DECENTRALIZATION OF PROPERTY RIGHT IN MARINE FISHERIES : INDONESIA PERSPECTIVE

By

ARIF SATRIA

Bogor Agricultural University, Indonesia

Permanent address

Center for Coastal and Marine Resources Studies

Bogor Agricultural University

Lingkar Kampus 1, Darmaga Campus, Bogor 16680, Indonesia

Tel : 62-251-624815

Fax : 62-251-621086

e-mail address:

Email : arifsatria@gmail.com

Abstract

The paper discusses decentralization of property right in marine fisheries in Indonesia both in legal framework and empirical perspectives. In legal framework perspective, evolution of decentralization of fisheries management since colonization period to present condition is analyzed. The result shows that most of legal products address decentralization of fisheries management in terms of operational-choice rights. Decentralization can be meant as devolution if collective-choice rights are granted. The result shows that devolution to the local people mostly take place in the colonization (pre-1945) and post-independence period (1945-1966). Meanwhile, in the New Order (1967-1998) period, devolution to the local has never taken place. Collective-choice right was not granted to the local people during the New Order period because fisheries management was highly centralized. In the Reform period, even though the devolution to the local government *(Undang-Undang 22/1999,* called Local Autonomy Law*)* is initiated, it is not accompanied by devolution to the local people. Moreover, there is no article within the revised Fisheries Law No 31/2004 that explicitly addresses devolution to the local people as a recognition to the community-based fisheries management (CBFM) system, though they *de facto* exist over hundred years. Therefore, devolution to the local people can be categorized as *de facto* devolution instead of *de jure* devolution. In empirical perspective, even though the recognition of CBFM from the standpoint of the national legal framework is minimal, nevertheless, based on the case study in Lombok Barat, the local autonomy brings the positive impact as the local government's recognition to CBFMs arises. The local government recognition is very important for the local people as an opportunity to strengthen their institution including revitalizing traditional norms of fishing, improve capacity building of MCS (Monitoring, Controlling, and Surveillance), develop mutual collaboration with other fisher associations and NGOs, and enhance economic activities. Nevertheless, tragedy of property rights, which involve multilevel institutions, still happens in the study area because there is lack of proper institutional design. The case study depicts that the solution to the complexity of property rights in coastal and marine areas is held at the community level only. This is a minimum solution regarding the tragedy of property rights that involves higher level institution. Local design is available, but this may be site specific, and fragile if there is no institutional arrangement combining formal and informal rules and involving both formal and informal authorities. Therefore, there are ways in dealing with the complexity of property right system in fisheries in decentralization era. *First,* at the national level, legal reforms attempt to recognize the local people as resource managers where particular territoriality takes place. With such legal reform, property rights system in marine fisheries can be clearly defined. *Second,* at the municipal or regency level, devolution to the local fishers needs to be formalized. Without formal recognition to the devolution to the local people, it may be vulnerable to external shocks, such as political situation change or business investment. Furthermore, harmonization between government regulation and the local rules concerning property rights can be arranged.

Keywords : Decentralization, community based fisheries management, conflict, institution, Local Autonomy

1. Introduction:

Community-based fisheries management (CBFM) is an approach by which communities are granted the opportunity and responsibility to manage their fisheries resources. In other words, CBFM is a form of decentralization of fisheries management[1]. Recently, CBFM is considered as an option for fisheries management as it has some positive roles. Based on a case study in West Lombok, Indonesia, Satria et al. (2004a &b) proved that CBFM is effective in overcoming destructive fishing practices. Moreover, Berkes et al. (1989:11-13) pointed out some critical roles of CBFM in local communities:

a) *Livelihood security*; with guaranteed access rights to a resource, everyone in the community is assured of the opportunity of meeting their basic needs.
b) *Access equity and conflict resolution*; there is mechanism for the equitable use of resources with minimum internal conflict, and rules mutually agreed upon by all members of the group provide an efficient means of conflict resolution and reduce transaction cost in the enforcement of these rules.
c) *Mode of production*; CBFM often forms the basis for the system of production
d) *Resources conservation*; CBFM is basically conservative in the way resources are utilized
e) *Ecological sustainability*; CBFM reinforces social controls in maintaining a productive resource from generation to generation.

