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INDONESIA MARINE AND CLIMATE SUPPORT (IMACS) PROJECT

# CAPACITY ASSESSMENT OF MITRA BAHARI: FOR CLIMATE CHANGE COMMUNITY RESILIENCE AND ADAPTATION PLANNING



February 2012

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Sub-Task Order No. EPP-I-00-06-00013-URI-IMACS-2  
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The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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# 1. INTRODUCTION

The IMACS project is designed to support the Ministry of Marine Affairs and Fisheries (MMAF) of the Government of Indonesia (GOI) in its efforts to restore and enhance marine and coastal ecosystem productivity, biodiversity and resilience for food and economic security; and increase the resilience of natural ecosystems and coastal communities to adapt to climate change and reduce risks from disasters. MMAF is responsible for promoting sustainable use of fish and other marine resources for Indonesia's economic growth and prosperity.

The report is part of the Coastal Resources Center University of Rhode Island's (CRC-URI) sub task order carried out in support of the IMACS (Indonesia Marine and Climate Support) Project. The IMACS project is supporting MMAF by developing, testing and disseminating innovations under four technical task areas:

- (1) Institutional Development of MMAF
- (2) Sustainable Fisheries Management
- (3) Coastal Community Resilience and Climate Change Adaptation
- (4) Program Integration, Coordination and Administrative Support

The CRC-URI task order contributes to the third technical task area on Coastal Community Resilience and Climate Change Adaptation. The purpose of work carried out for this report was to assess the capacity of Haluoleo and Mataram universities, provincial Program Mitra Bahari (PMB), or Sea Partnership, within IMACS pilot areas, and designated Centers of Excellence – Hasanuddin University in Makassar and Bogor Agricultural Institute - to provide climate change adaptation and resilience (CCAR) advisory services to local governments. More specifically this report contains:

- An assessment of technical capabilities of the above listed IMACS partners to support CCAR policy making, planning, and response by local governments;
- Identification of activities that will strengthen capabilities of IMACS partners to effectively advise local governments, private enterprises, coastal communities and other stakeholders on CCAR; and
- Outlines a process for defining and preparing a detailed terms of reference for IMACS collaboration with universities and PMB participation in IMACS.

The report is divided in to several sections, including situational analysis of each of the IMACS field sites with respect to broadly defined coastal issues, and CCAR initiatives undertaken to date, an assessment of organizational capacities of the partner institutions, needs assessment for local partners and further recommendations concerning IMACS CCAR activities in the field regions and with KKP.

## 2. Mitra Bahari in Nusa Tenggara Barat

### 2.1 Situational Analysis

Nusa Tenggara Barat (NTB) Province consists of two main islands, Lombok and Sumbawa as well as over 200 small islands and numerous bays. This province therefore has a rich diversity of coastal environments including beautiful sandy beaches, coral reefs, bays, headlands and cliffs and mangrove systems. The major coastal economic industries are fishing, coastal tourism (e.g. the three Gilis, Kuta), pearl culture, salt manufacturing and seaweed farming. Inland areas of the islands are major producers of various agricultural commodities. The province is also rich in minerals.



The province has its share of the classical coastal management issues including coastal erosion, loss of more than 70% of its mangroves, destructive fishing on coral reefs and pollution from small scale gold mining using mercury, including the Southwest area of Lombok. Coastal erosion has been severe in some areas including the West coast along Mataram. On the East coast near Labuan Haji, road and bridge infrastructure has eroded into the sea.



*Examples of coastal erosion along the coastline of Mataram City where fishing settlement areas are at risk.*



*Examples of coastal fishing villages with varying levels of risk from erosion*

South of Mataram, in Cemara, several rural communities have been facing extensive flooding from high tides and storms on a regular basis. Coral bleaching has affected reefs in the Province four times in the last 10 years with associated high mortalities. High water temperature has also been a concern for seaweed farming. Conflicts over coastal space have also been a problem – conflicts between fishermen as well as between fishers and other uses such as tourism. Coastal areas and communities have some of the highest population growth rates in the Province and generally have some of the poorest households as well.

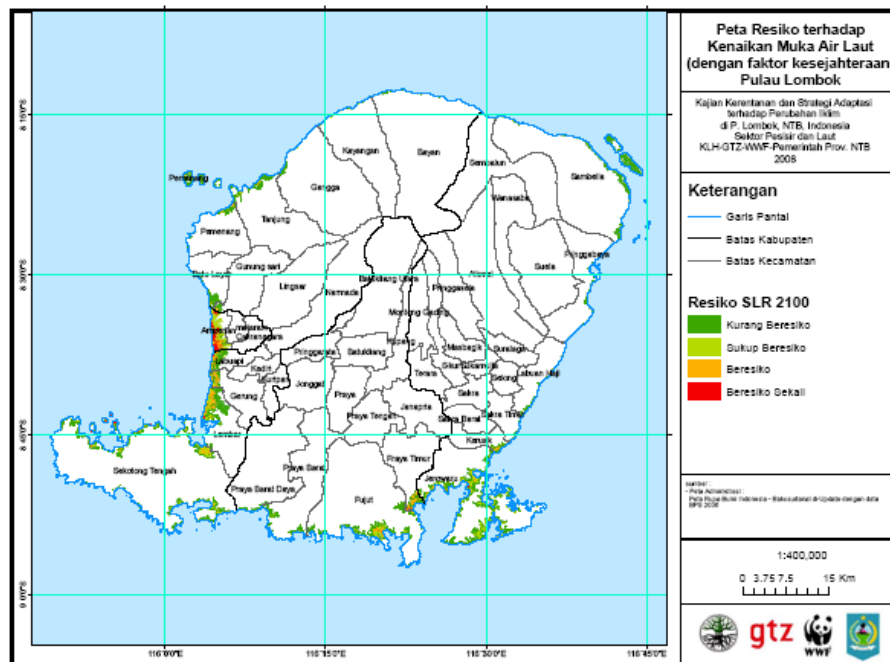
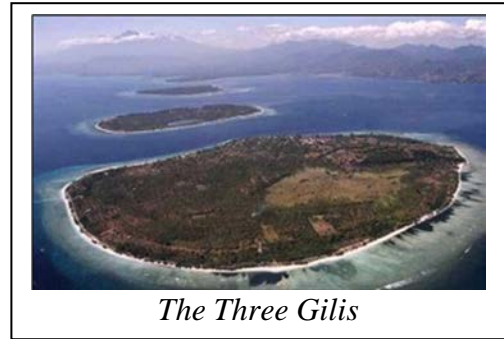


