

**Report of the National Workshop for Human Resource  
Development in Supporting the Implementation of the Code of  
Conduct for Responsible Fisheries  
Jakarta, 28-29 September 2005**



**Southeast Asian Fisheries Development Center  
The Secretariat**

Supported by the Swedish International Development Cooperation Agency (Sida)  
Implemented under ASEAN-SEAFDEC Fisheries Consultative Program, Regionalization  
of the Code of Conduct for Responsible Fisheries Management

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Report of the National Workshop for Human Resource Development in Supporting the Implementation of the CCRF, Jakarta, 28-29 September 2005 was prepared by the Secretariat of Southeast Asian Fisheries Development Center (SEAFDEC). The document is distributed to participants the National Workshop for Human Resource Development in Supporting the Implementation of the CCRF, the SEAFDEC Member Countries, SEAFDEC Departments and concerned institutions.

## **BIBLIOGRAPHIC CITATION**

SEAFDEC. 2005. Report of the National Workshop for Human Resource Development in Supporting the Implementation of the CCRF, Southeast Asian Fisheries Development Center. 66 pp.

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## CONTENTS

	<b>Page Number</b>
I. Introduction.....	4
II. Opening of the Workshop.....	4
III. Adoption of Agenda and Arrangement of the Workshop.....	5
IV. Background and Rationale of the Workshop.....	5
V. The Complexities of Fisheries Management in Indonesia.....	6
VI. District Models for Capture Fisheries and Aquaculture concerning the Awareness Promotional Building to Implement the CCRF.....	8
VII. Conclusion and Recommendation .....	9
VIII. Streamlining the Future Directions for Implementation of the CCRF Through applying the District Model Concepts.....	14

## LIST OF ANNEXES

Annex 1. List of Participant .....	18
Annex 2. Opening Statement .....	23
Annex 3. The Adopted Agenda.....	24
Annex 4. Background and rationale.....	26
Annex 5. Presentation of the Complexities of Capture Fisheries in Indonesia.	32
Annex 6. Presentation of the Complexities of Aquaculture in Indonesia .....	41
Annex 7. Presentation of the District Model for Capture Fisheries .....	56
Annex 8. Presentation of the District Model for aquaculture .....	65

## **I. INTRODUCTION**

1. The National Workshop for Human Resource Development in supporting the implementation of the Code of Conduct for Responsible Fisheries (CCRF) was co-organized by the SEAFDEC-Sida and the Ministry of Marine Affairs and Fisheries of the Republic of Indonesia in Jakarta, Indonesia from 28-29 September 2005.
2. The Workshop was organized as part of the SEAFDEC activities of Sida support project on “Capacity Building for Human Resource Development on the support to the Implementation of the CCRF in the ASEAN Region”. The Workshop was primarily aimed at addressing the needs and directions for improving human resource development in fishery management through developing the district and awareness building models to promote the implementation of the CCRF.
3. The participants attended in the Workshop come from the Ministry of Marine Affairs and Fisheries (MMAF) Officers from all respected Directorate General, Provincial and District Fisheries Service Officers, Fisheries University, representatives of Indonesian Tuna Commission, Indonesian Fisheries Society Association, SEAFDEC-Sida senior advisor, acting manager, SEAFDEC Program Policy Coordinator and staff. The list of participants appears as [Annex 1](#).

## **II. OPENING OF THE WORKSHOP**

4. Dr. Soen'an Hadi Poernomo, as the chairman of the national workshop welcomed and thanked the participants, resource persons to the national workshop and briefly remarked the organization of the workshop including introduction of various participants who came to the workshop and emphasize the importance of the workshop as a forum to formulate and to enhance the HRD & awareness promotional programs through developing of district model presented to the workshop. The participants were duly encouraged to share their profound knowledge and experiences that could provide a basis to be references and guidance in developing such an appropriate HRD model for districts in Indonesia. In addition, the outcome of the workshop is expected to be following up on by the implementation of similar exercise, e.g. workshop, seminar in the district.
5. Dr. Magnus Torell, SEAFDEC senior advisor gave the introductory remarks and briefly remarked the important and background of the workshop. He emphasized that the national workshop is one of sequence activities under SEAFDEC-Sida collaborative project that based on a process oriented approach to enhance awareness and to promote various human resource development activities for fisheries management and to alleviate problems caused by excessive levels of fishing capacity in line with the implementation of the CCRF and its regionalization in Southeast Asia as well as Indonesia.
6. Mr. Anto Sunaryanto, SEAFDEC national coordinator for Indonesia, gave the introductory remarks. He expressed his appreciation to the organizer and participants for their presence into the workshop. He briefly informed that the initiation of HRD programs in Southeast Asia through SEAFDEC has been started since the adoption of the regional guidelines and other relevant activities concerning HRD. He also expressed that this process hopefully will be followed up on by implementation in the national level.

7. Dr. Gellywin Yusuf, Advisor of the Minister for economic, gave the opening statement. Prior to declaration of the opening statement, he stated that the Indonesia Government fully supports the organization of the Workshop as a part of the processes in enhancing HRD in fisheries management in ASEAN as well as Indonesia. After that he informed the recent institution development of the MMAF where Indonesia now has established the Human Resource Development Center. He further hoped that the synthesis gained from the experiences of past and ongoing projects concerning HRD shall be shared among fisheries stakeholders for better planning and cooperation, whilst with regards to this concerned workshop, these experiences could provide a very good reference to design a model that will be applied in the implementation of fisheries resource management in Indonesia in the near future and to be shared in ASEAN Region. His opening statement appears in [Annex 2](#).

### **III. ADOPTION OF AGENDA AND ARRANGEMENT OF THE WORKSHOP**

8. The Agenda and arrangement of the Workshop were adopted as appears in [Annex 3](#).

### **IV. BACKGROUND AND RATIONALE OF THE WORKSHOP**

9. Mr. Trian Yunanda, SEAFDEC Working Group for Indonesia, gave a brief introduction on background and rationale of the Workshop and SEAFDEC-Sida project to support HRD for promotion of the implementation of the CCRF in the ASEAN Region. The complete presentation appears as [Annex 4](#).

10. He highlighted the linkages among the created initiative concepts of programme “why we need human resource for management” and the pilot process as a strategy pathway to HRD Promotional in ASEAN Region, started with the adoption the CCRF by FAO in 1995 and some of recent developments for its implementation, then followed by the information of the RCCRf of which the Regional Guidelines on Responsible Fisheries Management and HRD framework establishment for pilot project among member in ASEAN region.

11. He elaborated the recent sequence HRD activities that was implemented by SEAFDEC-Sida, and highlighted the outcome of the respective activities started from the Regional Workshop in Kuala Lumpur until the last Expert Meeting held in Bangkok, and then he mentioned the specific background of the Workshop as a result of the previous planning meeting in Indonesia in June 2005.

12. He mentioned that the Workshop has the specific objective as follow:

- a. To establish district models for implementation HRD to support the implementation of the CCRF
- b. To develop awareness building model to promote the implementation of the CCRF appropriately designed to match the culture of the local community.

## **V. THE COMPLEXITIES OF FISHERIES MANAGEMENT IN INDONESIA**

13. The presentation of complexities of fisheries management in Indonesia was focused on two sub-sectors of fisheries in accordance with the thematic background namely capture fisheries and aquaculture.

### **5.1 Capture Fisheries Sector**

14. Mr. Nilanto Perbowo, Secretary to Deputy General of Capture Fisheries, highlighted on the comprehensive background of the overall fisheries management framework in Indonesia started from the potential and policy for capture fisheries then continued to explain the objective of fisheries management, vision and mission, supports on the district, issues and constraints both internal and external in Indonesia.

15. He then informed the Workshop that currently the new government law of 34 in 2004 concerning fisheries has been implementing as the framework for fisheries management in Indonesia. This new fisheries law has systematically compiled to consider and cover the current and future fisheries issues such as methods to combating Illegal Unregulated and Unreported fishing practices, National Plan of Action and ecosystem approach. In addition, he informed that the Indonesian fisheries outlook for 2020 is in adoption process whereby this strategic plan will be expected to accelerate in achieving the target of government policies, namely fisheries sustainability, employment opportunity generation and poverty alleviation.

16. In terms of fishery management, based on participatory approaches that presently were a concern of global fisheries management issues, Indonesia has been practically establishing the National Communication Forum for Fisheries Management and Utilization that so far consistently conducts the meeting in order to attain participative consensuses in fisheries management among the all stakeholders in each fisheries area. Meanwhile in community level, the management plan has also been placed in the form of local wisdom that has traditionally implementing the CCRF practises through generations. Reaffirmation, revitalization and recognition of this local wisdom by the government are a crucial important step to strengthen its local custom institution.

17. Concerning the complexity of capture fisheries in Indonesia between western (Java) and eastern part of Indonesia in utilization of fisheries resource, especially using small scale fisheries, was addressed by the Indonesian Government through implementation of fisheries management scheme for Java area (as sample of fully utilized management area), while in another hand the management scheme for remote area was also equally identified through the remote area fisheries management scheme. In the last presentation, he showed the simplified synergies among stakeholder to optimize the local potential concepts in one of diagram flowchart. The complete presentation appears as [Annex 5](#).

### **5.2 Aquaculture Sector**

18. Mr. Agus A. Budiman, Director of Seed Production on DG of Aquaculture, presented the comprehensive background of aquaculture development started with the information of aquaculture contribution to national economic development in Indonesia, the nature of aquaculture development. Some issues has also been identified to include the

identification of complexity problems in aquaculture in terms of the heavy population, industries, land usage and the problems related with the non- and technical issues in aquaculture development, such as insufficient of facilities, productions and management. He also has sought some views and offering required actions to solve those problems.

19. He addressed that there is now opened to a better opportunity for aquaculture to be more progressively developed after the increase of world market demands in line with population growth and the shifted opinion were currently occurred in human consumption preferences namely from red meat to white meat. This has also followed by the change of people habits to become more selective to use the more quality, healthy and safety food products. While taking into account of the increase changes and developments of aquaculture in terms of techniques and methods, the capture fisheries capacity is being questioned by still indication on the over fishing trend in several management area. Therefore the aquaculture now offers an alternative solution to maintain or even increase the fish production.

20. Nevertheless, he expressed some difficulties and constraint of aquaculture development programs that remained happens and need a concern by the relevant agencies such as land use planning that has not yet established, lack of good quality of brood stock, limited specific fish seed supply, Indonesian standard on aquaculture product and processing have not been fully applied, lack awareness' related to bio-security, traceability and gap, lack of database on distribution of seed, broodstock, disease and weakness of extension mechanism. In addition, some constraint for aquaculture development based on specific aquaculture group has been addressed to include the constraints in shrimp, seaweed, groupers, common carp, tilapia, catfish and Shellfish.

21. In closing his presentation, he was again emphasized the importance of vision and mission, program and policy and required action to be done by aquaculture development relevant agencies. The complete presentation appears as [Annex 6](#).

### **5.3 Discussion on the thematic background**

22. In the discussion, it was raised a good suggestion by the Workshop to strengthen Monitoring Control and Surveillance (MCS) as one of component that must be essentially considered for integration fisheries management both for capture fisheries and aquaculture. The suggestion to train the inspector and law regulator in accordance with the fisheries practises based on the CCRF were some of the point for consideration.

23. The importance information for setting management measures such as fisheries resource potential and stock assessment has also been addressed before planning such an exercise of fisheries practises as for the mariculture sector, the suggestion also made to find the assessment and basis data requirement for possible expanding the mariculture area shifted to the high sea. In addition, the improved spatial planning identification and determining were also a concern of the Workshop.

## **VI. DISTRICT MODELS FOR CAPTURE FISHERIES AND AQUACULTURE CONCERNING THE HRD AND AWARENESS PROMOTIONAL BUILDING TO IMPLEMENT THE CCRF**

### **6.1 District Model for Capture Fisheries**

24. Mr. Ali Syahdan, Head of District Fisheries Services of East Lombok, presented the district model for developing HRD and awareness building for Capture Fisheries. Prior to his presentation, the audio-video promotional tool has been showed to the workshop that describes the fisheries management in District Lombok Timur (DLT). After that, he explained the success story of implementation of CCRF in a study case in the district of DLT, Indonesia.

25. In the study case of DLT, it has been found that the elements of fisheries management that eventually match with the articles of CCRF in terms of fisheries management, fishing operation, aquaculture development; and integration of fisheries into coastal area management has been reflected in the practise of responsible fisheries management through implementation of management plan so called Awig-Awig in the past. This Awig-Awig is the participative fisheries management approach that is traditionally an agreement among local communities about social values in controlling community behaviors to achieve harmony life within society.

26. The current modern practice of the Awig-Awig (since 1998) eventually has re-affirmed and revitalized the past customary local wisdom, however, this current practice was made by external intervention through government project. In this study, the custom which contained the good and success social values will be kept and maintained although there is no white paper to be a reference of this planned management. Meanwhile, in conjunction with the current global issues on the approaching methods for human capacity building such as greater emphasis on sustainability and the environment good, greater awareness of the need for integration at all levels of development, and governance principle actually has been taken a place and more accommodated in the participative management plan of the Awig-Awig.

27. In conclusion of the presentation, since 2001, DLT has managed artisanal fisheries collaboratively with coastal communities, and managed commercial fisheries on its own management. This management has been effective to implement CCRF at district level through the participative management of coastal fisheries that is obviously considered as a reference to implement the CCRF. The complete presentation appears as [Annex 7](#).

### **6.2 District Model for Aquaculture**

28. Mr. Urip Nugroho, Head of District Fisheries Services of Pematang, presented the district model for developing HRD and awareness building for aquaculture, he presented a sample of the model based on the implemented aquaculture fisheries resource management in Pematang district that was a lesson telling the failure implementation of the past management scheme that exploited the resource with only taken a consideration of the economic benefits without giving a lot of attention in retains the quality of the environment and habitat.



29. Based on the identified key lessons, it was found that the environment degradation caused mainly by the excessive level of destruction of mangrove areas that actually is a primary production and the main chain of ecosystem in coastal area. This happened because of the limited knowledge of fish farmer about the functions of mangrove and the technique as well as method that un-friendly environment manner.

30. Considering these past lessons, the model of aquaculture in Pemalang was created by firstly determine the vision and mission that essentially directed to the sustainable marine and fisheries resource as a source for daily life, income and community welfare through the increasing of human capacity, maintaining of carrying capacity and conservation, developing an alternative solution for marine and fisheries resource utilization.

