to community about sustainable utilization which will give more benefits in long run.

## 1. Introduction

Indonesia has rich fishing ground and great diversity of marine ecosystem which has high value environmentally and economically. It is attributed to its locations in tropical area between two oceans, Indian and Pacific, and two continents, Asia and Australia which make Indonesia sea ideal fishing ground throughout the year not only for Indonesia fishermen but also for foreign fishermen, legally or illegally. This condition requires better marine management especially regulation about fishing activities in Exclusive Economic Zone (EEZ) and in the bordered High-Sea to ensure fish sustainability and environmental conservation [1].

IUU (Illegal, Unregulated and Unreported) fishing activities are serious threat for national economy of Indonesia, in addition to depleting fish stock and damaging marine and coastal environment [2]; however, Indonesia government concern about this problem starts slowly and gain the full interest in past 2 years. Indonesia government through Ministry of Marine Affairs and Fisheries (MOMAF) has taken serious action in preventing IUU fishing. Most international and regional



fisheries organization approach is to develop better monitoring, control and surveillance (MCS) of fishing activities within their area including EEZ and bordered high-seas. The MCS includes the ships that using the country flag and the ships that using the country ports; so it will limit access of IUU fishing actors to fuel, supplies and labor [3]. Furthermore, some countries require proof of legality for the fish that enter their country which limit the access to the market for IUU catches.

Accommodating principle and International standard, Indonesia government reforms regulations and strengthening marine patrol force by develop special task force and using monitoring technology such as VMS (Vessel Monitoring System); The VMS is mandatory for over 30GT fishing ship operating in Indonesia water by Ministry of Marine Affairs and Fisheries No 42/PERMEN-KP/2015 [4]. Furthermore, the government also establish marine coordinating body to facilitate the overlap responsibility of every ministry and national data sharing system of government bodies related to marine area [5][6] which all of this steps are contained in National Plan of Action (NPOA) to prevent and to combat IUU fishing . In addition, to give shock therapy for the IUU fishing actors; The minister of MOMAF blows up and sinks several vessels which have been caught doing IUU fishing activities [7].

However, there are still limitations in implementation of the national action plan; limited fund, personnel, tool and time are some of the problem which impeded the ability of government to control and monitor huge marine area[8][9]. This condition is complicated by the shifting of Indonesia governmental system to decentralization model. This shifts the power and responsibility to local government in managing and protecting marine area that often has limited resources to implement MCS. On the other hand, decentralization gives opportunity for local fisheries community to be involved in managing their local marine area. [10].

Aceh, most west province of Indonesia, with rich marine resources also suffers from IUU fishing activities by local and foreign fishermen. Aceh government combats this activities by develops policy and increases coordination among stakeholders [11]. Aceh is a good example of decentralization effect on local community involvement in monitoring area because part of decentralization processes in Aceh is the acknowledgement of local custom and customary institutions. One of the customary institutions is *Panglima Laot* (translation: Sea Commander) that has responsibility about custom and tradition in fishing activities and coastal area based on *Hukum Adat Laot* (Marine Customary Law). *Panglima Laot*, is particularly useful to cooperate because the local fisheries community has recognized the authority of this institution[12]. The fishermen in Aceh according 2016 data is about 73,000 people and about 8,000 motorboat that operate in Aceh water[13] which is significant amount to add in surveillance force. Moreover, fisheries custom and tradition in Aceh (*Hukum Adat Laot*) already mandate to protect marine environment in regulating fishing activities. Among other customary institution in Aceh, Panglima Laot is the most active and until now [14]. This paper argues that incorporating local fisheries community in monitoring and surveillance is a viable solution to help government in monitoring vast marine area. It will add more “eyes and ears” to watch violation in their area especially about activities that could harm their livelihood. However, incorporating customary institution into governmental system requires some observation about how it will fit in.

## **2. Legal framework for community involvement in managing environment**

Monitoring marine area is government responsibility and usually conducted by governmental institution from Ministry of Marine Affairs and Fisheries (MOMAF) or Ministry of Forestry(MOF) and often together with Indonesian Navy and Indonesian Marine Police[8]. Incorporating the fisheries community in surveillance which is normally run by government institution requires some consideration to make it work seamlessly. The first aspect to inspect is the legal framework of surveillance by community. Indonesia government has legislated laws about community involvement in management and surveillance of marine area.