*Low lying coastal village in Cemara now facing regular flooding of the settlement area and associated crop damage to farmland*

The government's economic development priorities include an emphasis on agriculture (beef and corn in Sumbawa and seaweeds in Lombok and Sumbawa). While there is mining potential, there is significant opposition by local communities, especially on Sumbawa Island. The government has identified 18 priority areas for economic development. Several of these are coastal areas including Teluk Saleh, the Pantura area, and Bima Bay on Sumbawa Island; as well as the three Gili Islands and Kuta Beach area on Lombok. Saleh Bay also has been selected as a priority national accelerated development area. A strategic development plan has been developed that includes plans for promotion of coastal tourism and accelerated mariculture development. Eighteen coastal areas (10 on Lombok and eight on Sumbawa) have been selected as priority coastal planning and development areas. On Lombok, this includes the three Gillis in Lombok Utara, Sakotong and Senggigi in Lombok Barat, Kuta in Lombok Tengah, and Eka Sere and Gili

Sulat in Lombok Timur. On Sumbawa Island, they include Pantera and Sumbaya in Sumbawa, Pulau Moyo and Teluk Saleh which encompasses the two districts of Sumbawa and Dompu.

Within the context of coastal planning and climate change, a considerable amount of work has been done. At the Provincial level, ICM plans (strategic, management, zoning and action plans) have already been prepared. It is unclear whether these have already been adopted as local regulations which are necessary for their implementation. There has been less ICM planning work done at the District level. Some have done ICM plans as required by UU No 27/2007 and others have not. From a climate change perspective, the province has already developed a climate change action plan. In addition, the Ministry of Environment, WWF and GTZ in cooperation with local government, prepared a vulnerability assessment for Lombok Island (see map below) which included a coastal sector review that identified vulnerable areas – including the three Gilis, and areas of the Southeast, South and Southwest coastal zones where there is extensive coastal tourism growth and where the important salt making industry is located. A strategic plan for salt manufacturing has been prepared and is another priority of local government as well as for the Ministry of Mining and Industry and the Ministry of Marine Affairs and Fisheries. This is generally a cottage industry in poor coastal households and areas that are vulnerable to sea level rise and increasing storm frequency, and are in the government’s priority coastal planning areas. This industry in particular may provide some excellent opportunities for IMACS work on value chains that can be scaled to impact hundreds if not thousands of households (see recommendations).



Risk map of projected sea level rise on Lombok Island SOURCE: PAKLIM – MoE, GTZ and WWF, 2010.



In our discussions with BAPPEDA, there was a repeated emphasis on Vulnerability and Adaptation planning (V&A) at smaller spatial scales, and the need to make sure that zoning schemes get linked to approved ordinances (formal adoption by parliament seems to be a frequent sticking point) in order to be effectively implemented. This suggests a need for educating local legislatures on these types of policy issues.

## 2.2 Organizational Capacity of Mitra Bahari NTB

A rapid organizational capacity assessment of Mitra Bahari NTB (MB NTB) was carried out through interviews with the Director and Secretary of MB NTB. There were additional meetings with select UNRAM faculty and provincial level government officials at DKP and BAPPEDA. Due to limited time and scope of our task we did not conduct a complete internal review of MB NTB's internal organizational structure and procedures. We focused on their partnership capacity and services to coastal stakeholders.



### *Organizational Development*

MB NTB has mission and vision statements clearly stated in their brochures. The leadership style appears to be inclusive and open by working with all of their members both within the University across departments and with local government, NGOs and private sector.

The NTB Governor officially established MB NTB through an SK (executive decree). There is a seven member steering committee including officials from the Army, Justice and Navy. DKP and UNRAM serve as joint heads of the MB NTB program. The MB NTB Secretariat is based in a multi-room building at the UNRAM campus with offices and a large meeting space. There are two full-time and one part-time staff

(Director, Secretary and Treasurer). The Secretariat appears to have strong communication linkages with many of their members and plays an active role with the national MB network.

MB NTB is recognized by KKP as one of the stronger groups in the national program. They have a broad network of partners totaling over fifty (50) members across government, academia, business and NGOs. Notably, mining and tourism interests as well as NGO representatives (e.g. WWF and JARI) are part of the network. Most of the members are faculty from UNRAM. The MB NTB Secretariat and offices are separate from the UNRAM Environmental Learning Center (PSL) which focuses on more upland environmental issues. MB NTB also appears to have a

#### **Vision and Mission MB-NTB**

**Vision:** Accelerated sustainable development of the fisheries and marine sector

**Mission:**

- Develop a strong partnership
- Support optimal management and implementation of marine resources
- Improve community welfare and quality of life

**Achieved through** programs of extension, socialization, training, applied research and policy analysis

good working relationship with many of the local governments based on a history of providing services, including BAPPEDA and DKP.

MB NTB uses three funding mechanisms. The primary source is through an annual operating budget from KKP (currently at 100 Million Rupiah annually). Another method is through in-kind payment for services rendered by MB members – these funds go directly to the individual or their expenses for travel are paid by the respective agency. MB NTB Secretariat can also receive direct grants (such as a recent strategic planning activity for the Forestry Department) as it is legally incorporated as a “foundation”.