31. The information of technique management and program activities for aquaculture were also informed to the Workshop that consists of spatial identification and planning, institution building, environmental friendly of fisheries productivity program, rehabilitation and conservation developments on aquaculture fisheries areas.

32. In emphasizing the environmental friendly of fisheries productivity program, the silfo-fishery activities and environmental friendly of embankment aquaculture. The silfo-fishery activities consist of traditional moat-pond model, perfected moat-pond model and partition model. The complete presentation appears as [Annex 8](#).

## **VII. CONCLUSION AND RECOMMENDATIONS**

The following are conclusion based on presentation of the projects/initiatives and discussion during the workshop with respects to the lessons learned and common elements

### **7.1 Conclusion and recommendations of the discussion on the group model for capture fisheries**

33. The group discussion on the capture fisheries model was agreed to use the case study of participative fisheries management of the Awig-Awig in DLT as the basis and framework in designing the elements to be considered for further development of HRD in fisheries management through applying this district model in supporting the implementation of the CCRF. From the case study, the group has synthesized and digested elements and its details to be further consideration as follows:

#### **7.1.1 Goal and specific objective of the model**

34. The overall goal is to use the DLT case study as a reference model for promotion of the implementation of the CCRF through community awareness building on the importance of the active participatory of community in fisheries management.

35. The specific objectives are:

- a. To increase the communities awareness building and participatory,
- b. To create harmony in social relationships,
- c. To strengthen the institution, and
- d. To increase fisher welfare.

### **7.1.2 Target groups of capacity building for fisheries management**

36. The target groups for capacity building was designed to include:
- a. Fishers, fish farmer and their families,
  - b. Village and sub-district apparatus,
  - c. District Fisheries advisory committee (KKPK),
  - d. District Fisheries management committee (KKPL),
  - e. Local religion and custom leaders,
  - f. Local youth and women leaders, and
  - g. Other relevant government apparatus.

### **7.1.3 Coordinating/Implementing Agencies**

37. The coordinating agencies consist of:
- a. District fisheries services (leading Unit),
  - b. District Planning Unit (Bapeda),
  - c. Navy,
  - d. Attorney department,
  - e. Police department,
  - f. Transportation and tourism district units, and
  - g. Master harbor.
38. Meanwhile, the implementing agencies are:
- a. District fisheries services,
  - b. KKPK, and
  - c. KKPL.

### **7.1.4 Approaching Methods**

39. The approaching methods for implementation the model consists of:
- a. Community Participatory,
  - b. Good governance principles:
    - i. Participatory
    - ii. Accountability
    - iii. Transparency
  - c. Empowerment of informal local leaders (religion, custom, youth and women leader), and
  - d. Rewards and incentive approaches.

### **7.1.5 Target Major Achievements**

40. Target major achievements are:
- a. Revitalization and improvement the rules of local wisdom that reflect the implementation of the CCRF obeyed by the community,
  - b. Formal/legal recognition of participative fisheries management model by the concerned government institution through authorization by district regulations.

### **7.1.6 Identification of Major Constraints**

41. Internal factors:

- a. Weaknesses of the MCS for fisheries resource,
  - b. Weakness of law enforcement,
  - c. Limitation of supporting facilities and infrastructure among fisheries management areas,
  - d. The differences on levels and stages of applied rules among fisheries management areas, and
  - e. Limitation of operational costs in the Awig-Awig.
42. The external factors consists of:
- a. Outsider and opportunistic fishers (fisher who do not know or not agree on the Awig-Awig rules),
  - b. Limitation of baseline data and information about potential fisheries resources, such as stock assessment, number of fisheries, catch per unit effort (CPUE) and so on.

### **7.1.7 Important Areas for HRD**

43. The important areas for HRD considerations are:
- a. Training for Standard Operational Procedure (SOP),
  - b. Training for using radio communication for surveillance purposes,
  - c. Training to increase capability for identification of fishing catches,
  - d. Socialization the rules and regulations in the Awig-Awig,
  - e. Training for management of organization, and
  - f. Counter-part programs.

### **7.1.8 Future needs/directions/promotional consideration for implementation of the capture fisheries district model**

44. The important areas for HRD considerations are:
- a. Developing fisheries database and information including stock assessment and number of boat, fishing gear, and fish seasonal.
  - b. Applying key indicators for fisheries management, for example biology indicators (length-weight parameter, CPUE), economic indicator, and performance indicators for the planned activities to identify the success of implementation on HRD program activities
  - c. Development of networking with formal institution,
  - d. Development of the CCRF based on local wisdom to the formal regulation, e.g. violence to local wisdom rules can be charged to the formal court,
  - e. Training for management of organization,
  - f. Developing the subsistence developed Awig-Awig,
  - g. Cooperation for socialization of local wisdom/local rules among fisheries management areas around DLT for implementing the CCRF

### **7.1.9 Other considerations**

45. Other consideration to support the implementation of the model is to find out initiative programs for developing an alternative source of life instead of merely from fisheries sector. Meanwhile the supports of central and provincial government are also further encouraged to strengthening the model.

## **7.2 Conclusion and recommendations of the discussion on the group model for aquaculture**

46. The group discussion on aquaculture model was agreed to use the case study of aquaculture model implemented in Pemalang as the basis and framework in designing the elements to be considered in further development of HRD in aquaculture in line with implementation of the CCRF. From the case study, the group has synthesized and digested elements and its details to be further consideration as follows:

### **7.2.1 Introduction, Nature, and Scope**

47. a. Background
- b. Problems:
  - i. Degradation of environment carrying capacity especially in embankment areas
  - ii. Limitation of fish farmer knowledge with respect to mangrove ecosystem and aquaculture techniques and methods with environmental friendly.
  - iii. There is an indication in some areas, people reluctant to introduction of new technologies.
- c. Supporting Factors:
  - i. There is an aquaculture institutional organization that cares about environment issues.
  - ii. District regulation of 13/1999 about district spatial planning for coastal management and utilization in Pemalang
  - iii. The land fisheries cooperatives (KPD) as an advisory body and partnership with the aquaculture-folks.

### **7.2.2 Goal and overall objective of the models**

48. The overall goal and objective are to use the aquaculture management case study in Pemalang as a model in terms of community, government and other relevant stakeholder awareness in line with the implementation of the CCRF in aquaculture.

### **7.2.3 Target groups of capacity building for aquaculture**

49. The target groups for capacity building was designed to include:
  - a. Fish farmer community,
  - b. Institutions of fish farmer community,
  - c. Government apparatus/officers,
  - d. The land fisheries cooperatives (KPD),
  - e. Relevant Non Government Organization (NGO),
  - f. Local religion and custom leaders, and
  - g. Local youth and student groups.

### **7.2.4 Coordinating/Implementing Agencies**

50. The coordinating and implementing agencies consist of:
  - a. Networks of Coastal Group (JKKP) in Pemalang (underlying of aquaculture and fisher groups),
  - b. District fisheries services in Pemalang (Leading Agency),

- c. Relevant concerned agencies (PU District Unit, Forestry District Unit, District Planning Unit/Bappeda, District Environmental Planning Unit/Bappedal, District Agriculture Services, Environmental Division in District Level and etc), and
- d. Universities.

### **7.2.5 Methods used by the project/initiative**

51. The methods used by the project initiatives consists of:
- a. Increasing active participatory of fish farmer community on the conservation of mangrove area (i.e. censuses building in term of attempts to conserve the mangrove area for example by imposing ban/fine to illegal logger of mangrove plantation like the person who was cut one mangrove tree shall be re-planting for 50 trees),
  - b. Mentoring and applying demonstrations methods through relevant groups for aquaculture.

### **7.2.6 Target Major achievements**

52. Creation of awareness building for fish farmer community in applying sustainable aquaculture concepts (good aquaculture practise/GAP).

### **7.2.7 Identification of Major Constraints**

53. The identification of major constraint comprises of:
- a. Average education and economic levels of the fish-farmer community are relatively low level,
  - b. Limited access of infrastructure and information, and
  - c. There is an indication in some areas, people reluctant to introduction of new technologies.

### **7.2.8 Important Areas for HRD**

54. The important areas for HRD considerations are:
- a. Training, on the job-training, demonstration area on aquaculture,
  - b. Counter-part programs,
  - c. Expanding partnership programs,
  - d. Applying incentive and stimulant approaches,
  - e. Provisioning Rewards approaches, and
  - f. Capital Provisioning

### **7.2.9 Future needs/directions/promotional consideration for implementation of the aquaculture district model**

55. The important areas for HRD considerations are:
- a. Applying demonstration method/technique for environmental friendly aquaculture,
  - b. Socialization of sustainable aquaculture through implementation of CCRF,
  - c. Implementation on the concepts of Integrated Coastal Zone Planning and Management (ICZPM),

- d. Institutional building by creating a forum that will consistently carry out the planning, evaluating and monitoring legal aspects of the implementation of the CCRF,
- e. Embankment irrigation rehabilitation,
- f. Programs for training, on the job-training, demonstration area on aquaculture,
- g. Counter-part programs,
- h. Programs for enhancing partnerships among the aquaculture entrepreneurs, fish farmer and universities,
- i. Programs that give incentive for stimulations a success implementation of GAP,
- j. Programs that give reward and appreciation, and
- k. Programs related with capital provisioning.

### **7.2.9 Other considerations**

56. Supports of central and provincial government are also further encouraged in applying the sustainable aquaculture practise.

## **VIII. STREAMLINING THE FUTURE DIRECTIONS FOR IMPLEMENTATION OF THE CCRF THROUGH APPLYING THE DISTRICT MODEL CONCEPTS**

57. Based on the conclusion and recommendation resulted from the groups and plenary discussion both capture fisheries and aquaculture models, the workshop further streamlined the future direction for the implementation of the CCRF through applying the district model concepts in the targeted areas. In this regards, the discussion among participants and SEAFDEC-Sida has agreed to further socialize and conceptualize the district models by organizing the workshop/on-site training in the targeted districts of Pemalang and Lombok Timur. The concerned issues and arrangements were agreed as follows:

### **8.1 Socialization of the district model concepts in Pemalang**

58. The next step activity to be taken for socialization of implementation of the District model in Pemalang is as following arrangement:

#### **8.1.1 Proposed Activity**

- a. Name of activity: workshop
- b. Expected participants:
  - Head of district (Bupati)
  - Provincial Planning Unit (Bappeda propinsi)
  - Pronvincial Marine and Fisheries Services
  - Relevant Officials in Pemalang
  - Sub-district and village apparatus
  - NGO in Pemalang
  - Fish farmer groups and KPD
  - Local religion and community leaders
  - Technique Implementing Unit of MMAF: Education and Training Center in Tegal (Balai Diklat Tegal), BBBAP jepara, and SUPM Tegal
  - Extensor group
  - Universities
  - Partnership entrepreneur

- c. Tentative schedule: earlier next year (March, 2006)
- d. Venue: Pemalang (District auditorium)
- e. Leading Agency: District Fisheries Services
- f. Supporting agencies:
  1. Local:
    - District Planning Unit (Bappeda)
    - Environmental Division
    - District Agriculture Services (Forestry)
    - Provincial Fisheries Services
  2. External agencies:
    - Directorate General of Aquaculture
    - Directorate General of KP3K
    - Human Resource Development Center (Pusbang SDM KP)
    - Aquaculture Research Agency (Purist Budidaya)
    - SEAFDEC-Sida

### 8.1.2 Substantive activities of the CCRF that will be implemented

- a. Assessment of embankment aquaculture resources in Pemalang,
- b. Planing and formulating regulations which support the implementation of the CCRF based on the result of resource assessment,
- c. Strengthening of fish farmer institutions and other relevant formal institutions.
- d. Socialization of the authorized regulations that will be implemented,
- e. Proper implementation of Good Aquaculture Practice (GAP) in Pemalang
- f. MCS of the implementation
- g. Giving rewards/incentives and punishments

### 8.1.3 Matrix of implementing activitiy (substantive issue), schedule, and implementing or responsible agencies

Activity	Schedule	Implementing/responsible agencies
Assessment of embankment aquaculture resources	2006 (1 yrs)	Purist Budidaya and Universities (UNDIP/IPB/STP/UGM/)
Planing and formulating regulations which support the implementation of the CCRF based on the result of resource assessment	2006-2007	District Government (Pemda) and parliament (DPRD)
Strengthening of fish farmer institutions and other relevant formal institutions	2006	District Fisheries Services and local NGO
Socialization of the authorized regulations that will be implemented	2006-2007	District Fisheries Services and Education and Training Center in Tegal (Balai Diklat Tegal)
Proper implementation of Good Aquaculture Practice (GAP)	2006-2009	DG of Aquaculture, District Fisheries Services of Pemalang and Centar Java
MCS of the implementation	2006-2009	DG of PSDKP, DG of Aquaculture, and Proncial and District Fisheries Services
Rewards/incentives & punishments	2006-2009	DG of Aquaculture dan District/Provincial Government

## 8.2 Socialization of the district model concepts in Lombok Timur

59. The next step activity to be taken for socialization of implementation of the District model in Lombok Timur is as following arrangement:

### 8.2.1 Proposed Activity

- a. Name of activity: workshop
- b. Expected participants:
  - Head of district (Bupati)
  - Provincial Planning Unit (Bappeda propinsi)
  - Pronvincial Marine and Fisheries Services
  - Relevant Officials in Lombok Timur
  - Navy components (Lanal and Pol air Mataram)
  - KSDA
  - NGO in Lombok Timur: KKPK and KPPL
  - HNSI and Fisheries Cooperatives
  - Local costum, religion, youth and women leaders
  - Village and Sub-ditric aparatus in fihheries management areas
  - BPPI, Fishing Ports and Landings
  - Master Harbor
  - Universities (UNRAM, UN 45, UGR) and Fisheries high school (SMK Kelautan)
  - Partnership entrepreneur
  - Representative of concerned agencies from bordering district: Lomobok Tengah, Sumbawa Barat and Sumbawa
  - Extensor groups
- c. Tentative schedule: earlier next year (March, 2006)
- d. Venue: Lombok Timur (Selong)
- e. Leading Agency: District Fisheries Services
- f. Supporting agencies:
  1. Local:
    - District planning unit (Bappeda)
    - District Secretary (Setda)
    - KSDA
    - District Transportation Services and Tourism Bureau
    - Provincial Fisheries Services
  2. External agencies:
    - Provincial Government of NTB
    - Directore General of Capture Fisheries and KP3K
    - Human Resource Development Ceneter (Pusbang SDM KP), BPPP Banyuwangi, BPPI Semarang
    - Capture Fisheries Research Agency (Purist PT)
    - SEAFDEC-Sida