These factors as conditions affecting the success of CBFM: community and

---

[1] Decentralization can be divided into two levels: (a) decentralization to the local government, and (b) decentralization to the local people. CBFM is considered as the decentralization to the local people.

supra-community levels. Enabling legislation is one of the supra-community level factors that affect the role of CBFM (Berkes et al., 2001). Furthermore, Ruddle (1999) states that if the contemporary usefulness of such systems has been formally recognized by government, they will require support by appropriate amendments to the national laws, with explicit and easily understood recognition of customary law and CBFM as local corporate entities, accompanied by procedures for establishing the recognition of the rights. Therefore, this paper tries to analyze how the Indonesian legal framework recognizes and supports the role of CBFM.

2. Indonesian Fisheries System : An Overview

The term "fisheries system" as an approach to view fisheries is introduced by Charles (2001). This approach is "to envision fisheries as webs of interrelated, interacting ecological, biophysical, economic, social, and cultural components, not as the fish separate from the fishers, separate from the processors, and so on" (Charles, 2001). This approach also included management and policy measures. Using system approach is necessary to avoid overly simplistic view of the fishery. There are three main components of fisheries system (Charles, 2001): (a) natural system (the fish, the ecosystem, and the biophysical environment), (b) the human system (the fishers, the post-harvest sector and consumers, fishing households and communities, the socio-economic and cultural environment, (c) the fishery management system (fishery policy and planning, fishery management, fishery development, and fishery research).

First, the natural system. With its 5.8 million square kilometers of seas and coastline stretching more than 81,000 km, Indonesia is blessed with abundant and rich aquatic resources. Various economically important species abound in the seas like shrimp, tuna, skipjack, giant perch, eastern little tuna, king mackerel, squid, coral fishes such as grouper and spiny lobster, ornamental fishes, shellfishes and seaweeds. There are vast area of brackish waters, lakes, reservoirs, rivers, and freshwater ponds which are very suitable for aquaculture development. In the marine waters, the total area of the coral reef ecosystem is around 85,707 km^2 or 50% of South East Asia's total coral reef area, which encompasses 50,223 km^2 of barrier reef and 19,540 km^2 of atoll, 14,542 km^2 of fringing reef, and 1,402 km^2 oceanic platform reef (Tomascik etal., 1997 in Dahuri, 2004). Unfortunately, according to COREMAP in 1998 only 6% of these reefs are classified as being in 'excellent' condition, while a further 30% are in a very poor condition (Hidayat, 2004).

Based on the report of Ministry of Marine Affairs and Fisheries (2004), the potential of marine capture fisheries resources is 6.4 millions tons per year (Maximum Sustainable Yield/MSY). The main fish species include skipjack, little tuna, narrow barred king mackerel, shrimp, groupers, streaked spinfoot, giant perch, spiny lobster and various kinds of ornamental fish. The production reached 4.4 million tons in 2003, so exploitation rate is around 69%. Meanwhile, the potential of inland capture fisheries is 0.9 million ton per year, and the production of 2003 reached 0.4 million ton, so the exploitation rate is 44% (Table 1).

The potential of aquaculture consists of inland, brackish water, and marine culture. Inland aquaculture, which uses floating net and pond, has potential of 13.7 million hectares with the potential production of 5.7 million tons. In 2003, the production reached 0.30 million ton or 5.5% of the potential. The potential of brackish water culture is one million hectares with the potential production of about five million tons for the following species: giant tiger prawn (*Penaeus monodon),* tiger prawn

(*Penaeus merguensis),* milkfish (*Chanos chanos),* crab (*Scylla serrata),* and seaweed (*Gracillaria sp.).* The production of 2003 reached 0.4 million ton or 8% of the potential. The potential for marine culture is 24 million hectares with the potential production of around 47 million tons, for: pearl (*Pinctada spp.)*, seaweed *(Eucheuma spp.*), sea cucumber (*Holothuria spp.),* seabass (*Lates calcarifer),* and groupers (*Ephinephelus spp.).* The production of 2003 is 0.5 million ton, so the actual utilization reaches 1.1%. However, aquaculture production in Indonesia still heavily relies on shrimp products, due to the demand of global market, especially Japan and United States.

Second, the human system. The population who engages in capture fisheries is around 3.5 million people, which consist of two types: marine and inland capture fisheries. Table 2 shows that the number of marine fishers is still dominant, while the increase in number of inland fishers is higher than marine fishers. Based on MMAF (2004), the number of marine capture fishers is also higher than the fish farmers, which comprise of marine culture, brackish water pond, cage, floating net, and fish-paddy farmers. During 2000-2003, the number of fish farmers has increased from 2,181,650 to 2,256,513 people with an increase of 1.13%.