***Technical Capacity in ICM, Resilience and Vulnerability***

MB NTB was asked to highlight their experience and technical capacity related to conducting integrated coastal management, resilience and vulnerability assessments to address the issues highlighted in the situational analysis for NTB. While most of the MB NTB members have not worked on climate change specific projects they have worked on numerous coastal issues and have the capacity to apply a climate lens going forward. WWF did some initial climate vulnerability assessments for Lombok however it is not clear the degree of involvement and technical capacity of local WWF staff to replicate those studies for coastal areas and it seems that few local MB members or UNRAM faculty were involved. Overall, UNRAM has expertise across a diverse range of fields that can be applied to MB activities. Combined with extension agents at Provincial and District government agencies and an NGO community presence, there are significant opportunities to have on the ground impacts for coastal communities if the full MB NTB membership works together.

MB NTB was assessed across a broad range of general technical capacities that many organizations exhibit. Based on discussions with some representatives and a review of limited materials we see areas of strength as well as opportunities to provide MB NTB with capacity building. Again these technical capacities have not been applied to coastal climate change activities directly but are the core foundations upon which a climate lens can be addressed. For instance, the Secretary has a doctorate from IPB on coastal management and is a member of the Indonesian Association of Coastal Management Professionals. BAPADELDA and NGO partners have conducted some broad scale vulnerability assessments for Lombok (see Ministry of Environment, WWF, GTZ Vulnerability Assessment Report listed in the Appendix). UNRAM faculty have also worked extensively on climate change adaptation strategies for crop varieties and water systems as part of other donor funded projects (AUSAID CSIRO).

<b>Technical Capacity</b>	<b>Area to Improve</b>	<b>Good</b>	<b>Strong</b>
Policy Development	X		
Applied Studies			X
Good Practices Methodologies		X	
Training and Education			X
Field Extension		X	
Communication and Info. Dissemination		X	
Integration and Learning	X		

## 2.3 Capacity Needs

Based on the issues identified through the situational analysis and the existing technical capacity of the MB NTB network we have identified some areas to strengthen MB NTB’s capacity to serve local government. The needs assessment looked at the issues across the following capacity areas:

- Physical (natural and built resources)
- Organizational (governance, human resources, policy)
- Social – Cultural
- Economic (financial resources and administrative systems)

### Summary of Capacity Needs to Address Key Climate and resilience Issues in NTB

Community resilience Issues	Desired Outcome	Existing Capacity	Needs
Low income coastal villagers at risk to increased storm damages and reduced livelihood security	Communities empowered to adapt to coastal change based on knowledge of changes and tested alternatives (Disaster Risk Reduction and Livelihoods)	Existing network of MB partners linked to communities.	Simple Assessment Method that includes communities in ranking priorities and selecting adaptation measures.
Opportunity for improved coastal salt production (small scale and Industrial)	Salt producers (industrial and small scale) have improved value chains and adaptation plans to improve sustainability (ecologically, socially, economically)	Knowledge of salt production industry, ecological systems, basic land use plans	Value chain analysis, local zoning plans for evolution of salt production with coastal change (SLR).
High maintenance costs for built infrastructure in coastal areas	Roads, bridges and coastal infrastructure built with climate change in mind to reduce long term maintenance costs and hazards	Knowledge of existing damages to infrastructure.	Coastal engineering and geologists. Provincial policy on climate projections to be used for engineering long term infrastructure

The term training is used below in a holistic way for embracing our philosophy of learning-by-doing. Thus any training that includes achieving new skills requires the participants to apply the new skills in a real situation to allow for practice and reflection. Simply put, don’t just talk about it, go out together and do the real thing and then evaluate the experience before scaling up. There are other activities which will focus on sharing knowledge which would be run as interactive workshops and forums. Keep these concepts in mind when reading the recommendations.

Building on the foundation of technical skills outlined above there are some specific methodologies where MB NTB partners will likely need training and application. They include the KKP PDPT village based resilience assessments which is in-development.

While much training on climate change has already been conducted in the Province, there is still quite a bit of latitude for additional work that reaches down a layer into the various local government agencies with responsibilities for development and planning in the coastal zone including: DKP, BAPPEDA and associated line agencies such as public works, and mining. There is also a need to reach out to members of the local parliaments. While there is still room for training and awareness raising workshops at the provincial level, there have been fewer activities conducted at the Kabupaten (district) level. These type of trainings need to be short duration awareness raising focused events – likely half day events for decision makers at provincial and district levels, perhaps longer events for mid-level line agency staff. Agencies involved in building coastal infrastructure such as roads, bridges, and sea walls in particular need to be targeted as well in the long term in order to avoid costly losses such as the example mentioned previously for Labuan Haji.

Equally important are trainings directed at local NGOs. While some have been involved in coastal environmental and livelihood development programs, few seem to have experience in conducting vulnerability assessments and adaptation planning, especially for coastal areas. Many of these NGOs have good practical experience in conducting PRAs and community facilitation, but little experience applying specific tools to assessing community resilience and adaptive capacities and planning specifically for climate change. For NGOs, there are opportunities for training them in the tools produced with KKP for the PDPT program which would set them up to work with the DKP program and through this program, assist communities to tap into the implementation funds that will become available through this program. It will also help link the IMACS small grants program to specific needs of local communities concerning adaptation actions including livelihoods.

One area that seems to have been given little attention is the private sector, especially the tourism industry which is mainly coastal. It is obvious from our short visit to a few coastal areas that tourism infrastructure is being built in hazardous erosion prone areas and will be subject to loss of sandy beach frontage. As tourism structures become at risk, sandy beaches will likely be replaced by seawalls as erosions threatens hotel facilities such as swimming pools. Such shorefront development courses should include not only tourism investors, but banks that provide loans, the Ministry of Tourism, and local government that sets building standards such as setback standards and provides permits for building.

MB NTB expressed a desire to have a larger role in policy promotion and increase their capacity in most areas through continued collaborations with other Indonesian and international universities. Therefore the potential for increased capacity to link field research with policy promotion at the decision-making levels would be one opportunity. This would include systematic processes of MB networking to reflect on experience from the field and maintain strong trusted networks with government and industry officials who value MB NTB's counsel.

