

Integrating Formal and Customary Approaches to Responsible Fisheries: A Case Study of District Fisheries Services in Nusa Tenggara Barat Province, Lombok, Indonesia

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Introduction

The Indonesian island of Lombok lies 15 km to the east of its more well known neighbour, the island of Bali. A recent law on local government (No 32/2004; previously Law no 22/1999) has given district governments in Indonesia the authority to manage inshore waters within four nautical miles (nm) of the coastline. In the district of Lombok Timur, this means assuming authority for about 1074 km² of coastal waters. This jurisdiction is bordered by neighbouring district waters, namely Sumbawa and Sumbawa Barat to the east, Lombok Barat to the northwest, and Lombok Tengah to the southwest. Of these districts, Lombok Timur has the largest fish production and the biggest fishing port, and the fisheries sector makes a very significant contribution to the local economy. There are two major fish landing centres, Tanjung Luar and Labuhan Lombok, which are among the

biggest in the province of Nusa Tenggara Barat . As such, Lombok Timur District plays a critically important role in the development of fisheries in the province.

The population of Lombok Timur is nearly one million people, of whom about 19% live in coastal villages. Life expectancy is about 54 years, indicative that many coastal communities are generally living below the poverty line. The general level of education in the province is poor, with literacy rates averaging only 73%.

Lombok Timur presently has about 3,000 fishing vessels, 93% of which are used for subsistence fishing (<5 GT). This high number of fishing vessels makes for excessive fishing capacity, which has resulted in the overexploitation of coastal fisheries resources. The District Fisheries Services aims to reduce fishing pressure in coastal waters. One of the options considered is to shift fishing pressure to offshore fisheries. Another strategy to reduce fishing pressure in coastal waters is the promotion of mariculture. At present, growing lobster and grouper are promising activities. There have been many examples in Indonesia that mariculture activities, despite the risks involved, can contribute to reducing

Mariculture rafts for growing grouper and lobster at Ekas Bay was firstly introduced by KPPL in 2001. At present, the mariculture rafts has been growing to about 400 rafts.



overexploitation of coastal resources while providing sustainable livelihoods to coastal communities.

Against this background, typical of many Indonesian districts, Lombok Timur has made notable efforts towards implementing the Code of Conduct for Responsible Fisheries (CCRF). The implementation of the Code described here mostly deals with the management of coastal fisheries resources within the district jurisdiction of 4 nm. In many cases, there have been significant improvements in the reduction of illegal, unreported and unregulated fishing practices. These successes are most likely to be due to the implementation of participative management in Lombok Timur since 2001.

Responsible fisheries in Lombok Timur

'Responsible fisheries' is a new term in the fisheries management of Lombok Timur. However, in practice, responsible fisheries may already have been implemented. For example, the District Fisheries Services has carried out several programs that contribute towards the goals of responsible fisheries, namely:

- Reduction of destructive fishing practices
- Protection of artisanal fisheries
- Conservation of fish habitats and restocking
- Mitigation of the impact of overfishing
- Integration of fisheries management into coastal zone management.

During the 1990s, destructive fishing practices used to be the biggest issue in the District. Blasting and poisoning were common fishing practices in all inshore waters. Although prohibited by various laws and regulations, enforcement of these laws and prosecution of fishers using destructive fishing methods often proved to be almost impossible. Even if brought to police notice, violations were difficult to prove, and



Lombok Island is situated on the southern region of the Indonesian Archipelago, just eastern side of Bali. Seaside of the District of Lombok Timur is covering Indian Ocean, Alas Strait, and Flores Sea.

the lack of witnesses willing to testify meant that violators usually got away scot-free. Small-scale artisanal fishers suffered as fisheries were destroyed, and were unable to stop these illegal fishing practices.

Protection of artisanal (subsistence) fishers and their rights was previously very weak. A ministerial decree issued in 1976 protected the fishing rights of artisanal fishers within three nm of inshore waters, with commercial fishing prohibited in this zone. Implementation of this regulation, however, never took place. There were many conflicts between artisanal fishers using hooked lines and commercial fishers using purse seine net.

Participative fisheries management in Lombok: integrating formal and customary laws

Participative fisheries management is a relatively new approach in Lombok. It was firstly introduced to Lombok Barat, the district neighbouring Lombok Timur, in 1998 by a government initiative known by the acronym COREMAP (Coral Reef Rehabilitation and Management Program). While this short-term initiative failed to establish any effective system of community-based management, it motivated the local community to establish their own community-based management for the program area in 2000. The local government had no power in the process, and was not involved in the community-based management approaches that followed COREMAP.