Most fishers engage in traditional capture fisheries that consist of some boat types: non-motorized boat (**230,360** units), outboard-engine boats (**125,580** units), and in-board engine boats (**118,600** units). The in-board engine boats comprise of various types based on tonnage with the range of less than 5 GT to more than 200 GT. Table 3 shows the small scale fishers with boat of less than 10 GT reaches 90%. This means that most fishers in Indonesia can be categorized as traditional or small-scale fishers or post-subsistence fisher, those catching fish and sold in domestic, even local, markets but their earning is allocated for basic needs only. Despite no aggregate data reflecting how poor the fishers in Indonesia, some data may be useful to describe it. The fishers' income in Lombok from fishing activities is around Rp 449,116 (45 US$) per month. This income level is very low and sufficient for basic needs only.

Third, the fisheries management system**.** This management system is very crucial to ensure that productive benefits are obtained. At least, there are two components of fisheries management system: administration and fisheries management measures.

Administration system of fisheries had changed many times to adjust with political situation. As explained by Soebono et al. (2000), in 1914, Dutch colonization period, fisheries was governed by *Afdeeling Visserij* (Fisheries affairs), which was part of *Department van Landbow, Nijverheid en Handel.* The main role of *Afdeeling Visserij* was conducting fisheries research and extension services to traditional fishers. In 1935, *Department van Landbow, Nijverheid en Handel* was merged to Departement van Economische Zaken (Department of Economy), and therefore *Afdeeling Visserij* was abolished, and then marine fisheries was managed by Afdeeling Cooperatie en Binnenlandse Handel (Domestic Trade and Cooperative Affairs), whereas inland fisheries was under *Afdeeling Landbow (*Agriculture Affairs).

During Japanese colonization, the marine fisheries were governed by *Kaiken Gyogyo Kenkyu Sho,* and in municipalities it was governed by *Suisan Shidozo* and *Suisan Han.* Since Indonesia`s independence day in 1945, marine affairs and fisheries were governed by different departments. In 1949-1962, Fisheries was under Department of Agriculture. Nevertheless, in 1964, the central government established Department of Inland/Marine Fisheries, and then it was modified to be Maritime Compartment in 1965 (Soebono et al., 2000). Unfortunately, this agency was then subordinated by the Department of Agriculture until 1998.

After the reform era of 1999, there had been a staunch political decision of former President Abdurahman Wahid to establish the Ministry of Marine Affairs and Fisheries (MMAF). Prior to that reform era fisheries sector was under the coordination of the Ministry of Agriculture. In order to implement marine development and fishery programs, Presidential Decree No. 177/2000 identified the duty and functions of MMAF. The main duty of MMAF is to assist the President in conducting some of the government tasks in marine and fishery field.

Concerning fisheries management measures, there are two approaches: input control and output control. Input control approach is used to regulate fishing effort by limiting entry, limiting the capacity per vessel, limiting the intensity of operation, and limiting fishing time. Meanwhile, output control focuses on what is taken from the fish stock, such as ITQ, IQ, CQ, etc. About "how, when, and where" of fishing, it is called as technical measures of fisheries management, such as gear restriction, size limit, closed area, and closed season (Charles, 2001:101-103). Indonesia uses input control with mixed measures, such as licensing with gear restriction and limited entry. This licensing is managed by formal regulation, whereas closed area and closed season are usually governed by community-based system.

Regarding licensing, there is distribution of authority to issue Fisheries Enterprise Certificate (*Izin Usaha Perikanan* or *IUP*), the license for catching fish (*Surat Penangkapan Ikan or SPI*), and the license for fishes transport vessel (*Surat Ijin Kapal Pengangkut Ikan or SIKPI*) to fisheries companies that engage in fishing activities by using non-motorized boats, outboard engine boats, inboard engine boats, with the following provision:

a) the central government : over 30 gross ton boats that have an engine of more than 90 horsepower
b) the provincial government: between 10-30 gross ton boats that have an engine of less than 90 horsepower, which are without foreign worker and capital
c) the regency/municipal government : less than 10 gross ton boats that have an engine of less than 90 horsepower, which are without foreign worker and capital.

CBFM has been done since long time ago. Nevertheless, this system is a *de facto* system in local area because it is not explicitly recognized by the formal laws. The local autonomy, which implies the practice of decentralization, may serve as one option in strengthening the community-based management system.