## 3. Mitra Bahari in Sulawesi Tenggara

### 3.1 Situational Analysis

Sulawesi Tenggara (SULTRA) is in a relatively remote area of Indonesia with approximately 74% of the population living on the 650 small islands that make up this extensive peninsular province. Six of the ten sub-districts are coastal. The Governor has proposed that SULTRA be classified as an island province, thus gaining access to special programs from the Ministry of Home Affairs. The main economic industries are mining, fisheries and farming. Kendari, the provincial capital, is experiencing a building boom due to mining development. Tourism is focused in the Wakatobi Marine National Park (which is in the extreme southern island chain).

The Governor's five priority themes are developing human resources, governance reform, economic development, culture and infrastructure. Economic development is the main focus and infrastructure lags far behind other provinces.

The main coastal issues that are of concern to provincial government and UHHALU's Faculty of Fisheries and Marine Science are pollution mainly from the mining wastes, environmental degradation (clearing mangroves for fish ponds), erosion and illegal fishing (cyanide and bomb fishing as well as small trawlers from other regions). The province is not a high risk for tsunamis though they do get small earthquakes. Flooding in Kendari City occurs a half hour after heavy rains in the surrounding watershed. One small island community near Kendari was relocated recently due to erosion occurring around the island.



The capital city of Kendari wraps around Kendari Bay. This is a shallow bay primarily used for small scale fisheries and an important landing center for fisheries caught in the province. Significant habitat loss and erosion have occurred over the past few decades. A substantial portion of the shoreline around Kendari Bay is armored with new seawalls, and breakwaters still being developed. The main fishing port for the province and the Navy station are both located inside the bay on the north shore. Sedimentation is already a concern requiring dredging in 2010 that has not been very effective. The main sources of sediment come from inland districts outside of the city's legal jurisdiction. In the future, the bay could be exposed to reduced fisheries from water temperature increase, erosion caused by sea level rise and storms, and accelerated sedimentation due to extreme rainfall events. There is concern that main fish landing site may become unusable if sedimentation continues unabated.

There is a major road network on most of the bay's waterfront. Seawalls line most of the road though the road is only 1-2 meters above sea level. The major container and oil ports which are located just north of the bay use this waterfront road network as a primary transport corridor.

DKP and BAPPEDA say the fisheries are below maximum sustainable yields although that opinion is not based on any recent stock assessments (the last one was done 20 years ago). DKP would like to see more applied research on fisheries to guide their management. Capture fisheries is the primary food producer in this province though the government is pushing for increased mariculture. There seems to be variation in opinion about subsidizing the fishery. BAPPEDA at the Provincial level said that they will no longer give out subsidies for engines and fishing gear while Kota Kendari DKP stated that the majority of their funds go to fishing gear subsidies for boats under 10 gross tons. There are discussions about the need for an integrated fishery strategy that looks at the whole value chain from production to markets. DKP feels that Kendari lacks adequate and modern fish processing facilities as reportedly during the peak fishing season, many fish are spoiled before they are sold or processed. They are of the opinion that there is significant waste in the fishery due to poor handling, storage and transport facilities.

Mariculture is another priority economic development sector for the Governor. Seaweed is an important mariculture product that has an existing export market and slated by the province for expansion. Smaller holder farms require low capital inputs and low technical skill to culture seaweed, so it is an easily added supplemental livelihood for coastal and fishing households. People can learn to culture it quickly and require only small investments to become involved in the industry. It is labor intensive and therefore employs many people. Typically women and men are involved in farming seaweed so there is a good gender balance in terms of potential benefits. Therefore, it fits several KKP development policies of pro-poor and pro-employment opportunities. UNHALU is working with the Australian Centre for International Agricultural Research (ACIAR) on a value chain analysis for seaweeds. While there are targets to increase production from seaweed farming, there are significant concerns regarding disease problems ("ice-ice") that have led to a recent drop in production. The more valuable variety of seaweed cultured (*E. cottoni*) is also seem as being a climate sensitive crop, easily stressed with increasing disease incidence from elevated sea surface temperatures and high siltation in the water column. The province has a few processing plants that produce frozen fillets of fish for export – red snapper and tuna.

SULTRA does not have ICM plans at provincial or district levels. Some focused area planning has occurred in various places. DKP did some shrimp development plans and conservation area planning for small areas. Kendari Bay has a marine zoning plan which is awaiting legislative approval. Wakatobi is the only other district with a marine spatial plan. Land use plans are also lacking. SULTRA has reached an agreement with the Ministry of Forestry on classifying extensive forest lands which will accelerate the development now of a provincial spatial land use plan.

The Gulf of Bone is a shared body of water between SULTRA and South Sulawesi. The two provinces have embarked on a joint economic development plan for the shared bay. A MOU was

signed recently committing the provinces to focusing on specific issues such as destructive fishing and habitat loss.

### 3.2 Organizational Capacity Assessment of Mitra Bahari SULTRA

A rapid organizational capacity assessment of Mitra Bahari SULTRA (MB SULTRA) was carried out through interviews with the Dean of Fisheries at UNHALU, who is the acting director, and with other members of MB SULTRA. There were additional meetings with select UNHALU Faculty of Fisheries and Marine Science, Provincial level Government officials at DKP and BAPPEDA, DKP in Kota Kendari and a NGO. Due to limited time and scope of our task we did not conduct a complete internal review of MB SULTRA's internal organizational structure and procedures. We focused on their partnership capacity and services to coastal stakeholders.

#### *Organizational Development*

MB SULTRA has mission and vision statements similar to NTB and clearly stated in their Surat Keputusan (SK). MB SULTRA was established by Governor's SK (executive decree) in 2004. UNHALU serves as the secretariat and co-director along with DKP. They receive about 50 -100 Million Rupiah per year from KKP for core operating expenses as do all of the MB Centers. They have received limited funding for additional sources beyond KKP. In particular, they implemented a number of initiatives in Wakatobi and Buton via funding from the COREMAP Project. They have not established a legal NGO for MB SULTRA as have MB NTB and MB Sulawesi Selatan.