On Lombok, participative or collaborative management apparently can only be carried out using 'awig-awig', or traditional agreements, as the preferred management tool. The role of the community in co-management is to plan management measures and implement the management plan. The management plan is then declared as an awig-awig applicable to anybody within a defined region.

Awig-awig on fisheries management is believed not to be a recent practice on Lombok, and is similar to 'sasi' in Maluku (Moluccas). In Lombok Barat, several villages in two sub-districts (Kecamatan Bayan and Kecamatan Gangga) had applied awig-awig to fisheries management in colonial times. These laws prohibit fishing during one month every year, although it is unclear whether this is for fisheries management reasons or simply for the safety of fishers. As the authority of formal institutions strengthened during the 1960s, this awig-awig disappeared, perhaps even more rapidly than sasi had disappeared from Maluku.

There were at least three existing awig-awigs related to coastal fisheries management in Lombok Timur before Law No. 22 about Local Governance was issued in 1999. The oldest awig-awig known in the district is 'saving the sea'. It is unclear when it was started, but all villages along the southern coast of Lombok Timur have this customary law. The awig-awig prohibits fishermen from going fishing for three days every three years. During these three days, there is a ceremony to provide offerings to the sea spirits. The awig-awig is strictly obeyed by all fishermen, although its relation to fisheries management is not very clear.

Another awig-awig, in Serewe Bay, was established in the early 1980s, and prohibits the logging of mangrove trees in the bay. This awig-awig was unwritten, like a traditional awig-awig. It is considered to be very effective, as no violation has ever been observed.

A study of these customary laws shows that not all community-initiated agreements can be successfully applied and enforced. For example, the awig-awig of the village of Tanjung Luar, in the District of Lombok Timur, was a written rule, demarcating fishing zones for artisanal and commercial fishers. This more modern awig-awig, created seven years ago, is considered to be a failure, as conflicts between commercial fishers and artisanal fishers continue, with predominantly commercial fishers violating the area demarcated for their artisanal counterparts. One of the probable reasons for the failure of this law is the lack of a clearly assigned authority to prosecute and sanction violators. With the initiative of the Co-fish project, explained below, this awig-awig became progressively more successful.

The Co-fish Project, management areas and committees

Introduced in 2001, the Co-Fish Project was built around a co-management system that involves both local government and the KPPL institution (*komite pengelola perikanan laut*) in formulating and implementing coastal fisheries management plans. This partnership with the district is very important for ensuring that the management plan is within national and international laws, and that the KPPL institution can implement it effectively. Both in Lombok Timur and neighbouring District of Lombok Barak, the management plans have been adopted as an awig-awig for all participating villages.

The government-supported Co-Fish Project started in Lombok Timur in 1998 with a series of consultations about ways to stop blast fishing, and more generally, the numerous fisheries conflicts. It aimed to do so through the introduction of participative coastal fisheries resources management approaches using local laws. Participative approaches and co-management were seen as crucial to address and solve the issues of destructive fishing practices. Under this approach, not only blasting and poison fishing were to be prohibited, but also the trading of fish caught through these methods.

The underlying idea was to make destructive fishing practices economically non-viable.

The Co-fish Project proceeded by initiating the establishment of a committee responsible for fisheries management (the KPPL) in three designed management area on the southern coast of the district (Ekas Bay, Serewe Bay and Jukung Bay). In 2001, KPPLs achieved legal recognition, and received authority from the District Fisheries Services to plan and implement coastal fisheries management in their own area. Committee discussion in each of the three management areas of the District of Lombok Timur took place and each produced a draft of a coastal fisheries management plan. The drafts were then reviewed by the heads of the villages, the head of the sub-district administration (*camat*), and the head of the District Fisheries Services. Finally, the management plans of the three Bays were signed and declared as awig-awigs in their respective areas.

Implementation of these three management plans have been success stories, since their implementation in late 2001. Within each management area, blast fishing has steadily declined (Figure 2). In 2004, no blast fishing was reported in any of the three management areas although in 2005 blast fishing re-occurred in Jukung Bay as a new KPPL committee was elected in the area. The success of the awig-awigs is likely the result of the high commitment of most fishers to stop destructive fishing. The customary laws can also resolve traditional conflicts between artisanal and commercial fishers if properly implemented.