3. Evolution of Legal Framework of CBFM

Community-based fisheries management (CBFM) systems in Indonesia are rooted from traditional fishing communities, which are scattered in many islands of Sumatra, Java, Sulawesi, Maluku, Papua, and Nusa Tenggara Barat. However, it is necessary to examine to what extent the legal framework recognizes their existence. The evolution of the legal framework of CBFM could be divided into four periods: the colonization period, the post-independence period, the New Order period, and the Reforms period.

Colonization Period (Pre-1945)

During the colonization period, there were some legislation products concerning marine and fisheries management: *(a) Statbald 1916: 157, (b) Visscherij Ordonantie 1920: 396, (c) Kustvisserij Ordonantie: 1927:144,* and (d) *Terrotoriale Zoen en*

Maritime Kringen Ordonantie 1939:442. *Statbald 1916: 157* was set to regulate pearl oyster, pearl snail, and coral reef fisheries that were allowed to operate within three miles from coastline. This *Statbald 1916: 157* contained structure of authorities in fisheries management wherein the minister of agriculture had a strongest position in decision-making. Therefore, this law characterized this period as centralistic management regime. However, the territorial-use-rights, as part of common property rights, was initially legally recognized. By this law article 2, stated that local people have full right over the marine-coastal area with less than 9 meters depth, and this right is not transferable. Those who lived in the coast or beach area for long or short period could be classified as local or native people. Nevertheless, this law did not recognize management rights of the local people, so the fishers were as authorized users only instead of "claimant" or "proprietor" of the fisheries resources.

Furthermore, concerning protection of the native fishers, this law was similar to the *Staatbald 1916:157.*of article 6, which explicitly stated that those who want to engage in coastal fishing were required to recognize the traditional fishery rights of the local people based on their customary law. This implicitly means that customary law in coastal fisheries was legally recognized. Customary law usually contains both use rights and management rights. It is not yet clear enough that management rights of the local fishers over the coastal area was legally acknowledged. However, by recognition to the customary law, it might be meant as devolution of the fisheries management to the local people.

Staatblad 1927 No 145, was on whaling. This specified a prohibition of whaling within three nautical miles of the coast. However, this was not applicable to those people who had engaged in whaling for generations (Soebono et al., 2000). This was also consistent with the previous laws recognizing the fishing rights of the local people.

Those legislations contained positive meanings regarding recognition to the traditional fishing rights borne by the local people and customary law that were applicable in coastal areas. The positive points of such legislation were considered as historical capital for application of devolution of fisheries management in the following periods.

Post-Independence Period (1945-1966)

In relation to CBFM, one important regulation released during this period was *Undang-Undang No 5/1960,* based on agrarian principles, called the agrarian law. This law tried to harmonize the three legal tiers: national, colonial, and customary law. Water as an agrarian source is mentioned in some articles of the regulation. For example, article 16 pointed out two details that the water rights include water utilization rights and fishery rights (fishing and aquaculture rights). So far, the detail of this chapter has not been elaborated upon. During this period, the most previous fisheries legislations that were established during the colonization period were still valid.

New Order Period (1967-1998)

There was no recognition of traditional marine tenure or traditional fisheries management practices as a consequence of *Undang-Undang No 5 1979* (the Rural Governance Law). This Rural Governance Law intended to make uniformity of the rural governance system and certainly led to neglecting customary system in terms of administrative and resources governance. Accordingly, there were no responsibility, participation, and sense of stewardship of local people to conserve and protect marine resources from destructive activities. Under these conditions, marine resources were not well-managed and finally resources depletion becomes inevitable.

With respect to the protection of small-scale fisheries, the central government had have means by issuing the Ministry of Agriculture decree No 607/1976 on zoning for capture fisheries. It has been promulgated to overcome social conflicts arising from the trawling era between traditional fishers and modern fishers. According to this decree, there are four zones as shown in Table 4.

Nevertheless, this regulation seems to be an ideal policy but it is not working well. The main reason is that the central government faces difficulties to enforce it, particularly because of the limitation of finance and personnel to carry out monitoring and surveillance activities. Transaction costs for such centralistic enforcements are also high. The enforcement failure led to the marine resources to be *de facto* open access again, and this condition certainly caused resources depletion and social conflicts among fishers. This is evidence that centralization fails to create an effective and efficient fisheries management.

The Reform Era (1999-present)

The Reform era has begun since the establishment of the Ministry of Marine Affairs and Fisheries (MMAF) and the Local Autonomy Law. After the reform era of 1999, there had been a staunch political decision of former President Abdurahman Wahid to establish the Ministry of Marine Affairs and Fisheries (MMAF). Prior to that reform era fisheries sector was under the coordination of the Minister of Agriculture.