#### **Vision and Mission MB-SULTRA**

**Vision:** Bring together stakeholders for the accelerated and sustainable development of marine resources to improve the welfare of coastal communities.

**Mission:**

- Develop a strong partnership to improve community welfare
- Through technology transfer, improve the quality of coastal community human resources
- Build curriculum that supports community-based practices
- Improve information systems to better manage coastal resources

The MB Director designated in the Governors Executive Decree is on leave studying for his PhD at IPB. This absence of leadership has affected MB SULTRA's reputation in the province and a key challenge for their further development. Most of MB SULTRA's activities have focused on research projects for COREMAP in two remote areas – Wakatobi and Buton. Government officials from the provincial and kota levels expressed their dissatisfaction with MB performance and stated that they rarely see any outputs from MB. Some never heard of it and others (including some UNHALU faculty) know of it but do not know what they do. BAPPEDA felt that currently they cannot rely on the university's resources to do much of the coastal work even though there is some technical capacity in marine science, fisheries and other disciplines at the university. There is a sense of potential but limited application of the university's research to communities and for government decision-making. Despite the current situation, all government agencies were receptive to working with MB if they can prove to be functional and able to deliver on services.

There are hopes that the MB SULTRA program will be reinvigorated over the coming months. UNHALU has spoken with the governor about updating the SK to include a broader membership including the private sector. They have also asked to appoint a new director (Dr. Sadarun from UNHALU's Fisheries Department is a potential candidate). With the COREMAP project ending and as a main source of support previously, the MB partnership is looking to broaden their scope and forge renewed relationships.

MB SULTRA does convene an annual meeting for the two areas where they do COREMAP work. It was not clear who among the MB partners attends. However, based on interviews it would appear that the meetings are only between UNHALU and the District Governments of Wakatobi and Buton. MB SULTRA does produce a short newsletter though circulation is very small.

In the absence of MB SULTRA convening coastal partners to jointly discuss and plan together, the local government uses the formal public input process for their planning processes. While this achieves some objectives of consultation and transparency, the province needs to decide if a fully functioning and inclusive MB could increase value to coastal planning processes. Ideally a regional MB would maintain an ongoing platform for partners to build relationships, integrate across sectors and plans, and provide a continuous venue for raising issues and implementing integrated initiatives.

### ***Technical Capacity in ICM, Resilience and Vulnerability***

MB SULTRA was asked to highlight their experience and technical capacity related to conducting integrated coastal management, resilience and vulnerability assessments to address the issues highlighted in the situational analysis for SULTRA. To date the most active members of MB have been UNHALU with some use of students from Dayanu Ikhsanuddin University (UNIDAYAN) in Bau Bau. None are currently working on climate issues although they do have capacity in the natural sciences to add a climate lens going forward. UNHALU's coastal strengths are in mariculture (seaweed, sea cucumber, crab and abalone) and marine science. There are some people with remote sensing capabilities. They have one geologist who specializes in upland areas for mining. UNHALU focuses on applied research and doesn't ordinarily work closely with communities through extension work. A local NGO named JARI specializes in community education.

MB SULTRA was assessed across a broad range of general technical capacities that many organizations exhibit. Based on discussions with some representatives and a review of limited materials we see areas of strength as well as opportunities to provide MB SULTRA with capacity building. These technical capacities have not been applied to coastal climate change activities directly but are the core foundations upon which a climate lens can be addressed.



<b>Technical Capacity</b>	<b>Area to Improve</b>	<b>Good</b>	<b>Strong</b>
Policy Development	X		
Applied Studies		X	
Good Practices Methodologies		X	
Training and Education		X	
Field Extension	X		
Communication and Info. Dissemination	X		
Integration and Learning	X		

### 3.3 Capacity Needs

Based on the issues identified through the situational analysis and the existing technical capacity of the MB SULTRA network we have identified some areas to strengthen MB SULTRA's capacity to serve local government. The needs assessment looked at the issues across the following capacity areas:

- Physical (natural and built resources)
- Organizational (governance, human resources, policy)
- Social – Cultural
- Economic (financial resources and administrative systems)

#### Summary of Capacity Needs to Address Key Climate and resilience Issues in SULTRA

<b>Issue</b>	<b>Desired Outcome</b>	<b>Existing Capacity</b>	<b>Needs</b>
Erosion of coastlines and riverbanks in villages	Houses, fishing gear and human safety secured from storm events	Understanding of storm seasons and some built infrastructure in place	Geologist, rapid assessment of large areas
Seaweed production that is more resilient to CC and address "ice ice" disease	Zoning of best seaweed production areas and GMPs for addressing CC sensitive attributes	Research skills and experience with seaweed production.	Market research and extension to test innovations with industry
MB as a reliable source of advice and skill for coastal districts	Districts seek MB counsel on issues and conduct joint activities	Worked in two districts under COREMAP	Communications and extension skills polished. Secure funding to provide services
Lack of detailed coastal management plans to guide development and enforcement	Special Area management plans that include a climate lens	DKP and BAPPEDA have done special area plans and zoning.	Add climate change and other hazards to planning process. Larger ecosystem analyses.



*Coastal infrastructure at risk: recent dikes built along a stream bed that drains to the ocean showing storm damage from high waves and subsequent seawall construction further out built to protect the river diking*



*Marine Education Park in SULTRA that is used by UNHALO's Faculty of Fisheries and Marine Science for dive training, marine education and research programs*



*Bajo community houses on stilts: Resilient to sea level rise but at risk from more severe storms?*

Based on the key issues identified in our rapid situational assessment and in light of the development stage of MB SULTRA we propose that IMACS focuses on a few targeted capacity areas. Again any training done should follow the learning-by-doing principle to ensure achievement of skills as well as socializing with the larger stakeholder group.

First there is an opportunity for MB SULTRA and MB SULSEL (or UNHAS specifically) to partner in their IMACS activities. This could enable UNHAS to share experience and ideas on developing the partnerships, administrative systems and policy development again for MB SULTRA. UNHAS could also share their research capacity in areas of seaweed diseases, coral resilience, geology, hydrology and the social sciences. MB SULTRA needs to use their full partnership to engage in policy advocacy to strengthen their research and extension work.