The right to manage the resources still lies on government based on 1945 Constitution Article 33 Paragraph 3 “land and water and natural resources therein shall be controlled by the State and shall be utilized for the greatest benefit of or welfare of the people.” [15]. However, recent development

shows community and traditional management has important role in preserving habitat and achieving sustainable fishing. Consequently, Indonesia adopts this concept by the enactment of several acts about involvement of community in monitoring, protecting and managing their surrounding marine and coastal environment without contradictory with basic Constitution. These are several regulations about community involvement in environmental management.

1. *Act No.5/1990 about Conservation Natural Resources and Ecosystem*

This act is the basis for protection area in Indonesia. This act looks local community as important aspect in conservation; Although, their involvement in conservation program is regulated by government.

2. *Minister MOMAF decree No. Kep.58/MEN/2001 about Procedures for the Implementation of the Community Monitoring System in the Management and Utilization of Fisheries and Marine Resources*

Fisheries community has more man power compare to MOMAF. This Minister Decree utilizes this to empower marine monitoring ability in Indonesia by developing Community-Based Monitoring System (SISWASMAS). SISWASMAS concept is to integrate fisheries community, called Community Monitoring Group (POKMASWAS), in monitoring system of MOMAF. POKMASWAS responsibility is limited to monitoring and reporting any violation in their area.

3. *Act No.27/2007 about Management of Coastal Area and Small Islands*

This act regulates management coastal area and small island to make development and utilization of resources sustainable. This act promotes community participation and better cooperation among stakeholders by requires local government to develop management plans with support from the community. This act also acknowledges local custom and tradition including customary institution in the area and it must be considered in development plan.

4. *Act No. 45/2009 and Act No.31/2004 about Fishery*

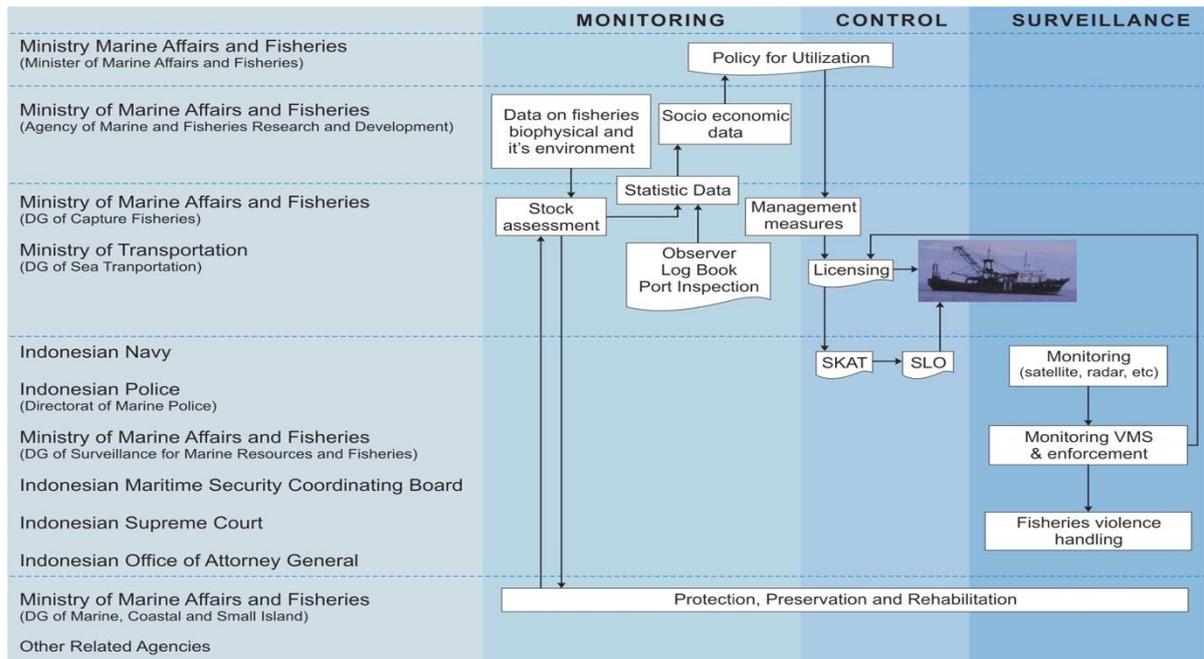
This act is the legal basis for fisheries management in Indonesia. It regulates fishing and aquaculture practices; prohibits illegal fishing by explaining the illegal fishing gear and fishing methods, penalty and fisheries court system in Indonesia. This act underlines the decentralization model and acknowledgment of local custom and tradition in fisheries community. In addition, they allow community involvement in monitoring and fisheries surveillance to some degree.