During the Reform period, there are some regulations that recognize CBFM system as shown in Table 5.

4. Discussion

Decentralization of resources management can be meant as decentralization of property rights (Agrawal and Ostrom, 2001). In property rights perspective, as a type of decentralization, CBFM contains the local people's fishery rights that include operational-choices rights (access and withdrawal-rights) or simply called use-rights, and collective-choice (management and exclusion-rights). The further question is: to what extent is the recognition of the legal products to CBFM? To answer this question, we need to identify levels of recognition to the fishery rights, whether in operational-choice (access and withdrawal-rights) or collective-choice (management and exclusion-rights). For the next analysis, we call use-rights for operational-choice rights and management-rights for collective-choice rights.

The result shows that most of legal products address fishery rights in terms of use-rights (see Table 6). Use-rights are rights to access and to withdraw the marine resources, called use-rights, on particular areas. Meanwhile, there are around five legal products that implicitly address management-rights. Those legal products are produced over periods except in the New Order period.

The fisheries management can be called CBFM if management-rights are granted. Based on Table 6 we can conclude that CBFM legally take place in the colonization and post-independence period. Most of fisheries regulations established by the colonizer were still valid in the post-independence period, and the central government had issued Agrarian Law in trying to harmonize or make coherence between national laws and customary laws. Unfortunately, this Agrarian Law has never been "rule in-use" because *Peraturan Pemerintah (*Central Government Decree), which should be issued to spell out how Agrarian Law should be practiced, has never been made. Meanwhile, in the New Order period, devolution to the local people has never taken place. What was ruled by Minister of Agriculture Decree No 607/1976 and Minister of Agriculture Decree No51/kpts/IK.250/1/97 was about rights to access and withdraw the marine resources in a particular area. The former concerns zoning system while the latter is about operational choice-rights, by which traditional fishers are eligible to fish in deep-water fish aggregating devices (FAD) area. Management-rights were not granted to the local people during the New Order period because fisheries management was highly centralized.

In the legal framework of the Reform period, decentralization to the local government seems not accompanied by decentralization to the local people. Therefore, decentralization to the local people can be categorized as *de facto* decentralization instead of *de jure* decentralization. This is because decentralization to the local people is not strongly recognized by the formal laws yet, though the central government has already called for CBFM.

In the beginning of Reform period, the Minister of Agriculture decree No 392/1999 was issued as a revision of the Minister of Agriculture decree No 607/KPTS/UM/9/1976 on fishing zone. There are three zones, as follows:

a) Zone I.a (0-3 miles) is allocated for traditional fishers with non-engine boat, whereas Zone I.b. (3-6) is for traditional fishers with outboard engine or less than 5 GT fishing boat,
b) Zone II (6-12 miles) is allocated for fishers with less than 60 GT fishing boat,
c) Zone II (6-12 miles) is allocated for fishers with less than 200 GT fishing boat,

This regulation that aims at protecting small scale fishers contains use-rights instead of management-rights. Nevertheless, the limitation of traditional fishers' rights to access and withdraw the resources within Zone 1 only ignores the likelihood of the traditional fishing ground beyond Zone 1 (Saad, 2003).

The newest formal laws are the revised Fisheries Law No 31/2004 and the revised Local Government Law No 32/2004 (popularly called Local Autonomy Law). The Fisheries Law 31/2004 is very meaningful in terms of commitment to empower and develop small-scale fisheries as the government is responsible to provide financial support and promote fisheries cooperative. The establishment of the revised Fisheries Law No 31/2004 sounds positive for the CBFM. In article 61, the revised Fisheries Law No 31/2004 addresses the access and withdrawal rights of the small scale fishers. It is stated that "*small scale fishers are free to go fishing in all fisheries management area of Republic of Indonesia*". This article is inspired by the Local Autonomy Law No 22/1999 elucidation of article 10 and its revised version No 32/2004 elucidation of article 18. By this elucidation of article 18, "*small scale fishers are defined as traditional fishers who engage in fishing using traditional fishing technology and on whom enterprise certificate and tax are not imposed, and are free to go fishing in all fisheries management area of Republic of Indonesia*". This means that small scale fishers gain rights to access and withdraw marine resources in all areas.