MB SULTRA appears to have strong capacity in the fisheries and aquaculture fields. This can be an area of strength to expand capacity into extension work and policy development. The best candidate theme appears to be focusing on the seaweed industry due to its coastal nature, provincial government priority, sensitivity to climate changes and important role of women in the industry. MB SULTRA and UNHAS could jointly research the diseases and resilience of various seaweed species. They can also conduct some extension trials in the production and marketing of seaweed. Again, IMACS should address the full value chain rather than just the production side.

Significant impacts from climate change will result from erosion and flooding. MB SULTRA doesn't have a geologist that focuses on the coast. UNHAS has experts in these areas so this could be another area for partnering. Skills can be improved in modeling of riverine and shoreline ecosystem processes to get a more accurate understanding of the larger coastal changes occurring. Select sites could be used for conducting extension research on adaptation options for common erosion and flooding issues.

### 3 Hasanuddin University

Hasanuddin University is one of the biggest state-owned universities in Indonesia, based in Makassar, the capital of South Sulawesi (Sulawesi Selatan - SULSEL) province. The university was established in 1956 and has graduate degree programs across all of the major disciplines including fisheries, mariculture, planning, agriculture, forestry, economics, law, public health and geology. Last year, they established a Center for Coral Reef Research which takes advantage of one of the stronger disciplinary areas within the Faculty of Marine Science and Fisheries.

We met with the Dean and some faculty of Marine Sciences and Fisheries as well as the secretary of Mitra Bahari SULSEL. They were one of the first MB programs and have mentored other programs around the region since 2004 including MB SULTRA and NTB. MB SULSEL created a foundation to enable financial mechanisms for projects. They have an extensive partnership with private sector, government, overseas universities, donors and NGOs. Their large funded projects through COREMAP have ended and so they are now targeting local government for revenue generation.



*Poster at the Center for Coral Reef Research recently established at UNHAS showing areas of expertise*

UNHAS has worked with UNHALU and other organizations before on coastal issues so they are familiar with the people, geography, culture, organizations and institutional challenges they are facing. Since MB SULTRA is reinvigorating their program there appears to be a nice opportunity for *cross pollination* between the provinces. Areas for joint research and extension include: simulation modeling for climate change at community and district scale, seaweed development and engaging the private sector. UNHAS also has some experience with conducting community assessments.

Some recent work that MB SULSEL has conducted includes COREMAP work on coral reefs and mangroves, as well as a German project called SPICE that looked at social resilience. In 2010 they started work on a "Loving 100 Islands" initiative of the Governor that included research on fish processing and awareness on disaster adaptation (North Sulawesi integrated this into their coastal zone plans). This year they are working with Bugis communities in Kalimantan in border zones. UNHAS has also done some sea level rise simulation modeling using some simple methods. They have also worked with more complex models through the Jakarta based BPPT who have good technical and spatial modeling capabilities.

## 4 Institute Pertanian Bogor

Institute Pertanian Bogor (Bogor Agricultural Institute) is one of the leading centers in the country for fisheries and marine science. They offer undergraduate and advanced degrees including a masters and PhD program in Coastal Management among others in marine science, fisheries and aquaculture. Many of the staff and faculty at regional universities with fisheries and marine science programs, and individuals active in the Mitra Bahari program are graduates from IPB. IPB has also been a leading source of graduates for KKP as well. The coastal related programs are administered out of the Faculty of Fisheries and Marine Science. Outside of the Faculty of Fisheries and Marine Science, IPB also has strengths related to coastal issues and climate change in many other faculties and departments including food science and technology, environment and resource economics, forestry, and human ecology. Virtually any type of expertise needed for conducting vulnerability assessments and adaptation planning are available at IPB. IPB is also noted for providing senior advisors to KKP and to the many international and donor projects in coastal, marine fisheries management. IPB played a significant role and continues to play a role in many of the initiatives started under the USAID-URI CRMP Project, including the creation and development of the Mitra Bahari program and in networking among the fisheries and marine science universities in the country. They also undertake some work in cooperation with CI and related to the CTI initiative. IPB staff is also actively involved in the planning and implementation of the annual Mitra Bahari conference sponsored by KKP as well as the bi-annual national symposium on coastal management, both of which will be held in Mataram this year and are co-coordinated with the Mitra Bahari Office at UNAM. IPB is one of only a handful of government supported universities that has been given autonomous legal status (as a P.T.) although faculty are still considered as government officers.

Like many universities, there are many Centers at IPB that provide various forms of specialized research, technical expertise and extension services. Previously under the USAID funded CRMP, a major effort was put into strengthening the Center for Coastal and Marine Resource Studies - Pusat Kajian Sumberdaya Pesisir dan Lautan (<http://www.indomarine.or.id/>) which continues with a number of initiatives to this day. This Center is headed by Prof. Dr. Ir. Tridoyo Kusumastanto and has focused much of the work of the center on economic aspects of coastal and marine resource development. Recently however, the university reorganized and placed all centers under one umbrella - under the Institute for Research and Community Empowerment. Hence CCMRS was moved out of the Faculty of Fisheries and into this institute, but much of the technical expertise that the Center draws on still comes mainly from this faculty. IPB also has a Center for Climate Change Risk and Opportunity Management in South East Asia and Pacific (CCROM) but we were not able to talk to anyone from this center due to limitations on time. IPB Centers and Faculties have conducted numerous studies assessing and forecasting climate risks to various sectors, conducting vulnerability assessments and offers a wealth and depth of knowledge that IMACS can draw on.