## 8.2.2 Substantive activities of the CCRF that will be implemented

- a. Assessment of capture fisheries resources,
- b. Planing and formulating regulations which support the implementation of the CCRF based on the result of resource assessment,
- c. Strengthening of fish farmer institutions and other relevant formal institutions.
- d. Socialization of the authorized regulations that will be implemented,
- e. Proper implementation of the CCRF in Lombok Timur
- f. MCS of the implementation
- g. Giving rewards/incentives and Punishments

## 8.2.3 Matrix of implementing activity (substantive issue), schedule, and implementing or responsible agencies

Activity	Schedule	Implementing/responsible agencies
Assessment of embankment aquaculture resources	2006 (1 yrs)	Purist PT and IPB
Planing and formulating regulations which support the implementation of the CCRF based on the result of resource assessment	2006-2007	District Government (Pemda) and parliament (DPRD)
Strengthening of fish farmer institutions and other relevant formal institutions	2006	District Fisheries Services, local NGO, and Universities
Socialization of the authorized regulations that will be implemented	2006-2007	District Fisheries Services
Proper implementation of the CCRF	2006-2009	DG of Capture Fisheries, District Fisheries Services of Lombok Timur
MCS of the implementation	2006-2009	DG of PSDKP, KP3K, and Proncial and District Fisheries Services
Rewards/incentives & punishments	2006-2009	DG of Capture Fisheries, PSDKP and KP3K

## 8.3 Future Possible supports by SEAFDEC-Sida:

- a. Study on resource assessment and local wisdom in Lombok to support the implementation of the CCRF
- b. Study on development the sustainable aquaculture in Pemaalng as part of fisheries management
- c. Workshop in Lombok

## 8.4 Others: the importance of the overall workshop

- a. Reduction of fishing capacity (over-fishing) by implementation of the CCRF
- b. Reduction fishing pressures through expanding development of the sustainable aquaculture
- c. Implementation of the CCRF by strengthening local wisdom to reduce the burden in capture fisheries
- d. To consistently implement the CCRF and sustainable aquaculture through establishing of the district model

## Annex 1. List of Participant

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## **Annex 2. Opening Statement**

### **National Workshop for Human Resource Development in Supporting the Implementation of CCRF Bidakara-Jakarta, 28-29 September 2005**

**By. Dr. Gellywin Yusuf,**  
Advisor of the Minister for economic  
Ministry of Marine Affairs and Fisheries of the Republic of Indonesia

**Dr. Soen'an H. Poernomo**, Director of Center for Human Resource Development,  
**Mr. Anto Sunaryanto**, SEAFDEC National Coordinator for Indonesia,  
**Dr. Magnus Torell**, SEAFDEC-Sida Senior Advisor, and his SEAFDEC delegation,  
Representative of ASEAN Secretariat,

#### **Distinguished participants, ladies and gentlemen,**

It is indeed a great privilege and honor for me to be here in front to address an opening statement for this important event, the National Workshop for Human Resource Development in supporting the implementation of Code Conduct for Responsible Fisheries.

As we realized, the development of human resource development will always play a significant role in a success implementation of such fisheries program activities, therefore, the ministry of marine affairs and fisheries of the republic of Indonesia is really supporting the organization of this national workshop. In this sense, the seriousness of the Indonesia Government to provide the skillful, creative, and productive human resource in fisheries was duly shown with the establishment of the Ministry of Marine Affairs and Fisheries in 1999, where the education and training center was one part of the structure of the established ministry. Its recent development of the education and training center has come to the crucial time where this center has upgraded to be the Human Resource Development Center, which is expecting to be more focus in its institution development to produce more the high quality of human resource development in fisheries in Indonesia.

Through this workshop, I hope the synthesis gained from the experiences of past and on going project concerning human resource developments shall be shared among fisheries stakeholders for better planning and cooperation, while with regards to this concerned workshop, these experiences will provide a very good reference to design a model that will be applied in the implementation of fisheries resource management in Indonesia in the near future.

#### **Ladies and Gentlemen,**

May I again request your utmost concentration and commitments to make this workshop a success. Your active participation and contribution to this workshop is of crucial process that will be most appreciated. I wish you all a successful workshop and I now declare the National Workshop for Human Resource Development in supporting the implementation of Code Conduct for Responsible Fisheries officially opened.

Thank you!

### Annex 3. The Adopted Agenda

#### AGENDA AND TIMETABLE

Venue: Kunti Room, Bidakara, Jakarta

Chairman of the National Workshop: Dr. Soen'an H. Poernomo

<b>Wednesday, 28 September 2005</b>			
	<b>Activities</b>	<b>Presenter</b>	<b>Moderator</b>
08.30-09.00	Registration		
09.00-09.30	Opening of the National Workshop		
	1. Welcoming Remark by Representative from Indonesia	Dr. Soen'an H. Poernomo (National Focal Point of the Workshop)	
	2. Introductory Remark	Dr. Magnus Torell, SEAFDEC Advisor	
	3. Opening Address by Representative from Indonesia	Dr. Gellywin Yusuf, Advisor of the Minister for economic	
09.30-09.45	Coffee Break and Group Photo Session		
09.45-10.00	Adoption of the Agenda and Timetable		
10.00-10.15	Background, rationale and objectives of the National Workshop	Trian Yunanda, SEAFDEC	
10.15-12.15	Resource Presentation		
10.15-10.45	1. Complexity of Capture Fisheries in Indonesia : Coastal waters of Java vs traditional small-scale with many companies involved in fishing eastern part of Indonesia	Mr. Nilanto Perbowo Secretary DG of Capture Fisheries	Ir. Anto Sunaryanto, M.Sc (SEAFDEC National Coordinator)
10.45-11.15	2. Complexity of problem in aquaculture in Indonesia	Mr. Agus A. Budiman Director of Seed Development	
11.15-12.15	Discussion		
12.15-13.30	Lunch Break		
13.30-14.30	Resource Presentation II		
13.30-14.00	District Model for Capture fisheries	Fisheries Officer of East Lombok District/Province	Ir. Saut P Hutagalung, M.Sc
14.00-14.30	District Model for Aquaculture fisheries	Fisheries Officer of Pematang District/Province	
14.30-14.45	Introduction of Group Discussion		
14.45-15.00	Coffee Break		
15.00-16.30	- Group discussion of District Model for Capture fisheries		Dr. Subhat Nurhakim (Head of Capture Fisheries Research Center)



	- Group discussion District Model for Aquaculture fisheries		Dr. Ketut Sugama (Head of Aquaculture Fisheries Research Center)
16.30-17.00	Wrap discussion on the 1 <sup>st</sup> day workshop		
19.00-21.00	Reception Dinner		

<b>Thursday, 29 September 2005</b>			
09.00-10.00	Plenary Presentation of the group discussion outputs - Group discussion capture fisheries - Group discussion aquaculture fisheries		
10.00-10.15	Coffee Break		
10.15-11.15	Plenary discussion for presentation of implementation - District model of capture fisheries - District model of aquaculture fisheries		
11.15-12.15	Conclusion and recommendation and closing of the National Workshop		
12.15-13.30	Lunch Break		
13.30-15.00	Discussion for Future Action and Implementation (among SEAFDEC-District model-MMAF)		

## Annex 4. Background and Rationale of the Workshop



# National Workshop for Human Resource Development in Supporting the Implementation of the CCRF

Jakarta, 28-29 September 2005

## Background and Rationale

### CCRF and its Regionalization in SEA

- CCRF in 1995: provides norms & principles in the responsible utilization of fisheries resources
  - Major constraint of implementation is lack of qualified/ trained personnel
  - HRD for fisheries management is needed to cope the sustain of coastal environment & resource deteriorations, conflicts among the resource users, multiple resource users, concern of policy makers & managers, etc.

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## Background and Rationale

- Recent & future developments: High priority issue on Human capacity & target set by meetings:
  - FAO advisory committee on Fisheries research, 4<sup>th</sup> session, 2002
  - World summit on sustainable development, 2004
  - Elaborating NPOA for IUU fishing, 2004 & reduction of fishing capacity, 2005
  - Applying the ecosystem approach, 2012
  - Maintaining or restoring fish stock, 2015

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## Background and Rationale

- ASEAN-SEAFDEC: Regionalization of CCRF from 1998 – 2005: to more reflect the regional specificity & regional clear policy.
  - Regional Guidelines for Responsible Fishing Operation
  - Regional Guidelines for Responsible Fisheries Management
  - Regional Guidelines for Aquaculture
  - Regional Guidelines for Responsible Post-harvest Practice and Trade

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## Background and Rationale

- SEAFDEC-SIDA: signed the agreement to develop a regional program on HRD in the Region in August 2003
- The sequence implemented Workshop/ RTC/ Expert Meeting:
  - Regional Workshop in Kuala Lumpur, February 2004; Strategy for HRD in fisheries, Regional Inventory of the program

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## Background and Rationale

- RTC in Phnom Penh, June 2004: HRD in fisheries management: Agreed “Pilot Process” in CITV Countries, plan and framework for HRD in Fisheries management & RIDNIC for HRD Programs in ASEAN
- Prep. Expert Meeting on Fishing Capacity and HRD, in Bangkok Sept 2004: Detailed Pilot Process is agreed.

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## **Background and Rationale**

### Pilot Process on HRD in SEA, what & why?

- Consideration: commonality and differences among the countries
- Strategy to draw lessons and experience from a representative set of countries to provide a basis to develop future direction: so called “PILOT PROCESS”

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## **Background and Rationale**

- The hope is to be able to catalyze on existing experiences, build upon capacities that has been built and provide an input in other processes or programmes to be planned
- Shares experiences from the Countries: to identify common, generic, elements for an ASEAN-based regional HRD Promotion

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## **Background and Rationale**

### Pilot Process: The Case of Indonesia

- **Planning meeting, Jakarta, 28 June 2005:**
  - Explored what steps to be taken, projects to follow up on with regards to HRD to be discussed in National Workshop (sharing in regional level)
  - Designed the thematic background, objectives, and expected outcome & participants

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## **National Workshop**

- **Thematic Background:**
  - The complexity of captures fisheries: Coastal waters on Java vs. eastern Part of Indonesia
  - The complexity of problems in aquaculture: heavy population and land usage in Java vs eastern part of Indonesia

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## National Workshop

### ➤ Overall Objectives:

To enhance human resource capacity concerning the implementation of CCRF, specifically given to reduction of fishing capacity

### ➤ Specific Objectives:

- Establish district model for HRD
- Awareness building model to promote the implementation of CCRF appropriately designed to match the culture of local community

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

## National Workshop

### ➤ Respected Outcome

- A strategy/practical step/guideline for implementation of CCRF related to defined district models
- An appropriate model for awareness building for the local community

National Workshop on HRD Programs, Jakarta, 28-29 September 2005

**Annex 5. Presentation of the Complexities of Capture Fisheries in Indonesia**

**Management of Capture Fisheries Resource in Indonesia**

By :  
**Ir. Nilanto Perbowo, M.Sc**  
Secretary to Directorate General of Capture Fishery

*Presented on the National Workshop for Human Resources Development in Supporting of the CCRF, Jakarta, 28 September 2005*

**MINISTRY OF MARINE AFFAIRS AND FISHERIES  
DIRECTORATE GENERAL OF CAPTURE FISHERIES**

**POTENTIAL & POLICIES**

**CAPTURE FISHERIES DEVELOPMENT**



## POTENTIAL OF CAPTURE FISHERIES



### MARINE WATERS

- Area = 5,8 million Km<sup>2</sup>
- Islands = 17.508 with Total coastline = about 81.000 km
- MSY = 6,4 million ton/year
- TAC = 5,12 million ton/year (80% MSY)



### INLAND WATERS

- 54 million Hectare, consists of lake, basin/reservoir, river, swamp and other water puddles, which the biggest areas are in Kalimantan & Sumatra
- Its potential = 0,9 million ton/year (excluded stock enhancements = min. 6,4 million ton/year)

## PURPOSES OF FISHERIES DEVELOPMENT

Article No. 3, UU 31/ 2004 about FISHERIES



1. To enhance the living condition of small scale fishermen and fish farmers;
2. To increase the government's income and foreign exchange;
3. To drive the growth of working opportunities;
4. To enhance the supply and consumption of fish protein sources;
5. To optimize the management of fisheries resources;
6. To increase the productivity, quality, added value, and competitiveness;
7. To increase the supply of basic commodity for fish processing industry;
8. To achieve the optimum utilization of fisheries resources, areas for fish culture, and fish resources environment; and
9. To ensure the preservation of fisheries resources, areas for fish culture, and spatial management.

# VISION & MISSION

## CAPTURE FISHERIES DEVELOPMENT IN INDONESIA

### VISION

Sustainable  
Capture Fishery  
Industry which  
being Sturdy and  
Independent  
on year of 2020

### MISSION

- To manage fisheries resources with responsible manners;
- To support and develop the quality of capture fishery institution & human resource;
- To support and facilitate the provisioning fisheries infrastructures & facilities such as fishing port, fishing vessel, fishing gear and other supporting facilities;
- To support and facilitate the development of capture fishery industries.

## CAPTURE FISHERY POLICIES (2005-2009)

1. To develop capture fisheries sector as one of economic mainstays through generating the national fishery industries ;
2. To rationalize, nationalize & modernize the fishing vessels simultaneously in order to generate the domestic fishery industries, which taking sides on the local fishers & national enterprises ;
3. To simultaneously apply the fisheries management concepts which orienting on the sustainable environment and justice enforcement;
4. To encourage the local government in proactively optimizing the overall potentials of the resources with sustainable manners;
5. To rehabilitate and reconstruct the areas hit by a disaster.