Awig-awigs regulating the management of fish sanctuaries were also established in each of the three management areas. No violations have been recorded on fish sanctuary management at either Ekas Bay or Serewe Bay, but some minor violations occurred in the Gusoh Sandak fish sanctuary at Jukung Bay. It is likely that the distance of the sanctuary from the management committee has been an important factor conditioning the success of these sanctuaries.

Experiences from the southern coast of the District convinced the District Fisheries Services to start a new mission to the north. Three new management areas were defined in 2003 (Labuhan Haji-Sakra Timur, Pringgabaya and Sambelia). These three new

Awig-awig

Awig-awig is a form of traditional agreement among local communities about social values in controlling community behaviours to achieve harmony life within society. These customary laws were intended to reduce conflicts among community members. Although the concept of awig-awig was originally imported from Bali during the colonial era, most villages in Lombok Island have set up their own awig-awigs now. They usually consist of regulations regarding marriage and security. Some villages, however, also have awig-awigs on traditional ceremonies, or even on how animals should be kept. Awig-awigs are usually unwritten. Socialization of a new awig-awig may be carried out after Friday prayer. Traditionally these laws are formulated by a community of an island, village, or sub-village, and can only be applied to that community and people doing activities with the community's defined area. Many villages, however, have the same or similar awig-awigs, particularly those that deal with marriage ceremonies.

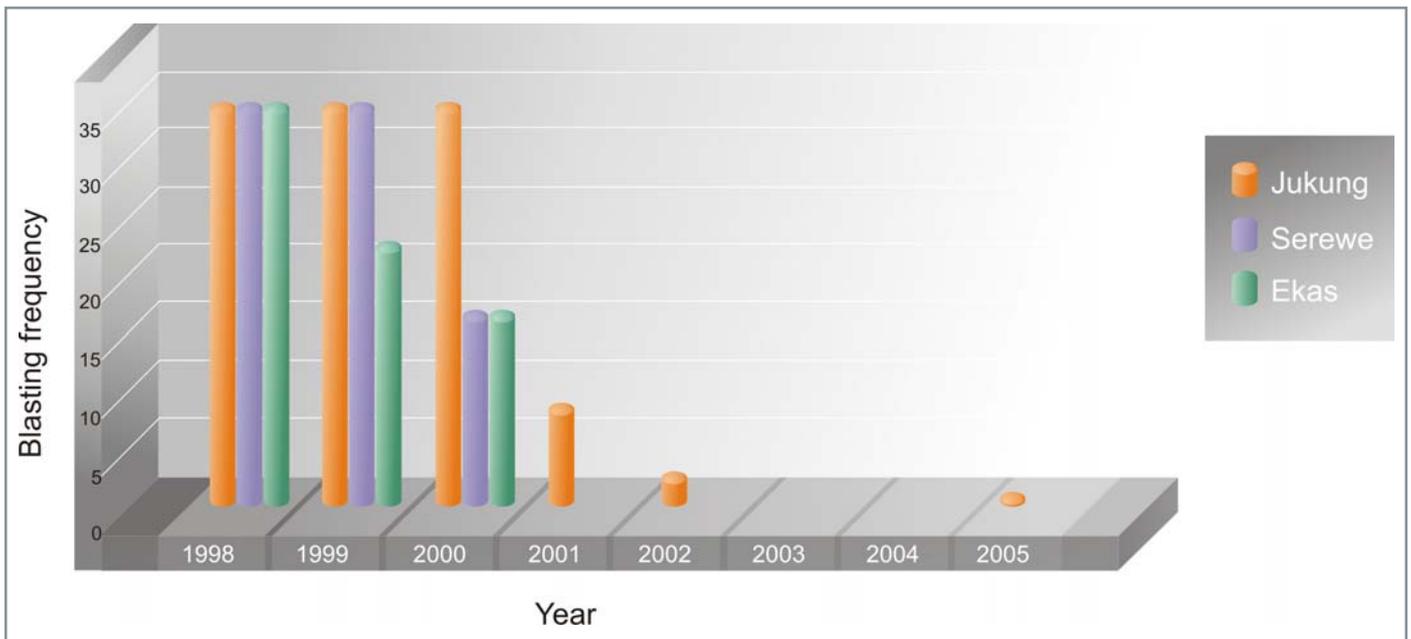


figure 1: Reduction of blast fishing frequency in three management areas (Jukung, Serewe, and Ekas Bays); implementation of participatory fisheries management had significant impact on reducing destructive fishing practices.