Our focus was primarily on the Faculty of Fisheries and Marine Science as a potential source of mentoring and support to the IMACS climate change activities and specifically to the capacity development programs within the two IMACS targeted field sites. We met with the Dean, Prof. Dr. Ir. Indra Jaya, and Dr. Dietrich Bengen, a faculty member and senior advisor under the CRMP and to KKP. They explained that the faculty has a significant amount of assets that could

be brought to bear in assisting with research, technical studies and training on climate change. Several faculty and many students are starting to focus their research interests on this topic, including spatial simulations, development of vulnerability indexes and other associated tools. The Faculty has a MOU with KKP and provides many services to this Ministry including adopting islands in border areas such as Suli Kecil in Natuna and Nusa Kembangan in South Java. IPB is a designated Mitra Bahari Center for West Java, but their reach extends well beyond this geographic area and they truly are a University with national reach and influence. For Instance, Dr. Bengen is currently advising JICA as a coastal specialist on the coastal section of the national climate change adaptation strategy that JICA is supporting and plays a role in organizing the biannual National Coastal Zone Symposium.

## 5 Recommendations

Mitra Bahari can act as an effective platform for bringing coastal stakeholders together to address coastal climate change adaptation issues and build coastal community resilience in the IMACS field sites. It can also serve as a means by which local capacities are strengthened. We propose that IMACS contribute to achieving the following long term outcome by the end of the project for Mitra Bahari Regional Centers based in the field sites

*The MB Regional Centers are respected and sought by public and private decision makers and communities to advise on building climate resilient coastal communities and livelihoods and on strategies to reduce climate change risks to public and private infrastructure and economic development investments.*

MB regional centers at each of the field sites should undertake an integrated set of core initiatives featuring training, technical studies, extension, communication and policy support activities on coastal climate change and community resilience. These include:

### FOUR CORE CROSS SITE INITIATIVES FOR MB AND IMACS

- **Capacity development and strengthening of Mitra Bahari**
- **Assessing and building community resilience**
- **Improving major value chains of exiting coastal household livelihoods for large scale impact.**
- **Guiding planning at ecosystem scale that addresses costs of coastal infrastructure and development that may be at risk.**

The other MB Centers visited during this assessment – in SulSel at UNHAS -and at IPB - where capacities are already strong, can serve as supporting institutions for each of the field sites and which can mentor and bolster existing local MB capacities as needed.

How these initiatives get carried out in each locality will vary based on existing capacities and needs in each field site province. It is explained in detail for each location below.

#### **INTEGRATED APPROACHES ARE STILL THE WAY FORWARD**

The IPCC report (2007) on “Impacts, Adaptation and Vulnerability” traces the evolution of adaptation practices from the three recommendations of the first IPCC assessment report—protect, accommodate or retreat—to current best practice. The authors conclude that **integrated coastal zone management (ICZM)** “is widely recognized and promoted as the most appropriate process to deal with climate change, sea-level rise and other current and long-term coastal challenges” specifically noting its advantages over, “reactive and standalone efforts to reduce climate-related risks to coastal systems”.

ICZM is a widely known and established global practice. (SOURCE: CTI Reefs at Risk 2009)

### ***General Strategies***

IMACS supported activities should consider the following strategies for both field sites

- Focus on priorities of local government and communities so that activities are demand driven
- Link awareness raising activities by RARE with applied research, extension and policy promotion by MB
- Partner with the power brokers – large private sector interests and innovative government agencies
- Strengthen the ICM planning processes underway and promote their adoption and implementation but don't rely on them fully in the short term
- Focus on broader resilience elements with a perspective on climate change vulnerability and opportunities for development (not just maintain hazards preparations)
- Broad scale vulnerability assessments have been done (e.g. for Lombok). Now go to smaller area scales that have more practical significance and can be more directly linked to site specific adaptation actions, and add resilience assessments.
- Work on ways to mainstream more fully, adaptation plans into local government ICM and development planning processes.
- Link to the extent possible, the IMACS Field Strategy and related activities implemented by RARE and under the fisheries component, with the MB activities via regular coordination meetings. Particular areas of potential synergy include:
  - Livelihoods diversification through - core value chain improvements
  - Community Resilience assessments and adaptation plans via KKP PDPT Program
  - RARE awareness and behavior change initiatives
  - Small grants program (in subsequent years – channel funds to implementation of actions at community scale or on the value chains that has direct impacts and benefits to communities
  - Overlapping site based areas where RARE sustainable fisheries, PDPT and large scale assessments are all being conducted.



### ***Criteria for Prioritizing MB Activities supported by IMACS in the Province***

The following criteria are recommended for determining what CCA activities IMACS should support through MB that will contribute to the overall objective of building their capacity to provide local climate change and community resilience advisory services including training, extension, communication and technical support within the province. It should be noted that MB is a consortia that includes the University as well as local government, NGOs and private sector groups. Therefore, the activities supported are not just focused on building the capacity with the universities. These criteria mainly apply to climate change adaptation activities as that was the scope of our terms of reference. However, IMACS may choose to include additional criteria that help integrate more fully with the sustainable fisheries activities and small grants program as well. These criteria can apply to overall strategic direction of IMACS climate change activities in the Province, not just those intended to build MB capacity. MB provides a forum for CCA work in the province that includes all stakeholders and therefore can serve as an overall conduit for many of the field support activities.

- Awareness raising workshops and training courses at the local level should meet expressed needs of local institutions and not just be focused on government agencies but include the legislative branch, NGOs and private sector groups where possible.
- IMACS should give priority work to organizations that are MB members and or encourage them to become members to strengthen the MB institutional mechanism.
- Areas selected for on-the-ground activities should meet several of the following criteria.
  - Coastal areas selected by the province for economic development (18 areas in NTB) including national accelerated economic growth areas (i.e. Telok Saleh)
  - Coastal priority sites selected by the province for detailed coastal development and planning (e.g. 18 areas in NTB)
  - Areas identified as highly vulnerable coastal areas. These have been identified in NTB for Lombok. For any sites on Sumbawa and in SULTRA, while there is no study that we are aware of yet to help prioritize vulnerable areas, this can be done in qualitative terms in a rapid assessment approach that would not involve extensive field work and based on local knowledge of the MB team and existing secondary information and documents.
  - Fills gaps in current knowledge or models for vulnerability assessments and adaptation plans from community to provincial scale
  - IMACS priority districts already selected in the Province
  - Offers opportunities for linking to IMACS small grants program and fisheries initiatives
  - Offers opportunities for significant focus on development of supplemental and/or improved climate resilient livelihoods that can be scaled up to ultimately impact hundreds to thousands of coastal vulnerable households and support KKP policies and PDPT Program priorities of pro-poor, pro-employment.
  - At community scale, some evidence of existing resilience (e.g. traction or history of Coping/Adaptation to existing hazards – community organized to make big decisions)

## 5.3 Mitra Bahari in NTB

### *Strategies for MB NTB*

MB NTB has proven themselves to be a strong player in conducting field work, developing partnerships and gaining the respect of government. Therefore we recommend a strategy that puts more responsibility on MB NTB to conduct extension work and coordinate policy development activities.