## **SUPPORTS OF LOCAL GOVERNMENT IN AUTONOMY ERA**

- 1. Achievements of national capture fisheries development goals that adapted by local government goals**
- 2. Synergies among local governments, between central and local governments, between local government and Central Technical Implementing Unit which located in the local government area**
- 3. Implementation of the policies, programs and activities agreed by the Central and local Governments to the level of district/regency**

## **ISSUES & CONSTRAINTS**

### **INTERNAL**

- (1) Un-optimized capture fisheries productivity due to the poor human resources and fisher production;**
- (2) Majority of fishers are traditional and dominated by small-scale fishing fleets;**
- (3) Un-balancing fisheries resources exploitation among fisheries management areas and its fisheries resource types, degradation and damage of fishing ground environments and coastal ecosystems;**
- (4) Limited fisheries infrastructure as well as insufficient data and information on fisheries resource exploitation;**
- (5) IUU Fishing practises still occurred;**
- (6) Fisher conflicts in several areas due to the more limited fisheries resource in several fisheries areas;**
- (7) Un-optimized inland fisheries management.**

## ISSUES & CONSTRAINTS

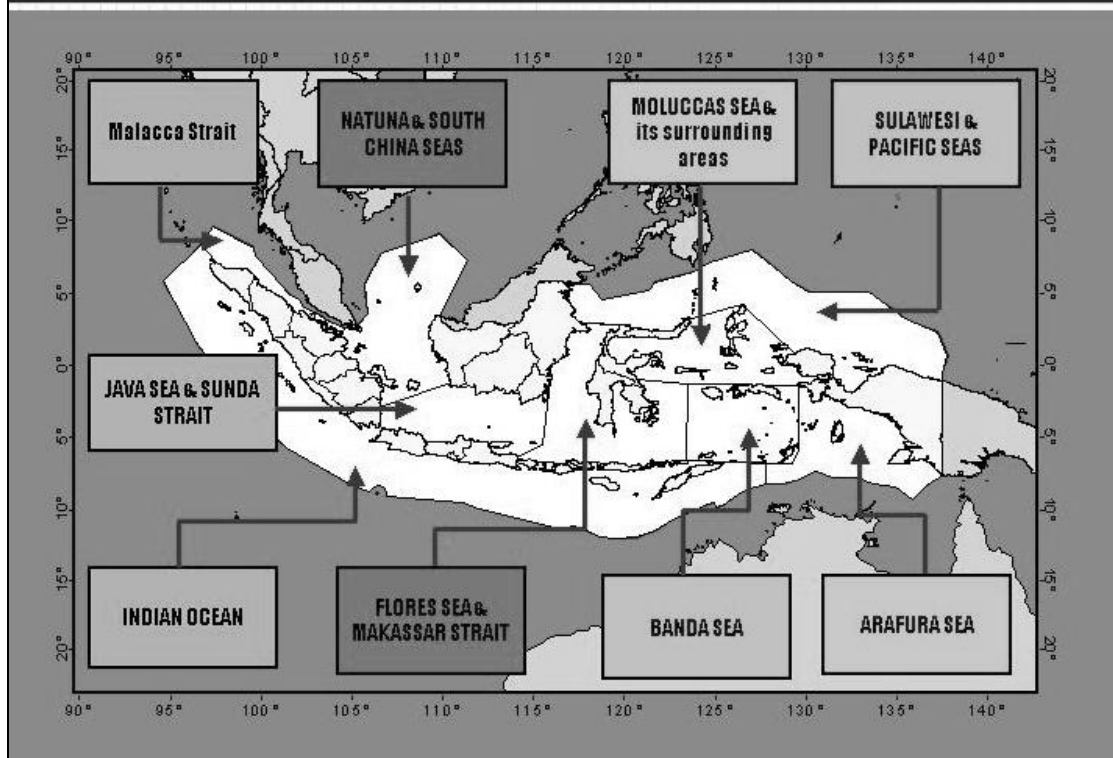
### EXTERNAL

- **Insufficient supporting capitals;**
- **Monetary, fiscal dan investment policies have not been conducive;**
- **Disturbances on safety and law assurances in business;**
- **Law enforcement are still weak;**
- **Problems and Constraints dealing with the international trades occurred in the form of tariff & non-tariff barriers. These often block the fisheries commodity exports from Indonesia;**
- **On the fisheries management point of views, international norms on fisheries management, like that found in CCRF and RFMOs, given more pressures to the management of fisheries resources to do so with responsible and sustainable manners.**

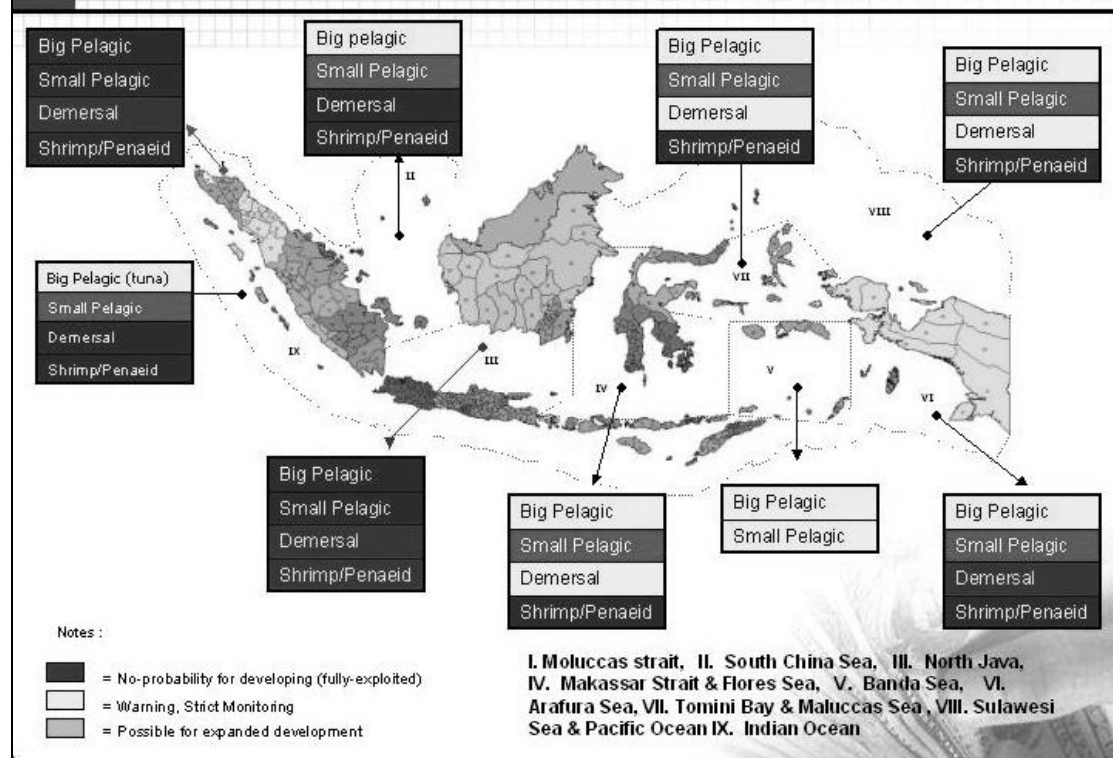
## FISHERIES MANAGEMENT ( UU NO. 31/2004 )

**Fisheries Management** is all efforts, including integrated process in collecting information, analysis, planning, consultation, decision making, allocation of fisheries resources, implementation and enforcement of laws and regulations on fisheries, carried out by the government or other authority geared toward achieving the sustainable productivity of the living resources for agreed purposes.

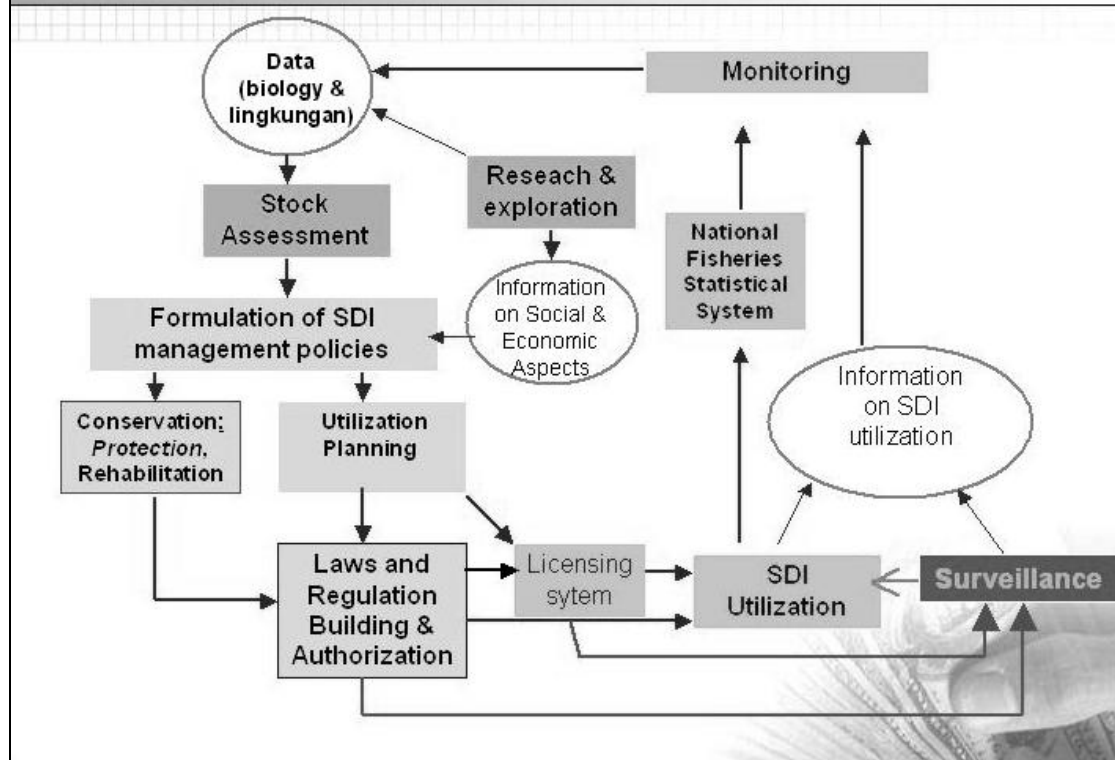
# 9 FISHERIES MANAGEMENT AREAS



# EXPLOITATION STATUS OF FISHERIES RESOURCES



## MECHANISM OF FISHERIES RESOURCES (SDI) MANAGEMENT

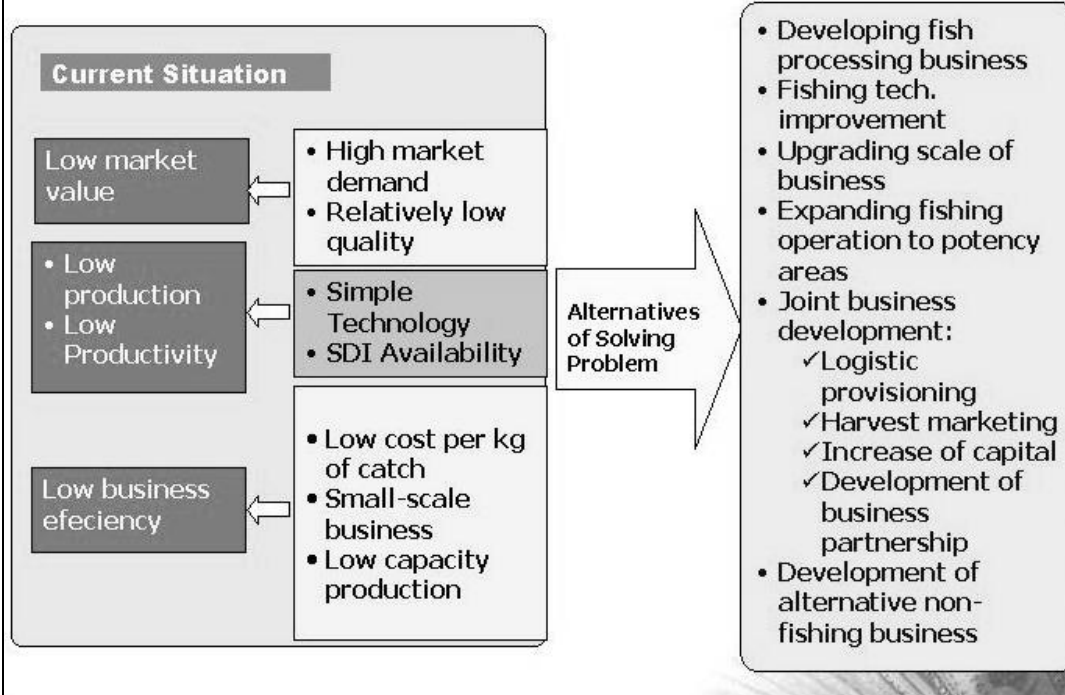


## THE COMMUNICATION FORUM FOR MANAGEMENT AND UTILIZATION OF THE FISHERIES RESOURCES (FKPPS)

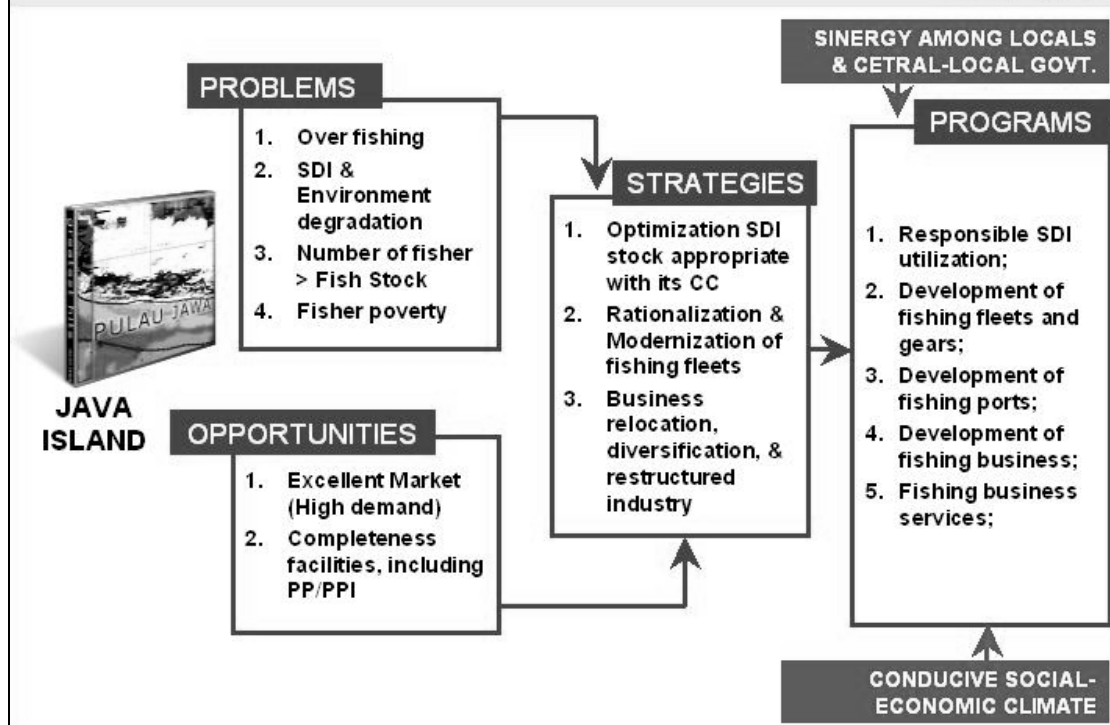


- **FKPPS** is a forum for fisheries stakeholders both in local and Central Levels including reserachers and Universities participatory in order to facilitate a coordinaton in joint management of fisheries resources;
- **Legal Binding** : Agriculture Ministrial Decree No. 994/1999 about the establishment of FKPPS;
- Consists of FKPPS at national, Regional, and Provincial Levels;
- **National FKPPS** is a forum coordination for fisheries management in 9 fisheries management areas held biennially;
- **Regional FKPPS** is a forum coordination among provincial levels in the same fisheries management area held annually;
- **Provincial FKPPS** is a forum coordination for districts/regencies at the sampe province held annually;
- **Outputs of FKPPS** : Consesus in fisheries management, including fishing allocation, licensing, laws and regulations, MCS and Conservation.