areas are open coastal waters facing the Alas Strait. Since the three southern management areas were sheltered bays, these three new areas were an experiment in coping with a much more difficult situation. In early 2004, each new area promoted its management plan as an awig-awig for coastal fisheries management. The implementation of these resulted in a decrease of blast fishing by about 70%. Fishing conflicts between artisanal fishers using compressor-aided spear was also reduced. These results show that participative fisheries management can also be implemented in open coastal waters.

Wider Coastal Zone Management Issues

An interesting feature of fisheries management in Lombok Timur is its integration with wider coastal zone management issues. The community management committees, the KPPLs, have been given management authority for coastal fisheries and also for other environmental and coastal issues, such as coral reefs.

As a result, the District Fisheries Services of Lombok Timur divided its coastal waters into six management areas (Figure 1), each managed by a committee (KPPL) with the authority to make and implement its own management plan through an awig-awig for all the villages within their management area. The awig-awigs set in place in partnership with local government are also applicable to visitors using resources within the area.

The local laws in each of the six management areas are very similar. Several variations can be found in the number of certain types of fishing gear allowed, and the use of compressor-aided spears for fishing (Table 1). Most violations are sanctioned by a fine. The nominal value of fines also differs slightly among the management areas.

As mentioned above, the Co-Fish Project also introduced conservation of habitats. At present, Lombok Timur has established five fish sanctuaries and two marine protected areas. The size of the sanctuaries, however, is small, as many fishers have rejected the idea of having bigger fish sanctuaries, and the short project timeframe is insufficient to demonstrate the benefits of protected areas for the fishing communities. To make these conservation and habitat protection efforts viable and sustainable, local institutions and communities were involved in the management of all habitat conservation areas. Currently, nearly 1200 ha of fish habitats are under the management of the community management committee (KPPL). Restocking of pearl oyster spats has been done on the reefs within fish sanctuaries, although the results so far have been unsatisfactory.

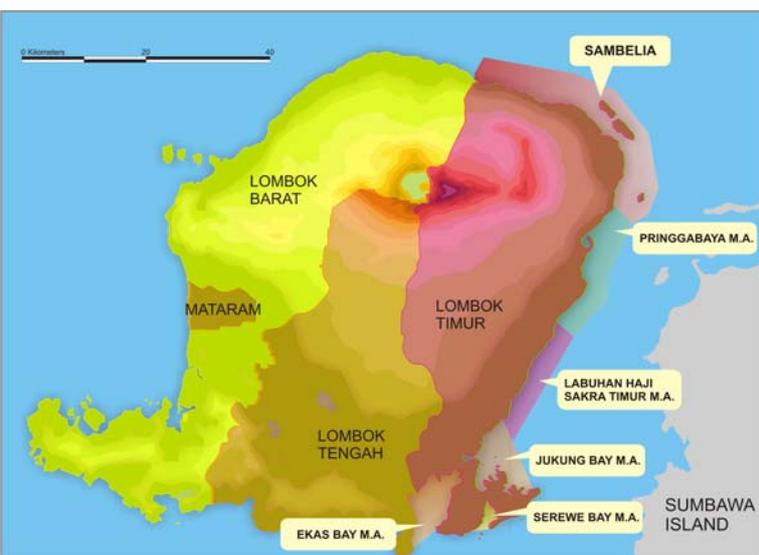


Figure 2: The six management areas in the District of Lombok Timur (DLT): all the coastal waters of the District now have a management plan implemented by a KPPL. (M.A. = Management Area)

Regulated or prohibited activities in the six management areas

EB=Ekas Bay, SB=Serewe Bay, JB=Jukung Bay, LH=Labuhan Haji and Sakra Timur, PI=Pringgabaya, SA=Sambelia.