5. *Act No.32/2009 about Protection and Management of environment*

This act acknowledges the decentralization government shifting and the importance of community involvement in planning of environmental management. Furthermore, it also acknowledges the traditional community and local custom in environmental management. However, this act overpoweringly emphasizes managing of environment as governmental affair and community involvement is limited to social supervision, giving suggestion or complaint, and reporting cases.

All the laws and regulations above encourage government to incorporate local community in managing environment in some extent and we can see the trend is changing toward community participation and acknowledgment of customary community in recent years[15]. In addition, MOMAF, as one of major ministry which responsible for MCS of marine area, already enacts the regulation to include fisheries community in MCS activities [16]. Fisheries community has plenty of human resources and protecting marine environment usually is part of their tradition since it is related to their livelihood.

In Aceh, fisheries custom and tradition is managed by *Panglima Laot*. *Panglima Laot* is a customary institution and the title of leader that in managing fishing activities within their authorization area[17]. This institution is formally recognized by government with the enactment of these regulations



**Figure 1.** Agencies and their task in MCS fisheries system

1. *Act No.11/2006 about Aceh government*

Indonesia gives special authority to Aceh government in certain area; religious living, education and custom and tradition. *Panglima Laot* and several customary institutions are part of special custom and tradition in Aceh which is taken into consideration in management and development process.

2. *Qanun Aceh No.9/2008 about Development of customary life and customs*

Following the Act No.11/2006, this provincial regulation governs custom and tradition in community life including customary institution which responsible to oversee it. In coastal and marine area, *Panglima Laot* is the institution which supervises fishing activities to be in accordance with customary law and it also responsible to resolve conflict among fishermen or any other sea-related activities in their respected area.

3. *Qanun Aceh No.10/2008 about customary institution*

Part of Aceh special authority is the implementation of custom and tradition in community life and it manages by customary institutions. This *Qanun* explains all the customary institution which is acknowledged by Aceh government, including *Panglima Laot*, with their authority, function and the organization structure.

These local regulations about *Panglima Laot* mostly emphasizes the duty of *Panglima Laot* as customary institution that manage custom and tradition in fisheries community and coastal area; even though, *Panglima Laot* has a function as environmental management system that control fishing activities within their area[18][17][19][20]. This function put *Panglima Laot* in front line to fight destructive fishing activities in Aceh [21].

Comparing central government and Aceh government regulation show the local government still limits the involvement of customary institution in managing environment which is contradictive with decentralization government model. In contrast, the central government regulations are already

consented with *Panglima Laot* functions. This gap needs to be addressed in incorporating *Panglima Laot* as surveillance force.

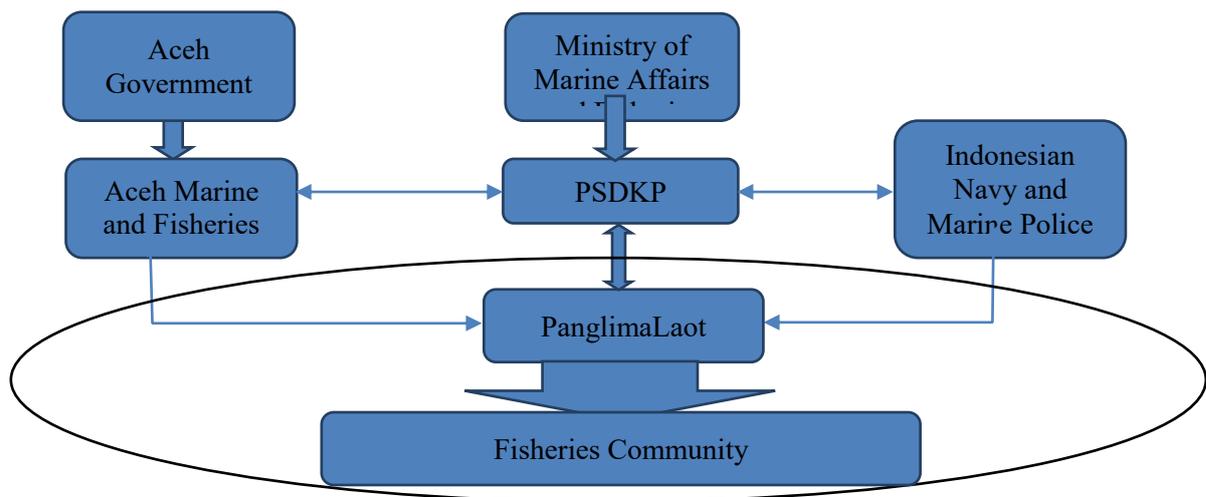
### 3. Authority agencies in sea surveillance