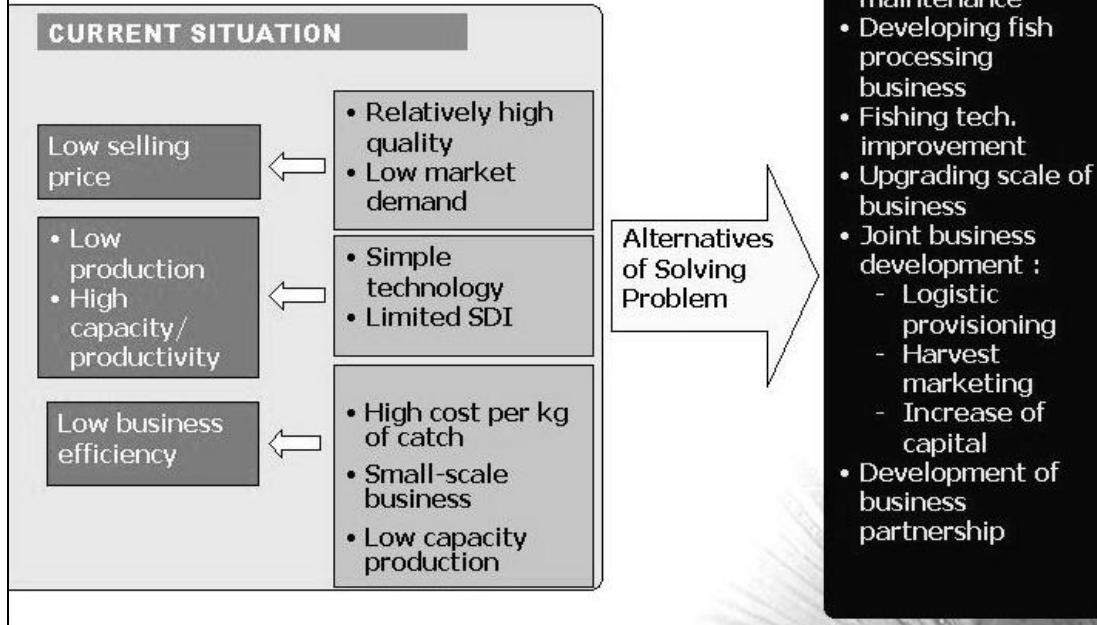
## Fishing Scheme in marketing areas of fully-exploitation



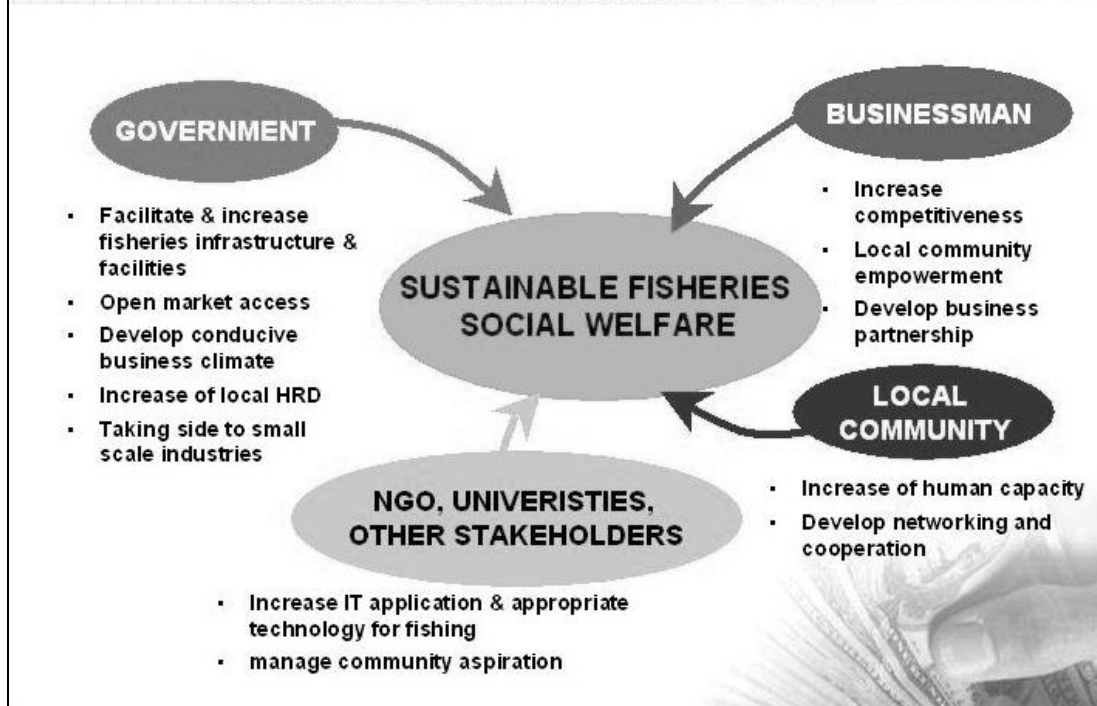
## JAVA SEA AND COASTAL FISHERIES MANAGEMENT SCHEME



# FISHING AT REMOTE PRODUCTIVE AREA

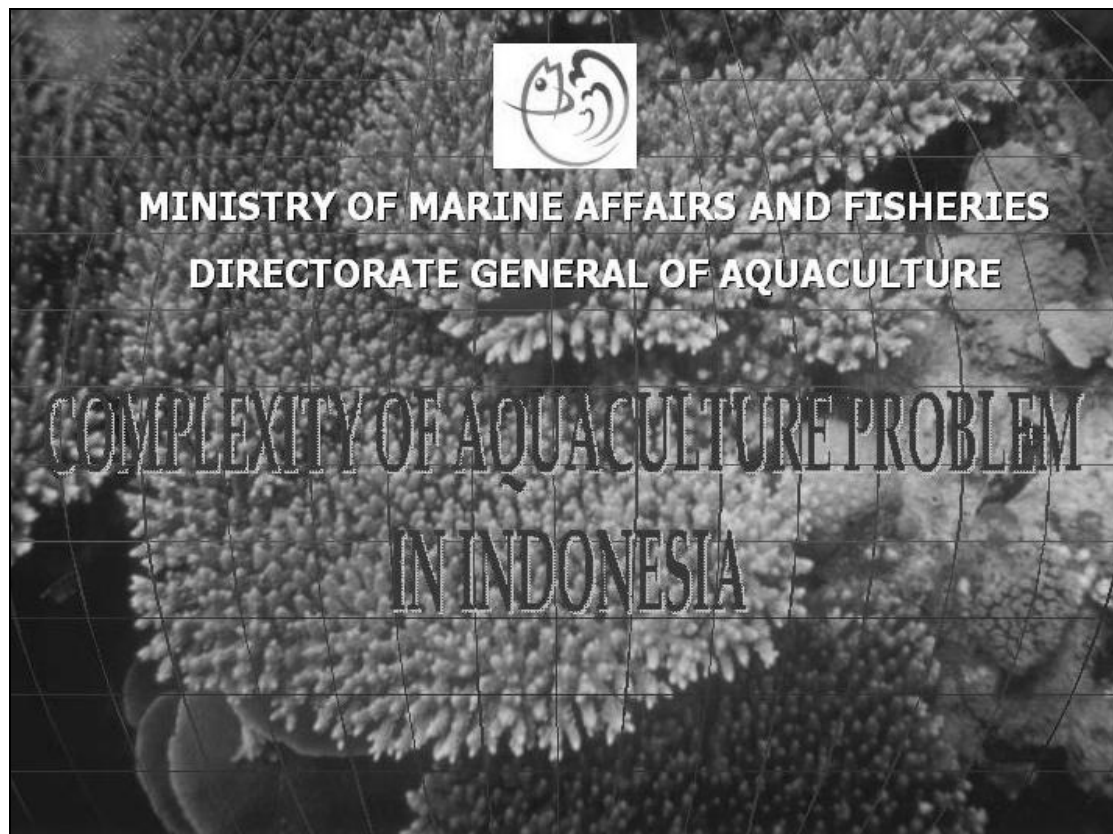


## SINERGY AMONG STAKEHOLDERS TO OPTIMIZE LOCAL POTENTIAL FOR SOCIAL WELFARE





## Annex 6. Presentation of the Complexities of Aquaculture in Indonesia



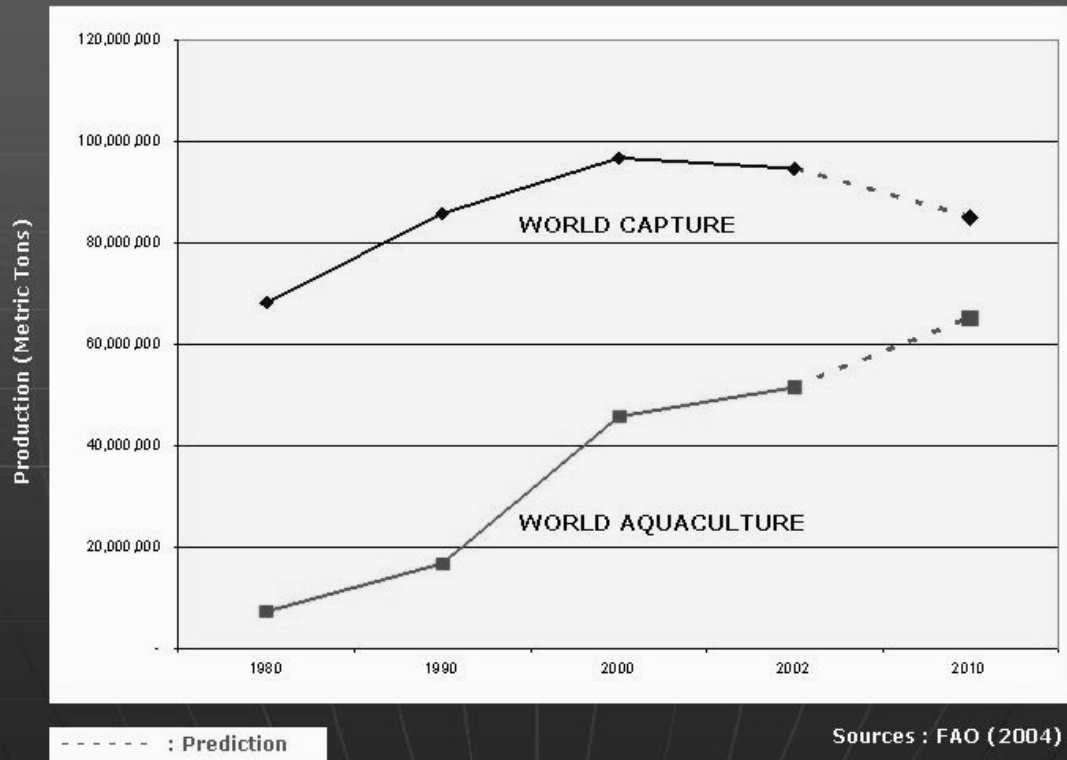
### **INTRODUCTION to Aquaculture Dev.**

Contribution fisheries sector for the "National Economic Development"

- Improving social welfare and income of fish farmers
- Providing foodstuff and raw material for industry
- Creating employment and business opportunities
- Increasing export and foreign exchange

2. High resistance concerning to economic crisis
3. To anticipate for decreasing of capture fisheries production

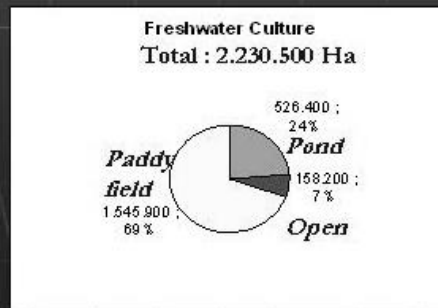
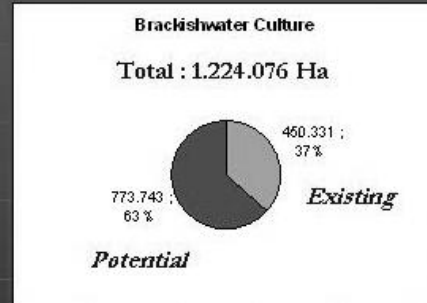
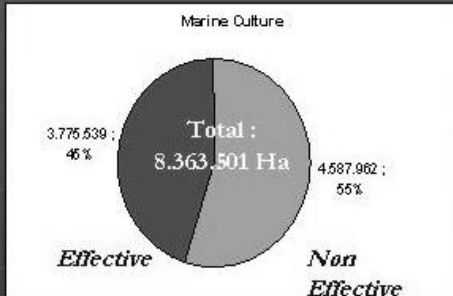
## TREND OF WORLD FISHERIES PRODUCTION