There are two critical issues regarding fishing right as stated within the revised Fisheries Law and the revised Local Autonomy Law in the Reform Period. *First*, these articles that address fishing rights for small-scale fishers ignore *de facto* property rights system. Generally, many fishing communities develop property-rights system based on either their own local rules or customary law. These *de facto* traditional rules address management-rights by which they have the right to manage a portion of marine resources and to exclude intruders who want to fish in designated areas. Thus, if all small scale fishers are free to go fishing to where they want without any prerequisites, horizontal conflicts may occur. This is because they may break the local operational rules devised by the local fishers as a consequence of limited communication process. What was ruled by the local fishers may not be known or recognized by the intruders.

Second, even though, the revised Fisheries Law No 31/2004 is better than Fisheries Law 9/1985, there is no article within the revised Fisheries Law that explicitly addresses management-rights, though they *de facto* exist over hundred of years. This means that the local fishers have to follow the rules devised formally from outside either from the central government or the local government. The critical issue is if the formal rules do not coincide to some degree with social norms or perceived unfair, it leads as incentives to break those rules. Eventually, the rules are likely less-enforceable, therefore marine fisheries resources may be not be managed well.

However, three guidelines issued by the Minister of Marine Affairs and Fisheries contain recognition to the CBFM and encourage the practice of co-management in small island development (Minister of Marine Affairs and Fisheries Decree No : 41/2000), marine and fisheries surveillance (Ministry of Marine Affairs and Fisheries Decree No 58/2001), and integrated coastal management planning (Minister of Marine Affair and Fisheries Decree No Kep.10/Men/2002).

Firstly, the Minister of Marine Affairs and Fisheries Decree No: 41/2000 states that community-based management shall mean management that places the community as manager of natural resources and environmental services and who is supported by the government and business sector. Community-based small islands management must consider traditions, norms, and/or social culture as well as the interest of local community. Moreover, in Chapter 4 Section A1-3, the state recognizes and protects customary rights/traditional rights/basic rights over the control of lands and waters of small islands based on local customary law in addition to other rights governed by prevailing legislative regulations. Furthermore, it is clearly confirmed that for small islands and waters controlled/owned/managed by customary law, their management shall be fully based on customary law, according to prevailing legislative regulations. This means that the management-rights are explicitly granted to the local people. Any collaboration in managing small islands between local customary law society and third party must be based on mutual agreement in due observance with the environment and conservation of natural resources. Any collaboration in managing small islands between the customary law society and foreign third party must obtain approval from the Regency/City Government in due observance with the national interests. In Chapter 4.C, the central, provincial, Regency/City government must guarantee that small islands' coasts and waters are accessible to the people. This means that use-rights are granted to the local people.

Secondly, the Ministry of Marine Affairs and Fisheries Decree No 58/2001 on Guidelines for Implementation of Community Surveillance System in Marine and Fisheries Management recognizes the role of local institutions that concern marine resources sustainability. Such institutions must be involved in surveillance system held by *Kelompok Masyarakat Pengawas or Pokmaswas (*Community Group for Surveillance). This decree doesn't grant rights for the local people to conduct adjudication process, but rather to do day-to-day surveillance through collaboration with formal authorities. Nevertheless, the local people have the right to elect members of *Pokmaswas.* Those kinds of rights can be categorized as management-rights.

Thirdly, the Minister of Marine Affair and Fisheries Decree No

Kep.10/Men/2002 on the guideline for implementation of integrated coastal management planning recognizes the spirit of decentralization in coastal management. Decentralization to the local government is mentioned as one principle in integrated coastal management planning. Furthermore, the people shall be given an access to express their opinion, objection, perception, suggestion during the process of integrated coastal management planning, and shall be involved in all the stages from preparation, initiation, planning, certification, implementation, and institutionalization process. This participation process shows that the government shall grant management-rights to the local people.

Nevertheless, CBFM is not addressed by such laws as the Fisheries Law level, but rather by the lower legal status like ministerial decrees. In Indonesia, there is legal hierarchy from the highest to the lowest as follows (Figure 2): *Undang-Undang Dasar* (Constitution), *TAP MPR* (People Assembly Decree), *Undang-Undang (*Law/Act), *Peraturan Pemerintah (*Central Government Decree*), Instruksi Presiden* (President Instruction), *Keputusan Presiden* (President Decree), and *Keputusan Menteri* (Ministry Decree). Accordingly, the recognition of the CBFM seems weak because the ministry decree is easy to be neglected by the higher legal products. The weakness of CBFM's legal position may lead to the existence of *de facto* vulnerable CBFM system. Thus, this CBFM system becomes too dependent on the local government policy. If the local governments are willing to recognize and develop CBFM, it will be positive for the future of CBFM. Otherwise, such may threaten CBFM.