Activities	Management area						Sanction
	EB	SB	JB	LH	PI	SA	
Operation of commercial fishers in Zone 1.	P	P	P	P	P	P	F
Fishing and trading of endangered species: dugong, dolphins, turtles, napoleon fish.	P	P	P	P	P	P	F
Blast- and poisonous fishing practices.	P	P	P	P	P	P	DC, F
Trading of blasted or poisoned fishes.	P	P	P	P	P	P	F
Use of compressor in spear fishing.	R	R	R	P	P	P	F
Use of conflicting fishing gears, such as: lift net, number of light trap, jaring oros.	R	R	R	R	R	R	F
Location of mariculture rafts and long line.	R	R	R	R	R	R	F
Mangrove logging.	P	P	P	P	P	P	F
Coral and sand mining.	P	P	P	P	P	P	F

Note: P=prohibited, R=regulated, F=fined, DC=district court, DC will be applied whenever evidences and witness requirements can be fulfilled.

As a result, all coastal waters of Lombok Timur are now managed using awig-awig through KPPL. There are six awig-awigs on coastal fisheries resources management, five on fish sanctuary management, and two on marine protected area management. It is expected that all 13 awig-awigs will be acknowledged in the District Regulation on participative coastal fisheries resources management, in the near future.

Institutional and Coordination Aspects

Each KPPL consists of representatives of stakeholder groups from all villages in the management area, proposed by village headmen.

Each village generally has six representatives, representing capture fishers, mariculture farmers, women involved in post-harvest of fish, the religious leader, the youth leader, and the village headman. The management area of Ekas Bay is a special case, since it spreads across two districts, so the KPPL consists of representatives from both Lombok Tengah and Lombok Timur. The KPPL has the authority to make a management plan, and a mandate to revise the plan whenever necessary. In order to revise an established awig-awig, approval from all heads of the villages within the management area must first be given.

In the context of fisheries management, KPPL is different from regular community surveillance groups established by District Fisheries Services in other districts, called Pokmaswas (community surveillance group). A KPPL can enforce the awig-awig and prosecute violators of the management plan by itself, which the Pokmaswas cannot, having a standard operational

KKPK – the district fisheries management advisory committee

The KKPK (*komite kelautan dan perikanan kabupaten*, or district fisheries management advisory committee) is an advisory committee that plays an important role in providing resolutions and recommendation on problems and issues related to fisheries management for the head of the district. The KKPK consists of representatives of stakeholder groups and government agencies at the district level.

The members of the KKPK in Lombok Timur are representatives of the six KPPL leaders, small-scale fishermen (<5 GT), fishermen using bigger boats (e"5 GT), seaweed, lobster and grouper mariculturists, the post-harvest women's group, the fisheries businessmen group, fisheries faculty of Universitas Gunung Rinjani, BPPI (*balai pengembangan penangkapan ikan*), District Development Planning Board (*Bappeda*), District Transportation Services (*Dishubpar*), District Fisheries Services (*Dislutkan*), and District Secretary (*Setda*).



photo by Imam Bachtiar



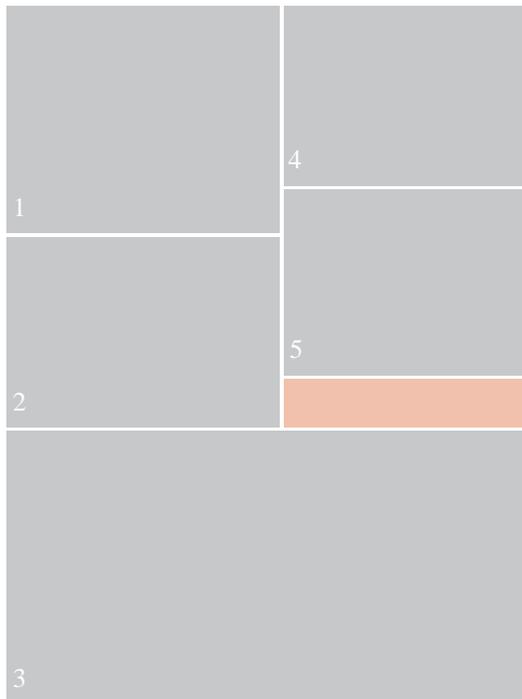
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1. Representatives of six KPPLs in Lombok Timur discussed about current issues in KPPL institution, 2005.
2. Written public hearing during discussion of the management plan (*awig-awig*) of Serewe Bay, 2001. The management plan was posted in public boards to be reviewed by all community members.
3. KPPL of the Ekas Bay, 2002.
4. KPPL of Sambelia discussed about management plan of the marine protected area of Gili Sulat-Gili Lawang, about 1206 ha, 2003.
5. Head of the KPPL of Jukung Bay, Soemadi, received first medal of fisheries surveillance group from the Indonesian President, Megawati Sukarnoputri, in January 2004.

procedure (SOP) that can be applied to fine illegal fishers. In the case of destructive fishing practices, formal enforcement by police is prioritised. Whenever there is insufficient evidence and witnesses to prosecute violators in a district court, enforcement using *awig-awig* is necessary.