## OPPORTUNITY

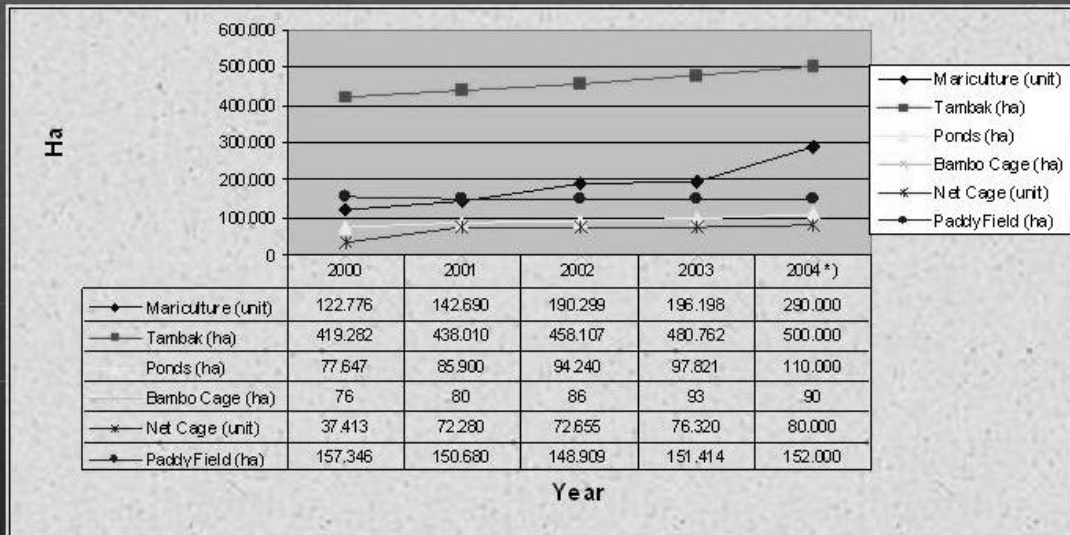
1. Increasing of world market demands, in line with population growth;
2. Demand for high quality, healthy and safety food;
3. Shifting in world's consumption pattern to fish product;
4. Potential resources :
  - a. Natural resources
  - b. Area for culture
  - c. Human resources
  - d. Physiographic

# Aquaculture Potential



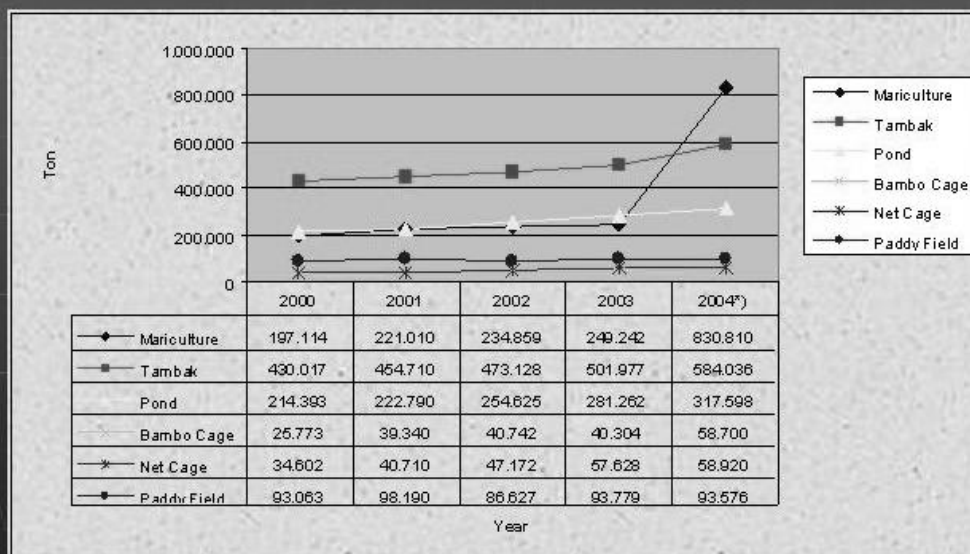
# PRESENT STATUS

# Area of Aquaculture



Total 2004 : 762.090 Ha and 370.000 unit

# Aquaculture Production



Total Production 2004 : 1,943,640 ton

## Aquaculture Production by Main Commodities

(ton)

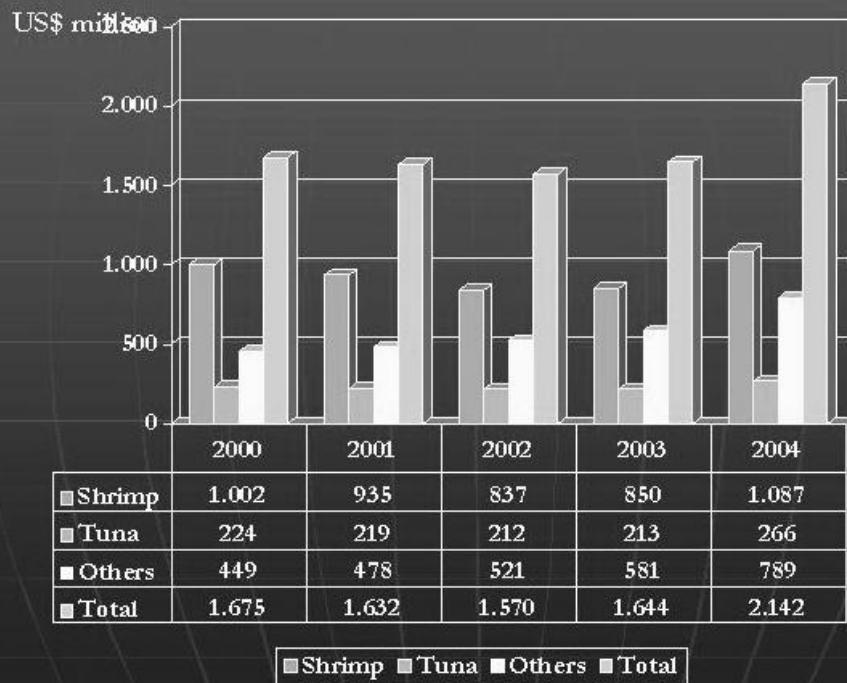
No	Species	2002	2003	2004*)	(% /th)
1	Shrimp	159.997	192.912	242.730	23,3
2	Grouper	7.057	8.638	10.880	24,2
3	Seaweed	223.080	231.927	777.610	119,6
4	Nile	60.337	71.788	81.770	16,4
5	Milfish	222.317	227.944	254.560	7,1
6	Carp	199.632	220.331	245.890	11,0
7	Cat fish	39.338	57.965	66.010	30,9
8	Gourame	16.438	22.722	25.870	26,0
9	Patin	10.119	12.861	16.350	26,2
10	Seabass	4.461	5.508	6.270	114,0
11	Pearl	6	13	11	158,3
12	Others	197.483	338.332	215.856	17,6
<b>Total</b>		<b>1.137.153</b>	<b>1.224.192</b>	<b>1.943.640</b>	<b>33,2</b>

## Export Volume

RINCIAN	2000	2001	2002	2003	2004 *)	(%/th)
<b>BHN MAKANAN</b>	497.249	564.379	540.108	837.064	892.920	17,17
- Udang	116.187	128.831	124.765	137.636	143.550	5,58
- Tuna/cakalang	92.958	84.205	92.797	117.092	127.930	9,06
- Rumput laut	23.073	27.874	28.560	40.162	51.390	22,96
- Lainnya	265.030	223.469	293.986	542.174	570.050	26,36
<b>BUKAN BHN MAKANAN</b>	22.167	22.737	25.631	20.720	28.080	7,92
- Mutiara	15,44	21,75	5,86	12,22	10	-14,32
- Ikan Hias	2.709	2.682	3514	3.378	3.930	10,62
- Lainnya	19.443	20.034	22.111	17.330	24.140	7,77
<b>Jumlah</b>	<b>519.416</b>	<b>487.116</b>	<b>565.739</b>	<b>857.783</b>	<b>921.000</b>	<b>17,23</b>

Note : \*) Prediction

# Export Value



# PROBLEMS

## GENERAL

- Land use planning has not established yet
- Lack of infrastructure facilities (irrigation canal, access road)
- Good quality of broodstock and specific fish seed supply are limited;
- Indonesian Standard on aquaculture product and processing have not been fully applied
- Lack awareness related to biosecurity, traceability, and GAP
- Lack of data base on distribution of seed, broodstock, disease, etc.
- Weakness of extension mechanism;

## Freshwater Aquaculture

- Good quality of broodstock and seed supply are limited;
- KHV outbreak...common carp culture has not recovered yet
- Environment issues (reservoir)
- Inefficiency on utilization of water, conflict of interest with other sector (agriculture)
- Price of feed tend to increase---reduce benefit of farmer
- Limited to local market

## **Brackishwater Aquaculture**

- Awareness among stakeholders related to the environment/mangrove conservation is limited
- Land use (spatial planning) has not established yet
- Weakness in law enforcement
- Lack of infrastructures facilities (canal, hatchery, access road, telecommunication)
- Good quality broodstock and seed are limited

## **Mariculture**

- Technologies of some mariculture commodities have not been fully mastered;
- Good quality broodstock and seed are limited
- Spatial planning for mariculture has not established yet
- Infant industry



# CONSTRAINTS

## Shrimp

### Status :

- ☞ **Black Tiger was developed in beginning of 1970 used traditional and intensive technology; MBV disease outbreak in (1989), YHD (1992), SMBV (1998 – now)**
- ☞ **Vanamei introduction (2001) and Rostris Shrimp from Hawaii (2002);**
- ☞ ***Macrobrachium rosenbergii* was developed in line with increasing of its price and demand;**
- ☞ **Cherax Shrimp (original: Papua) was studied and have good potential to be developed**

### Constraints :

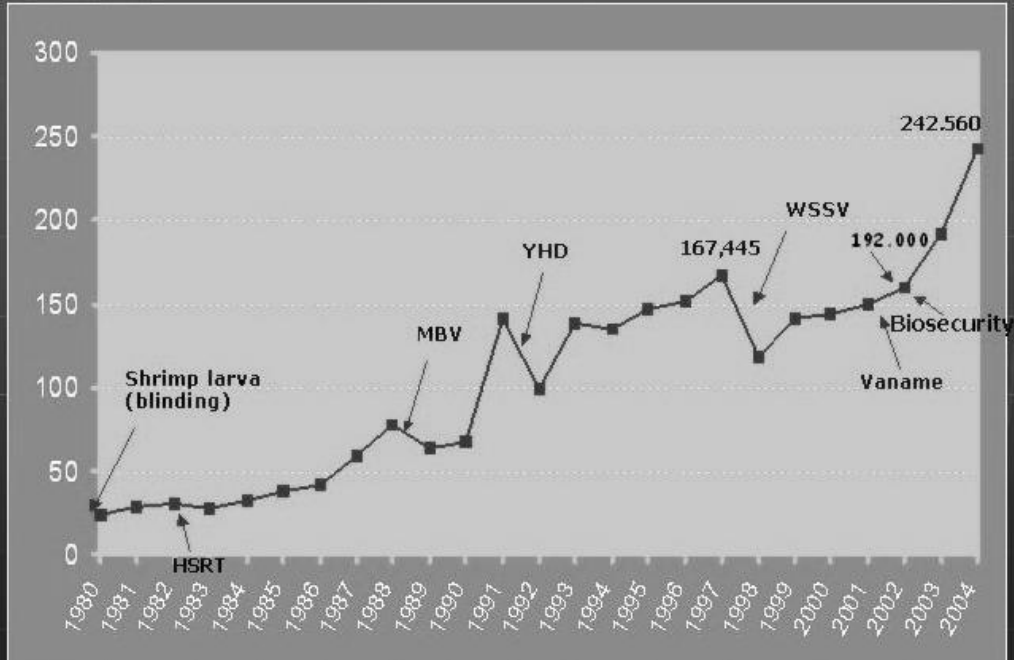
**Disease, SPF/SPR finger fish, environment quality decreasing, lack of capital, lack of infrastructure and facilities, and layout.**

**Development Area :** NAD, North Sumatera, South Sumatra, Lampung, West Java, Central Java, East Java, West Kalimantan, East Kalimantan, South Kalimantan, South Sulawesi. Bali and West Nusa Tenggara.



## SHRIMP PRODUCTION , 1980-2004

(x 10<sup>3</sup> Ton)



## Seaweed

**Constraints:** Disease, seaweed seed is depended from nature, weather effect

**Strategies:** Explore new area, develop partnership system, seaweed plantation, disseminate technologies, manage culture periods and improve post harvest technologies.

**Development areas:** Riau island, Lampung, DKI Jakarta, Banten, West Java, Central Java, East Java, Bali, West Nusa Tenggara, East Nusa Tenggara, South Kalimantan, East Kalimantan, North Sulawesi, South Sulawesi, Central Sulawesi, South East Sulawesi, Maluku and Papua



# Groupers



**Constraint** : difficulties in selling fish life, only reach certain countries.

**Strategies** : Develop partnership system, disseminate technologies, develop Marine Seed Development Center (BBIP), and develop backyard hatchery.



**Development Area** : Lampung, Kep Riau, Babel, NTB, Bali, South east Sulawesi, Central Sulawesi, and Papua.

# Common Carp

**Constraints**: export access is not yet developed, KHV outbreak disease, decreasing of seed quality

**Strategies**: fish engineering, genetic improvement (cooperation HAKI-Hungary), develop Freshwater Seed Development Center (BBI), develop laboratory, biosecurity control for incoming and outgoing fish.

**Development areas**: North Sumatra, West Sumatra, South Sumatra, Bengkulu, Lampung, West Java, Central Java, East Java, North Sulawesi, Central Sulawesi, Papua.