5. Conclusion

CBFM is considered as on option for fisheries management as it has some positive roles. Nevertheless, the analysis of the legal framework shows that CBFM has not been sufficiently recognized by the formal laws yet, although the central government has started to develop the CBFM system. Therefore, this system is a *de facto* system in local area. However, without explicit recognition in the formal national laws, the existence of CBFM system is weak. The weakness of CBFM's legal position may lead to the existence of *de facto* vulnerable CBFM system. Thus, this CBFM system becomes too dependent on the local government policy. If the local governments are willing to recognize and develop CBFM, it will be positive for the future of CBFM. Otherwise, it may threaten CBFM. Accordingly, the legal reform is necessary to make CBFM *de jure* exist.

Therefore, the necessary agenda is to insist on state legitimization of CBFM through legislation reforms. These reforms should be taken because among the legislation products, especially related to the fisheries sector, there is no explicit recognition to the CBFM. Accordingly, it is necessary to create legal framework by which the clearness of the roles, functions and responsibilities of the CBFM with regard to the management and utilization of coastal aquatic resources are addressed. Moreover, this legal framework can promote a strong co-management framework for local level fisheries management, in which government institutions and the fishing community collaborate in managing coastal fisheries resources. This means that mechanisms to ensure community participation are formalized.

REFERENCES

Agrawal A, Ostrom E. 2001. Collective action, property rights, and decentralization in resources use in India and Nepal. *Politics and Society* 29 (4): 485-514

Berkes F, Farvar MT. Introduction and Overview. 1989. In Common Property Resources: Ecology and Community-Based Sustainable Development, Berkes F (editor). Belhaven press: London ,p.9-10

Berkes, Fikret, Robin Mahon, Patrick McConney, Richard Pollnac, and Robert Pomeroy. 2001. *Managing Small-scale Fisheries: Alternative Directions and Methods.* International Development Research Center: Ottawa

Charles, Anthony. 2001. *Sustainable Fishery System.* Blackwell Science Ltd: Victoria

Dahuri Rokhmin. 2004. Keanekaragaman Hayati Laut. Gramedia: Jakarta:

Hidayat A. 2004. Determinants of institutional change and collective action in coral reef management: evidences from Lombok, Indonesia. *ISTECS Journal* V: 1-13

Ruddle, Kenneth. 1999 The Role of Local Management and Knowledge Systems in Small-Scale Fisheries. The Journal of Policy Studies No 7.

Saad, Sudirman. 2003. Politik Hukum Perikanan. Lembaga Sentra Pemberdayaan Masyarakat, Jakarta.

Soewito, Subono, Soeparso Malangjoedo, V.Soesanto, Slamet soeseno, Soehardi, Rustam Budiono, Martono T.Asikin Siti Rachmatun. 2000. Sejarah Perikanan Indonesia. Yasamina: Jakarta

Satria, A. and Matsuda, Y. 2004a Decentralization of Fisheries Management in Indonesia. Marine Policy, 28, 361-450.

Satria, A. and Matsuda, Y. 2004b Decentralization Policy: An opportunity for strengthening fisheries management system? Journal of Environment and Development, Volume 13, Number 2, 179-196.

Table 1. Fisheries Potential and Production, 2003

Fishery Types	Area (million ha)	Potential Production (million ton/th)	Production (million ton)	Rate of utilization (%)
A. Capture Fisheries				
1. Marine	580	6,4	4,40	69
2. Inland	54	0,9	0,40	44
Aquaculture				
1. Marine	24	47	0,50	1,1
2. Brackish Water	1	5	0,40	8,0
3. Inland	13,7	5,7	0,30	5,5
Total	**672,7**	**65**	**6,0**	**9,2**

Source : Ministry of Marine Affairs and Fisheries, 2004

Table 2. Number of Fishers 2000-2003 (People)

Types	2000	2001	2002 *)	2003**)	Increasing rate (%)
Marine Capture Fisheries	2,486,456	2,562,945	2.573,300	2,673,760	2,46
Inland Capture Fisheries	618,405	723,555	753,630	802,440	9,21
Total	3,104,861	3,286,500	3,326,930	3,476,200	3,86

Note : *) temporary number **) projected number;

Source : Ministry of Marine Affairs and Fisheries, 2004

Table 3. Structure of Fishing Boats in Indonesia 2000-2003 (units)