There are many government agencies that concern with managing and protecting coastal and marine area. As an effort to combat IUU fishing activities, Indonesia develops monitoring, control and surveillance (MCS) fisheries system which involves several agencies such as: Ministry of Marine Affairs and Fisheries (MOMAF), Indonesian Navy (TNI-AL), Indonesian Marine Police (Polair), Marine Security Board (Bakamla), and Directorate General of Sea Transportation (HUBLA) Ministry of Transportation. This MCS system also to combat lack coordination among agencies.

The surveillance is mainly conducted by 4 institution: Indonesian Navy, Indonesian Marine Police, Marine Security Board (Bakamla), and Directorate General of Surveillance for Marine Resources and Fisheries (PSDKP) of MOMAF (Figure 1) [16].

Indonesian Marine Police responsibility is limited to civil related problems such as drug prohibition, immigration and maritime law enforcement; furthermore, the authority area is limited to inshore until 12 nautical miles (territorial area). Whereas Indonesian Navy responsibility is related to country sovereignty but it can perform surveillance and enforcement outside territorial area including Economic Exclusive Zone (EEZ) and for Indonesian Flag fishing ship in high sea [8]. Therefore, PSDKP is the designated authority agency to incorporate *Panglima Laot* in community surveillance; moreover, PSDKP already involves in community group.

PSDKP is the main agency in MOMAF which responsible in fishery surveillance of fishing



**Figure 2.** Model coordinating of *PanglimaLaot* in community surveillance operation within Indonesia jurisdiction which includes coordinating fisheries inspector and community-based surveillance group (POKMASWAS). POKMASWAS itself is formed to accommodate mandate of Act number 31 year 2004 and act 45 year 2009 about fisheries to involve community in monitoring, control and surveillance fisheries activities [16][22][23].

POKMASWAS is a new group which is developed by government and it follows government rules and regulations. In contrast, *Panglima Laot* is old institution developed by community which operates based on custom and tradition [24]. Combining these two models will give surveillance system advantage of support from both government and community (Figure 2).

### 4. Rights and responsibilities of community surveillance

Fisheries community in Aceh has regulation based on custom and tradition, called *Hukom Adat Laot* that has put into practice in many years and has been preserved until now. *Adat Laot* regulates fishing activities and community living in coastal area by set of rules and prohibitions; some of these rules are old and some additional rules has added following the demand from fisheries community or

incorporating new government laws and regulations. *Hukom Adat Laot* also contains sanction and punishment for anybody violates the regulations. Ensuring this regulation is followed by the community, *Panglima Laot* is appointed to oversee the implementation of *Hukom Adat Laot* including monitoring, control and surveillance of fishing activities within their area. Thus, *Panglima Laot* is already a complete set of environmental management system [21][14].

The rules *Panglima Laot* as customary institution in fisheries community is not change by cooperated with government even the responsibility in community surveillance mostly in accordance with responsibility as *Panglima Laot* for example reporting violations of fisheries regulations within its respective area. However, *Panglima Laot* must have clear vision in when customary law or governmental law is used. Incorporating with the government will create better fisheries surveillance system with wider coverage and integrated with government to ensure the report from the community will be fast to be responded [25].

On the other hand, *Panglima Laot* and the fisheries community can get education training and provision regarding surveillance task because, even though fisheries community can be assumed familiar with marine environment and fishing activities, some training is required to ensure the community understand the procedure in monitoring and reporting illegal activities in their area. In addition, some mean of communication may be necessary to facilitate information from community to authority. Consequently, these require some fund for training and provision. This could come from Aceh government as part of Aceh development program (Aceh Hebat)[26] however this program may be not a popular choice because it requires time and money compare to increasing monitoring power by buying new technology [27].

## 5. Conclusion

Incorporating customary community in marine management will help government in monitoring vast area and also give better understanding to community about sustainable utilization which will give more benefits in long run. In Aceh, *Panglima Laot* as customary institution have had the customary law to protect the marine area; therefore, incorporate the customary institution is a matter of synchronizing the fisheries community effort under *Panglima Laot* with government effort to achieve illegal activities free marine area and sustainable development in the future.

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