**MAJALAYA CARP**  
(*Cyprinus carpio* var. Majalaya)



**SINYONYA CARP**  
(*Cyprinus carpio* var. Sinyonya)

# Tilapia



**Constraint : high quality broodstock is limited**

**Strategies : disseminate technology , develop Tilapia NBC, develop seed certification, develop Local Freshwater Seed Development Center (BBI)**

**Development Areas: West Sumatra, Nort Sumatra, Jambi, South Sumatra, Lampung, West Java, Central Java, South Kalimantan, North Sulawesi.**

# Catfish

**Constraint: access for export and high quality seed is limited**

**Strategies: develop net cage culture and fish processing product, develop fish engineering, develop certification system, utilize marginal areas, develop BBI**

**Development areas: Sumut, Riau, South Sumatra, Lampung, DKI, Jambi, Banten, West Java, Central Java, Yogyakarta, East Java, Kalimantan.**



**Lele Sangkuriang  
(*Clarias sp.*)**



**PATIN (*Pangasius sp.*)**



**Lele Dumbo  
(*Clarias gariepinus*)**

# Shell Fish

**Constraint: high demand of high quality product**

**Strategies: Determine conservation areas, monitor environment quality, apply aquaculture best management practices, apply depuration system, develop partnership, and develop business opportunities**

**Development Areas: North Sumatra, Riau, Kep. Riau, Jambi, Babel, Lampung, Banten, east Java, West Nusa Tenggara, South Sulawesi, Maluku, dan Papua**



# STRATEGY

## **VISION & MISSION**

# **Aquaculture Development**

### **VISION:**

**COMPETITIVE AND SUSTAINABLE  
AQUACULTURAL BUSINESS SYSTEM**

**as one of the  
MAJOR SOURCES OF ECONOMIC GROWTH**

### **MISSION:**

- 1. Produce efficient and high quality of fish**
- 2. Conduct responsible and environment friendly aquaculture development**

## **POLICY**

- 1. Develop aquaculture production to increase export;**
- 2. Develop aquaculture production to increase national fish consumption;**
- 3. Control aquaculture exploitation;**

## **PROGRAMME**

- 1. Increase aquaculture production for export (PROPEKAN);**
- 2. Increase aquaculture production to boost national fish consumption (PROKSIMAS);**
- 3. Conserve and rehabilitate aquaculture resources (PROLINDA)**

## **ACTION TO BE TAKEN**

- Establishing of aquaculture zones by region regulation;
- Developing integrated aquaculture system;
- Application of biosecurity and Good Aquaculture Practice (GAP);
- Promote sustainable aquaculture
- Engineering, dissemination and applied technologies assistance by Technical Implementing Units;
- Controlling of fish disease and aquaculture environment;
- Controlling of production inputs (feed, medicine, seed and other)
- Empowering fish farmers;
- De-regulation investment, proposed credit program for aquaculture development;
- Improve relationship between Central and local governments

## **Annex 7. Presentation of the District Model for Capture Fisheries**

### **A CASE STUDY IN THE DISTRICT OF LOMBOK TIMUR, INDONESIA DISTRICT FISHERIES SERVICES OF LOMBOK TIMUR NUSA TENGGARA BARAT, INDONESIA**

#### **Abstract**

Law of Local Government 32/2004 provides opportunities for district government to creatively manage its coastal fisheries within 4 nautical miles. This jurisdiction traditionally consists of two zones of capture fisheries: artisanal fishers ( $\leq 3$  nm) and commercial fishers ( $> 3$  nm) zones. Since 2001, District of Lombok Timur manages artisanal fisheries collaboratively with coastal communities, and manages commercial fisheries on its own management. This management has been effective to implement CCRF at district level. The participative management of coastal fisheries is carried out by establishing two community institutions: KPPL and KKPK. The District Fisheries Services (DFS) handed-over some management authorities to 6 KPPL established on 6 management areas. Each KPPL receive authorities in planning management measures and implementing the management plan promoted as the customary law (*awig-awig*) of participating villages. The DFS of Lombok Timur, however, retains control on the management plan and on the efficacy of the KPPL organization. Institution of KKPK is an advisory committee assisting DFS with resolutions and recommendations on issues of fisheries management. Since the participative management can work well in DLT for the last four years, a district regulation is required to support the participative institutions and their authorities.

#### **1. Introduction**

The District of Lombok Timur (DLT) is situated in the Lombok Island, just on the eastern-side of Bali Island. In the Law no 32/2004 (previously Law no 22/1999) about Local Government, district government has management authority for inshore waters below 4 nautical miles (nm). The Law 32/2004 gives mandate to DLT about 1074 km<sup>2</sup> coastal waters. This jurisdiction bordered by neighboring district waters, such as Sumbawa and Sumbawa Barat on the east, Lombok Barat on the north-west, and Lombok Tengah on the south-west. Among these districts, DLT has the largest fish production and the biggest fishing port.

In DLT, fisheries sector provide significant contribution for PDRB. There are two major fish landing centers, PPI Tanjung Luar and PPP Labuhan Lombok. These fish landing centers are among the biggest ones in the province of NTB. The DLT has, therefore, an important role in fisheries development of the province.

Population of DLT is nearly one million people, with about 19% living in coastal villages. Life expectancy is about 54 years showing that many coastal communities are generally under poverty line. Education is generally poor, with 73% of literacy.

There are about 3000 fishing vessels in DLT, but 93% of them are subsistence ( $< 5$  GT). This makes coastal fisheries have been over-crowded and over-exploited. District Fisheries Services (DFS) is therefore to reduce the fishing pressures in coastal waters. Shifting fishing pressure to off-shore fisheries is never been easy, but there are not many choices. Another solution being done so far is reducing fishing activities by offering mariculture. At present, growing lobster and grouper are promising activities. There have been many examples that mariculture activities are highly beneficial, particularly in southern coast, although it is very risky too.

Given this typical Indonesian district background, DLT has put a lot of efforts in implementing Code of conduct for responsible fisheries (CCRF). The implementation of CCRF described here is mostly dealing with management of coastal fisheries resources, within district jurisdiction of 4 nm.



On many cases, there have been significant improvements in the reduction of illegal, unreported and unregulated fishing practices. These successes are most likely due to the implementation of participative management in DLT since 2001.

## **2. Responsible fisheries in the District of Lombok Timur**

Responsible fisheries are a new term in the fisheries management of DLT. Practices of the responsible fisheries, however, may have been already implemented. To promote responsible fisheries, the DFS has carried out several programs, such as:

- a. Reduction of destructive fishing practices.
- b. Protection for artisanal fisheries.
- c. Conservation of fish habitats and restocking.
- d. Mitigating impact of over fishing.
- e. Integration of fisheries management into coastal zone management.

Destructive fishing practices were used to be the biggest issue in the DLT, in 1990s. Blast- and poisonous fishing were very familiar accidents in all inshore waters. There had been many regulations against the blast fishing, either military-, environmental- or fisheries- Laws. Very few, however, blast fishers can be punished and put in jail. Law enforcement is very weak to cope with blast- and poisonous- fishing. The most common situation was that when blast fishers caught by artisanal fishers and handed over to the policemen, they could be free on the next day. Lack of proves and witness is the main reason for their release. Artisanal fishers were very angry with the blast fishers, but they could not do anything to stop it.

The Co-Fish Project started in the DLT in 1998. There were many discussions carried out about how to stop blast fishing. Finally, we found the way to stop it by implementing participative fisheries management. On this new management paradigm, not only blast- and poisonous fishing are prohibited, but also trading of blasted fishes. This approach is to make blast fishing has higher cost and no longer economically beneficial.

Protection for artisanal (subsistence) fishers was used to be very weak. A ministerial decree had been issued in 1976 that protected fishing rights of artisanal fishers from intervention of commercial ones, within 3 nm inshore waters. Implementation of this regulation, however, never been happened in the DLT. There were many conflicts between artisanal fishers using hooked line with commercial fishers using purse seine net. But all the conflicts remained unsolved. Regulation without implementation was no longer an odd situation, in 1990s, as this also happened in all districts in Indonesia. The conflict finally can be resolved after introduction of participative coastal fisheries resources management.

Conservation of habitats was also introduced by the Co-Fish Project. At present, DLT has established 5 (five) fish sanctuaries and 2 (two) marine protected areas. The size of the sanctuaries however is small, as many fishers rejected the idea of having bigger fish sanctuaries. Local community needs time to learn about fish sanctuaries, that the project could not compromise with time. All the habitat conservation areas were also managed participatively by local community institution. At present nearly 1200 ha of fish habitats are under management of KPPL. Restocking of pearl oyster spats has been done on the reefs within fish sanctuaries, although the results show unsatisfactory.

Over fishing had been spelled out many times by many researchers. Government response on this issue, however, was insignificant. It has been strongly recommended that the number of artisanal fishing boat should be reduced. Since this might affect the lowest economy level, the DLT rather choose a more persuasive way. Artisanal fishers are encouraged to have mariculture rafts for growing lobster and grouper. More rafts in a bay, there would be more spaces can be left aside

from fishing pressures, and fishers would spend less time in fishing. Thus, mariculture could mitigate the impact of over fishing.

Mariculture rafts, however, might also potentially degrade water quality when no regulation set up based on environmental carrying capacity. The DFS was therefore asked for support from the Co-Fish Project to carry out a spatial study for mariculture development at Ekas Bay. The study accomplished in early 2005 has provided scientific information on the maximum number of raft, long-line, and pen-culture, and spatial plan for each cultured resources. Based on the carrying capacity of Ekas Bay, DFS of Lombok Timur followed up the study by proposing a provincial decree for mariculture development in Ekas Bay, since the bay under management authority of two districts, District of Lombok Timur and District of Lombok Tengah.

Integration of fisheries management plan into coastal management plan is quite unique in the DLT. At present, DFS does not have any coastal zone management plan. DFS hand-over most of its authorities in coastal fisheries management to community management committee, KPPL (komite pengelola perikanan laut). In fact, KPPL not only manage fisheries resources but also other environmental issues. Coral and sand mining, for example, are prohibited in all coastal areas.

These implementations of the code of conduct for responsible fisheries (CCRF) are carried out within the framework of participative management. DFS divides coastal waters into 6 (six) management areas (Figure 1). Each area is managed participatively by a KPPL. The KPPL have authorities to make a management plan and to implement the management plan. The management plan was declared as an awig-awig for all villages within the management area. The awig-awig is also applicable to visitors using resources within the area.

Basically, six awig-awigs in the six management areas are very similar. Several variations can be found in the number of maximum lights being used for several fishing gears, and the use of compressor aided spear fishing (Table 1). Most violations are sanctioned fine. The nominal value of fines is also slightly varied among management areas. In case of destructive fishing practices, formal enforcement by police is prioritized. Whenever there is no sufficient evidence and witness to put violators in a district court, enforcement using awig-awig is a must.

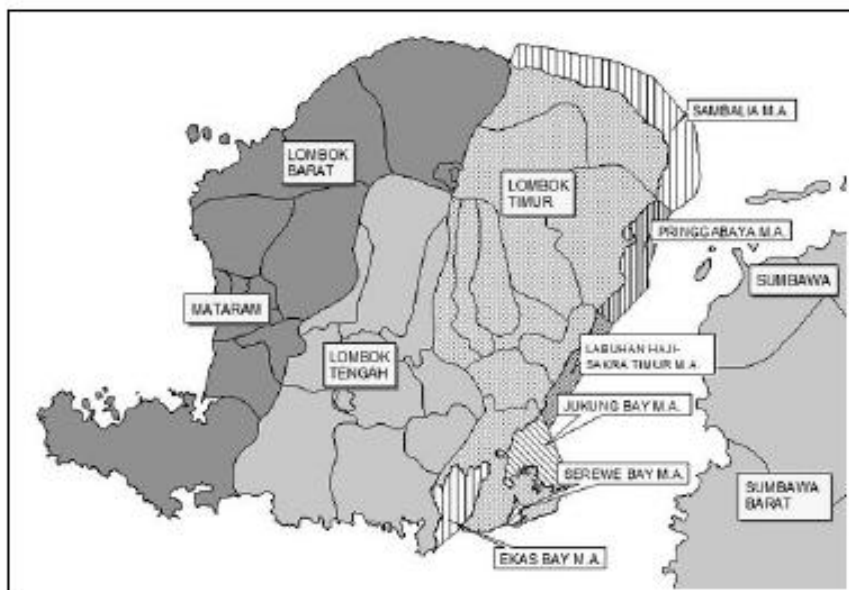


Figure 1. Six management areas in the District of Lombok Timur (DLT). All coastal waters of DLT now have management plan implemented by KPPL. MA=management area.

Table 1. Activities which are regulated or prohibited within 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

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

### 3. Initiation of participative management in the Lombok Island

Participative fisheries management is quite new paradigm in the Province of Nusa Tenggara Barat. In 1998, the COREMAP (coral reef rehabilitation and management program) had introduced a paradigm of community based management to the District of Lombok Barat (DLB). This short period project failed to establish any effective community based management, but had triggered the local community to establish their own community based management on project area in 2000 (Bachtar, 2000). In the later community based management, local government had no power to control the management plan and its executing institution, LMNLU (lembaga musyawarah nelayan Lombok utara).

In contrast, participative management in the District of Lombok Timur (DLT), which was introduced in 2001, provides enough space for the local government to control the management plan and the KPPL institution. These controls by DFS are very important to ensure that the management plan does not against existing higher order law, and to ensure that the KPPL institution can implement the management plan effectively. Both in DLT and DLB, the management plan is adopted as a customary law (awig-awig) for the whole participating villages.

In the Lombok Island, participative or collaborative management apparently can only be carried out using an awig-awig as its management tools. The role of community in the comanagement is to plan management measures and implement the management plan. The management plan is then declared as an awig-awig that applicable to anybody within a defined region. Awig-awig is traditionally an agreement among local communities about social values in controlling community behaviors to achieve harmony life within society. Awig-awig making is aimed to reduce conflicts among community members.

Although awig-awig is originally imported from Bali during colonial era, most villages in Lombok Island have their own awig-awig. The awig-awig usually concerns about regulations in marriage

and security. Some villages, however, may also have awig-awig on traditional ceremony or even on keeping veterinary animals. These traditional awig-awigs are usually unwritten. Socialization of new awig-awig may be carried out after Friday pray, for example awig-awig to prohibit leaving animals untied at the Gili Meno Island in 1998. Traditionally awig-awig is made by a community of an island, village, or sub-village; and the awig-awig can only be applied to them. Many villages, however, have the same or similar awig-awig, particularly dealing with marriage ceremony.

Awig-awig on fisheries management is thought not very new in Lombok Island, similar to the sasi in Maluku (Moluccas). In the District of Lombok Barat, several villages in two sub-districts (Kecamatan Bayan and Kecamatan Gangga) have applied an awig-awig on fisheries management in colonial era (Saharuddin Muchsin, pers. comm.). This awig-awig prohibits fishing in one month every year, although it is unclear whether it has fisheries management reason or just safety reason for fishermen. As the authority of formal institution getting stronger in the period of 1960-1970, this awig-awig slowly disappeared. The process of its disappearance is even faster than what has happened with the sasi in Maluku (Zerner, 1994).

More modern awig-awigs have been made for marine resources management in DLB and DLT, since 1998. Most of the awig-awigs are made by external intervention through government projects, such as the Co-Fish Project in the DLT and the COREMAP in the DLB. Some awigawigs are independently made by local community through internal forces. Several awig-awigsshow convincing positive results, some others show failures.

#### **4. Awig-awig of coastal fisheries management in Lombok Timur**

There were at least three existing awig-awigs related to coastal fisheries management in Lombok Timur, before the Law no 22 year 1999 about Local Governments issued. The oldest awig-awig known is “saving the sea”. Although it is unclear when it was started, but all villages in the southern coast of Lombok Timur have the same awig-awig on “saving the sea” (Bachtiar et al., 2004). The awig-awig prohibits fishermen to go fishing in three days every three years. During the three days, there is a ceremony to provide offerings to the sea spirits. This awigawig is strongly obeyed by all fishermen, although its relation to fisheries management is not very clear.