BOATS	2000	2001	2002 *)	2003**)	GROWTH (%)
NON MOTORIZED	230,867	241,714	237,270	230,360	-0,02
MOTORIZED	218,691	221,600	235,450	244,180	3,74
- OUT-BOARD	121,022	122,027	120,760	125,580	1,26
- IN-BOARD	97,669	99,573	114,690	118,600	6,71
= < 5 GT	65,897	66,680	71,680	72,060	3,07
= 5-10 GT	19,460	19,570	23,100	23,610	6,86
= 10-20 GT	5,599	5,810	6,370	6,880	7,11
= 20-30 GT	2,974	3,340	3,370	3,780	8,45
= 30-50 GT	1,543	781	2,150	2,300	44,29
= 50-100 GT	1,129	1,602	4,380	5,510	80,37
= 100-200 GT	741	1,295	2,920	3,590	74,40
= >200 GT	326	495	720	870	39,38
TOTAL	**449,558**	**450,330**	**472,720**	**474,540**	**1,83**

*Note: *)temporary number **) projected number* ;

Source : Ministry of Marine Affairs and Fisheries, 2004

Table 4. Zoning System for Capture Fisheries

Zones	Coverage	Rules
Zone I	0-3 miles	restricted to fishing vessels of more than 5 GT or 10 horsepower
Zone II	3-7 miles	restricted to fishing vessels of more than 25 GT or 50 horsepower
Zone III	7-12 miles	restricted to fishing vessels of more than 100 GT or 200 horsepower
Zone IV	12-200 miles	restricted to pair trawl except in Indian Ocean

Note : Based on the Minister of Agriculture Decree No 607/1976

Table 5. Legal Framework of Community-Based Fisheries Management in Reform Period

Regulations/Law	Contents
a) Undang-Undang 22/1999 or *Undang-Undang 32/2004*	Small scale fishers are free to go fishing in all fisheries management area of Republic of Indonesia
b) Undang-Undang Perikanan 31/2004 (Fisheries Law)	Small scale fishers are free to go fishing in all fisheries management area of Republic of Indonesia
c) Minister of Marine Affairs and Fisheries Decree No : 41/2000) on guideline of small island development	a) The state recognizes the existence of customary law based resources management in small island b) Local people must participate in surveillance activities
d) Ministry of Marine Affairs and Fisheries Decree No 58/2001 on guideline of community based marine and fisheries surveillance	a) The state pushes the role of local institution in promoting *siswasmas* b) The local government have a compulsory to facilitate empowering the people group of surveillance actors
e) Minister of Marine Affair and Fisheries Decree No Kep.10/Men/2002 on guideline of integrated coastal management planning	The local people shall be given an access to express their opinion, objection, perception, suggestion during the process of integrated coastal management planning, and shall be involved in all the stages from preparation, initiation, planning, certification, implementation, and institutionalization process.

Table 6. Legal Framework of CBFM

Legal Products	Fishery Rights	
	Use rights	Management rights
1. **Colonization Period**		
a) *Statbald 1916: 157*	V	
b) *Kustvisserij Ordonantie: 1927:144*	V	V
c) *Staatblad 1927 No 145*	V	
2. Post-Independence Period		
Undang-Undang No 5/1960	V	V
3. New Order Period		
a) Minister of Agriculture Decree No 607/1976 on Fishing zone	V	
b) Minister of Agriculture Decree No 51/kpts/IK.250/1/97 on FAD	V	
4. Reform Period		
f) Undang-Undang 22/1999 or *Undang-Undang 32/2004*	V	
g) Undang-Undang Perikanan 31/2004 (Fisheries Law)	V	
h) Minister of Marine Affairs and Fisheries Decree No : 41/2000) on guideline of small island development		V
i) Ministry of Marine Affairs and Fisheries Decree No 58/2001 on guideline of community based marine and fisheries surveillance		V
j) Minister of Marine Affair and Fisheries Decree No Kep.10/Men/2002 on guideline of integrated coastal management planning		V

Figure 1. Map of Indonesia

Undang-Undang Dasar Constitution
↓
TAP MPR (People Assembly Decree)
↓
Undang-Undang (Law/Act)
↓
*Peraturan Pemerintah (*Central Government Decree*)*
↓
Instruksi Presiden (President Instruction)
↓
Keputusan Presiden (President Decree)
↓
Keputusan Menteri (Ministry Decree)

Figure 2. Hierarchy of Legal Products