Because of its extra authority in enforcement, the KPPL in Lombok Timur always gets the first nomination in the provincial competition among surveillance groups for their effectiveness. At the national level, the KPPL of Jukung Bay was given an award as the best surveillance group (*Pokmaswas*) in 2003 and received rewards directly from the President of Indonesia in early 2004.

Another institution involved in co-management mechanisms is the KKKP (*komite kelautan dan perikanan kabupaten*, or the district fisheries management advisory committee). Whenever a KPPL is deemed no longer effective, the KKKP may recommend to the head of the District Fisheries Services to reshuffle the committee in a management area. In one case, the KPPL was unable to carry out its duty because of pressure from blast fishers. The KKKP recommended that the head of the District Fisheries Services take over, and the case was handed to a special district taskforce consisting of selected KPPL members from other management areas.

The six KPPLs and the KKKP have all been equipped with radios so that they can coordinate with each other about their daily activities. At least one radio is provided for each village in the management areas as well. A total of 45 radios have been distributed to support communication, while two repeaters (which are communication equipment that strengthen radio signals) are also available to widen the coverage area. Beside the communication equipment, one 60 HP powered speed-boat has been provided for each of the six management areas for surveillance. This material was financed through a small grant from the district government, added by donations from tourists and local companies (in cash or in kind such as petrol).

The KKKP and the six KPPL also have been granted with supporting infrastructure. The District Fisheries Services supported each KPPL with a surveillance post, which is also used as a meeting place for the committee. Meanwhile, the KKKP has a secretary office and a meeting room (*Kerapu Room*) located at Selong.

Unresolved issues

There are several issues that need further attention in the context of implementing the Code of Conduct for Responsible Fisheries. Among these, the sustainability of the KPPL and KKKP need to be prioritised, as these are the driving force behind responsible fisheries in the Lombok Timur.

Small boat for artisanal fisheries at Jukung Bay. The number visible on each boat is a registration number of artisanal boat. Boat registration is carried out by KPPL, 2003.

Photo by Imam Bachtiar



These two committees, which have been so successful at supporting the implementation of responsible fisheries, must be maintained and strengthened. For this purpose, district regulations (PERDA) are required to acknowledge the existence of the committees and their respective authorities in fisheries management. Notably, the district regulations on participative fisheries management will strengthen the position of the KPPL when coping with violators from other districts. A draft for district regulations has been discussed, and is expected to be approved by the district parliament some time this year. These regulations are also very important to ensure that both KPPL and KKPK have a regular budget to carry out their work, as the district government will have a legal obligation to fund the committees.

Beside this sustainability issue, coral mining is another longstanding issue that has never been completely resolved. At present, there is no example of successful approaches to handle coral mining. The COREMAP project in Lombok Barat attempted to address this issue in 1997-2000, but failed to stop coral mining. Since the mining involves many people below the poverty line, just law enforcement might not be sufficient.

Conclusion

Lombok Timur has shown impressive efforts and some impressive success in implementing the Code of Conduct for Responsible Fisheries. This has been achieved mainly through establishing a framework for participative coastal fisheries management. The use of customary law (awig-awig) to support fisheries management plans has proved most suitable for Lombok culture. The institutions of KPPL and KKPK that have been set up locally have been working very well, showing the importance of involving local communities to achieve sustainable fisheries management.

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ABOUT THE AUTHOR

Imam Bachtiar is a lecturer on Marine Biology, at Biology Education Department, University of Mataram. His involvement on the COREMAP (3 years) and Co-Fish Projects (7 years) had enriched his perspective on marine resources management and he has published a number of papers on coral reef ecology, and on fisheries co-management. He is a contributor to UNEP publications on Global International Waters Assessment (GIWA) and chairman of the Centre of Coastal and Marine Studies of the University of Mataram. The author can be joined at ibachtiar@telkom.net.