The awig-awig of Serewe Bay was made in early 80s that prohibits logging of mangrove trees within the bay. This awig-awig was unwritten, just the same as a traditional awig-awig. Since no violation has ever been reported, this awig-awig is considered as an effective one.

On the other hand, awig-awig of the Desa (Village) Tanjung Luar was made in written, in 1994, about separation of fishing zones between artisanal and commercial fishing gears. This more modern awig-awig is unfortunately failed to be implemented. Commercial fishers is prohibited to fishing at zone 1 which exclusively for artisanal fishers. Until 2000, however, conflicts between artisanal and commercial fishers still cannot be resolved. In most cases, commercial fishers committed violation on the awig-awig regulation. The awig-awig of Tanjung Luar cannot be implemented although it was made by local community without interventions from higher-level government or other agencies.

The implementations of the three awig-awigs show that not all awig-awig initiated by community can achieve success in implementation. On the awig-awig of Desa Tanjung Luar, it is not clearly stated who is the management authority responsible to sanction any violators. The ambiguous authority is likely one of the reasons for its failure.

This failure, however, has changed when a project adopt this awig-awig in the making of a new awig-awig of coastal fisheries resources management. The Co-Fish Project of Lombok Timur, started in the middle of 1998/1999, is introducing participative management on coastal fisheries

resources. As it is a new paradigm, and there was not any published example in Indonesia, the project does not know exactly what to do and where to start developing community participation. Discussions since 1999 to 2000, resulted in the establishment of a committee responsible for fisheries management, which is called KPPL (komite pengelolaan perikanan laut=committee for marine fisheries management), at each management area. There are three management areas: Ekas, Serewe and Jukung Bays.

In 2001, the KPPL achieved its legal status and received authority from the District Fisheries Services (DFS) to planning and implementing coastal fisheries management on their own area (Suradana and Bachtiar, 2004). Discussions of KPPL in each three management areas produced three drafts of coastal fisheries management plan. The drafts are then reviewed by government authority: Head of Villages, Head of Sub-district administration (Camat), and Head of DFS. Finally, the management plan of three bays are signed and declared as awig-awigs of each management area.

Implementation of these three awig-awigs shows some success stories, since its implementation in late 2001 (Bachtiar, 2004). Within two management areas, the Ekas and Serewe Bay, blast fishing can be reduced by 100%, in 2002. In the Jukung Bay, blast fishing can be reduced by 85% in 2002, and 95% in 2003 (Figure 2). In 2004, there was no more blast fishing occurred in the three management areas. These success implementations are likely owing to high motivation of most fishers to stop blast- and poisonous fishing. The awigawig also successfully can resolve traditional conflict between artisanal and commercial fishers. Moreover, in Tanjung Luar the awig-awig can reduce the trade of blasted fishes by 100% within two years implementation. But in Serewe, the trade of blasted fishes is apparently still untouched by the awig-awig. This is because most of blasting fishers live in Serewe.

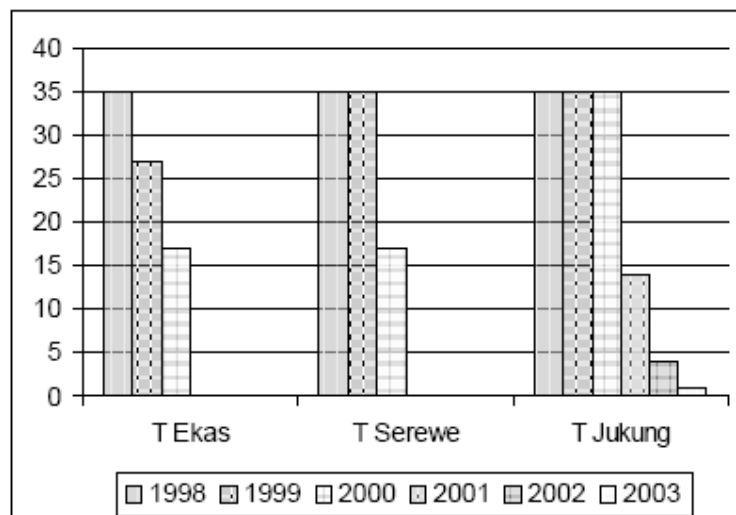


Figure 2. Reduction of blast fishing frequency in three management areas. Implementation of participative fisheries management had significant impact on reduction of destructive fishing practices (after Bachtiar, 2004).

The similar awig-awigs regulating the management of three fish sanctuaries were also established in each three management areas: Ekas, Serewe, and Jukung Bays. No violations recorded on fish sanctuary management at Ekas and Serewe Bays (Karnan and Santoso, 2004), but there are some minor violations occurred on the fish sanctuary Gusoh Sandak at Jukung Bay. It is likely that the distance of the sanctuary from the management committee is one of important factor the success of the awig-awig at Ekas and Serewe Bays.

Experiences from the southern coast of DLT convinced the DFS to start a new mission moving northward. New management areas are defined in 2003, i.e. Labuhan Haji-Sakra Timur, Pringgabaya and Sambelia. These three new management areas are open coastal waters facing the Alas Strait. Comparing with three previously management areas which are sheltered bays, the new management areas is an experiment coping with more difficult situation. In early 2004, three new management plans were promoted as three awig-awigs of coastal fisheries management.

Implementation of these awigs-awigs resulted in the decrease of beast fishing by about 70%. Fishing gears conflicts between artisanal fishers with compressor aided spear fishing can also be settled using the awig-awig. This results show that participative fisheries management can also be implemented in an open coastal waters.

At present, all coastal waters of DLT have been managed using awig-awig by KPPL. There are 6 awig-awigs on coastal fisheries resources management, 5 awig-awigs on fish sanctuary management, and 2 awig-awigs 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 near future.

## **5. Institutions and coordination.**

Beside DFS, there are two participative institutions working on the participative management, KPPL and KKPK (komite kelautan dan perikanan kabupaten, district fisheries management advisory committee). While KPPL is a management committee, the KKPK is an advisory committee. The advisory committee plays an important role in providing resolution and recommendation on problems and issues related to fisheries management for the head of DFS.

The institution of KPPL consists of representatives of stakeholder groups from all villages bordering management area. Each village has six representatives which are consisted of representatives from capture-fisherman, mariculture, post-harvest woman, religious leader, youth leader, and village government. There are two special cases in KPPL institution. KPPL of Ekas Bay is across district as it has representatives from District of Lombok Tengah. KPPL of Serewe Bay consists of only representatives from one village, Desa Pemongkong.

KPPL has authority to make a management plan (awig-awig), and revise the plan whenever necessary. Revision of the established awig-awig, however, needs approval from all head of the villages within the management area. Since KPPL members were proposed by head of the village, then he can withdraw a KPPL member representing his village and replace with a new one if required.

In the fisheries management, KPPL is different from regular community surveillance group (Pokmaswas) established by DFS in other districts. KPPL can do enforcement to violators of the management plan (awig-awig). In doing so, KPPL has already had a standard operational procedure (SOP) (Bachtiar and Saifullah, 2005). The SOP has been successfully applied to fine three blast-fishers, one poisonous-fisher, and three blasted-fish trader at Desa Tanjung Luar.

Because of its extra authority in enforcement, KPPL from Lombok Timur always get the first nomination in the competition among surveillance groups at the provincial level. At national level, KPPL of Jukung Bay achieved the best surveillance groups (Pokmaswas) in 2003 and received rewards directly from the president in early 2004.

The institution of KKPK consists of representatives of stakeholder groups and government agencies at district level. The members of KKPK of Lombok Timur are representatives from 6 KPPL leaders, fishermen group <5 GT, fishermen group  $\geq$ 5 GT, seaweed mariculture,

lobstergrouper mariculture, post-harvest women group, 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).

At present, both KPPL and KKPK institutions work so well in the DLT. Whenever KPPL is no longer effective, KKPK may recommend to the Head of DFS to reshuffle the KPPL organization. In other case, KPPL was unable to carry out its duty owing to pressures received from blastfisher sub-village (dusun). KKPK recommended to the Head of DFS to take over the case and handed-over the case to a special district task force consisted of selected KPPL members from other management areas.

Both KPPL and KKPK have been equipped with handy-talky (HT), that they can run coordination everyday. A total of 45 HT has been distributed to support KPPL and KKPK. At least one HT is provided for each village. Two repeaters are also available to strengthen the communication. Beside the communication equipment, there are six speed-boat provided for six management areas. Each KPPL has a 60 HP powered speed-boat for surveillance.

Both KKPK and KPPL also have already had supporting infrastructure. DFS supported each KPPL with a surveillance post which is also used as the meeting place of KPPL. While for KKPK, there is a secretary office and a meeting room (Kerapu Room) at Selong. Neither KPPL nor KKPK have obligation to go to the office or post regularly. But when they need to carry out discussion or a meeting, the supporting infrastructures are already available.

## **6. Remaining issues**

There are three issues that need attention to carry out code of conduct for responsible fisheries. Among these issues the sustainability of the KPPL and KKPK institution should be prioritized, as these institutions are the machine of responsible fisheries at DLT.

The succeeds of KPPL and KKPK to support implementation of responsible fisheries must be maintained and strengthened. For this purpose district regulation (PERDA) is required to acknowledge the existence of KPPL, KKPK, and their authorities in fisheries management. The district regulation about participative fisheries management will strengthen KPPL position when it has to cope with violators from other district. Draft of the district regulation had been discussed and is expected to be approved by district parliament some time this year. The district regulation is very important to ensure that both KPPL and KKPK have a regular budget to carry out their works.

Coral mining is an old issue that never been completely resolved. Since the mining involves many people below poverty line, handling this issue can not be done merely by law enforcement. Integrated approach should be made although coordination in doing so is very challenging. At present, there is no example of succeed program to handle coral miners. The COREMAP in the District of Lombok Barat had addressed this mining issue in 1997-2000, but failed to stop coral mining.

Sustainable mariculture development needs spatial regulation based on carrying capacity. In the DLT, there are three sheltered bays suitable for growing lobster and grouper. Study on spatial planning for mariculture development has been done only at Ekas Bay. We need to repeat the similar study at Jukung and Serewe Bays.

## 7. Concluding remarks

District of Lombok Timur (DLT) has shown efforts and some success stories in implementing code of conduct for responsible fisheries. The CCRF is achieved mainly through the framework of participative coastal fisheries management. The use of customary law (awig-awig) to support fisheries management plan is likely very suitable for Lombok culture. The institutions of KPPL and KKPK have been working very well, that their existences should be strengthened with a district regulation.

## Acknowledgement

This paper is presented at the SEAFDEC meeting on CCRF. The paper was prepared for the District Fisheries of Lombok Timur by Imam Bachtiar, the University of Mataram. In future, this paper may be published somewhere upon his name.

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## **Annex 8. Presentation of the District Model for Aquaculture**

### **AQUACULTURE FISHERIES RESOURCE MANAGEMENT IN PEMALANG DISTRICT (CENTRAL JAVA PROVINCE)**

#### **I. Background**

World Summit in Rio de Janeiro in 1992 is as a basis framework for sustainable environmentally aquaculture development.

The information on how importance of the environment elements in the earth such as sea, coast, and land area have develop an ecosystem that cannot be separated each part in term of the management process where the main chain of this system is Mangrove. Furthermore, the importance of the integrated management of environment shall not be avoided.

The importance of mangrove as a physical habitat; barrier function from abrasion and land water intrusion, spawning, nursery area and feeding ground.

The importance of mangrove related to chemical processes; protection from pollution spread and giving economical potential because rich of fish diversities.

The problem was raised on how to get the economical benefits without reducing the function of mangrove in term of environmental protection and so on. The exploitation of mangrove areas without considering its function will result to the damage of ecosystem as for example given by the massive development of shrimp aquaculture in 1980s that hag ignored its function resulting on the degradation of water quality, fish diversity and etc.

#### **1.1 Vision**

The marine development of Pemalang District is to achieve the sustainability of marine and fisheries as a main source of life, income and sustainable social welfare.

#### **1.2 Mission**

The marine development of Pemalang District is to:

- Increase human capacity to utilize and manage marine and fisheries resource,
- Carrying capacity and resource protection and conservation,
- Develop an alternative model for marine and fisheries resource utilization,
- Grow a conducive environment for fisheries business.

## **II. General Situation of Pemalang District**

### **2.1 Areas**

Located in coastal area of northern part of Java with 35 km of beach line, 111,530.55 hectare of large area and 1,475 hectare of embankment area.

### **2.2 Natural Resources and Aquaculture Potentials**

The embankment area can be expanded to 1,728.31 hectare. A pond area is 28.07 hectare, commom waters of 903.40 hectare. Meanwhile, the numbers of bracjhis and fresh waters fishermen are 1,530 and 718 hectare, respectively.

### **III. Aquaculture Fisheries Management Program**

#### **3.1 General Policy**

Aquaculture fisheries development is apart of the national development that will be able to enhance its role as:

- Enhance nutrition for the people,
- Enhance fisheries export,
- Enhance capacity management and marine and fisheries resource utilization,
- Support district development,
- Conservation of fisheries resource sustainability.

#### **3.2 Aquaculture Fisheries Programs and Activities**

Aquaculture fisheries programs and activities consists of:

##### **3.2.1 Spatial Identification and Determining**

Spatial identification activities are in order to define locations that fisheries shall be carried on to definitely gear the respected target activities. This shall refer to district regulation on spatial model and plan for coastal areas.

##### **3.2.2 Institution Building**

The sustainable aquaculture fisheries resources will be based on the community approaches. The institution building is done by developing of group community to train and build the capacity based on the environment-based approaches.

##### **3.2.2 Environmentally Fisheries Productivity Program**

- a. Silfo-fishery activities
  - a.1 Traditionally moat-pond model (Pola Empang-Parit Traditional)
  - a.2 Improved moat-pond model (Pola Empang Parit yang disempurnakan)
  - a.3 Partition model (Pola komplangan)
- b. Environmental friendly embankment aquaculture

##### **3.2.4 Rehabilitation and Conservation Development on Aquaculture Fisheries Areas**

- a. Environment/habitat rehabilitation through mangrove plantation
- b. Mud Crab Reservation Development (Pengembangan Reservat Kepiting Bakau)
- c. Normalization of embankment irrigation
- d. Facilitation of aquaculture silfo-fishery package

### **IV. CONCLUSION**

- With good management of aquaculture fisheries resource will recover aquaculture habitats,
- With recovered aquaculture habitat will increase its production sustainability,
- Aquaculture fisheries resource management is required supports and capacity buildings from various concerned agencies,
- Finally, this will enable increasing incomes and social welfare of the fish farmers.