### *Core Initiatives*

**Capacity development and strengthening of MB.** This core initiative should focus on human resources strengthening of MB members and their primary stakeholders through the following activities:

- Development and implementation of a province wide training and outreach strategy that targets different levels and types of clients in local government – decision makers and middle level management, NGOs and the private sector, especially tourism. This should include continuous briefings for Executives and Parliament members to provide decision-making services.
- Strategy meetings by MB to develop a short and medium term strategy of how MB will support community resilience building and adaptation actions within their region.
- Lesson drawing workshops and exchanges to improve performance and delivery on climate related services. There are opportunities here to have such local lesson drawing activities also help in integrating across the various components of IMACS

**Assessing and building community resilience.** This should involve an integrated community-based approach that looks broadly at existing adaptive capacities and resilience, and ways to address the multiple impacts of change, both climate and non-climate related stressors. MB can assist the KKP PDPT program by serving as the facilitator to ensure that all groups conducting coastal community resilience assessments and action plans are coordinated and learning from each other's experience. If this task is too large for MB, then IMACS could simply conduct all of their meetings at the MB offices to signify the role of MB in the province. This coordination and learning role is central to MB's mission and IMACS should strengthen this institutional mechanism. MB might not conduct the PDPT assessments but they could evaluate the effectiveness of the various methods used and develop good practices for future assessments.

**Improving major value chains of exiting coastal household livelihoods for large scale impact.** These activities will involve development of an action research – extension agenda focused initially on one economic sector and potentially expanded in later years. Within selected value chains, assessments should identify specific improvements to production and marketing systems and to adapt to changes including climate stressors, and that expand economic benefits for vulnerable coastal communities. In the case on NTB, coastal value chains of interest include salt making, fisheries and tourism. It is more likely that quick progress on building community economic resilience can be made focusing on existing value chains rather than trying to

introduce new value chains or new livelihoods not already practiced in the coastal villages, especially if tangible impacts at scale for a large number of coastal households is the objective during life of project. IMACS led value chain work should extend from assessing the value chain, identifying strategies for improvements that benefit coastal community households currently engaged in this activity, and in implementing those strategies.

We recommend emphasis initially on value chain improvements for the salt making cottage industry in NTB. While Chemonics has strengths in value chain development and should quickly move to do the value chain assessment of salt in this province, there is a role for Mitra Bahari in acting as a platform for multi-agency coordination and review of value chain assessments and determining roles and responsibilities of various actors for follow up actions based on the opportunities identified in the value chain assessment. Improvements in the salt making industry is a high priority of KKP and the province as well. This activity takes place in very poor coastal communities, involves thousands of households on Lombok and Sumbawa islands, is carried out in low lying areas that have been identified as having some of the highest vulnerabilities to climate change and occurs in several of the IMACS priority Districts. It also meets national government and KKP pro-poor, pro-employment policies of the PDPT program (some of these communities could be targeted for the community resilience and adaption planning as well). MB NTB has already started to work collaboratively with the Ministry of Health and Ministry of Industry and Trade on selected activities related to the salt industry, so it provides a good entry point for IMACS where some traction has already been gained.

Salt making will be a climate sensitive activity and subjected to various shocks from changes in seasonal rainfall patterns as well as from increasing storms and sea level rise affecting ponds where production takes place. Strategies to address both periodic storm and rainfall pattern shocks as well as longer term sea level rise issues should be identified. For instance, in some other provinces such as Aceh, salt making is seasonally intercropped with milkfish farming. As higher elevation salt ponds become inundated, some may become more suitable for year round milkfish farming. Getting salt farmers involved in multi-cropping now will help prepare them to adjust the seasonal or long term optimal mix of salt farming versus milkfish farming.



News article quoting the KKP Director General concerning their target of increased salt production for the nation. Salt making in NTB is a cottage industry that has potential for value chain improvements.

### **Guiding planning at ecosystem scale that addresses costs of coastal infrastructure and development that may be at risk.**

It was clear to us on our short visit that there are numerous anecdotes of poor planning and investments in public infrastructure and coastal development. There are cases in Lombok alone where newly constructed coastal roads and bridges have been washed out to sea as they were built in erosion prone areas. In addition we observed directly that public infrastructure and shore line protection structures that were built to address erosion problems had little effect and also resulted in reducing access to the shoreline for fishing communities. In other places, major hotels are at risk of losing the sandy beaches fronting their establishments and soon will need to face decisions about removing beach cottages and pools, or armoring the shoreline to protect them from a rapidly eroding shoreline. MB has an opportunity advise on ways to reduce public expenditures on costly coastal infrastructure. Specific areas of interest include the NE road reconstruction on Lombok, the urban Mataram coastline, and Ports (including fishing ports) . MB can possibly conduct cost benefit analyses and show alternative options for a progression of coastal management from short term to long term (hold, accommodate, transform). Demonstrating the cost savings from good adaptation planning and implementation of smart policies will tend to raise the profile and demand for MB services.



*Costly engineering attempts of erosion control that failed in Mataram City*

We propose the development a series of learning-by-doing initiatives geared to conducting vulnerability assessments and adaptation plans at the community level as well as at larger scales (e.g. assessment plans at finer spatial scales than the provincial level but larger than community scale but that have some ecosystems and/or administrative coherence (e.g. bay and watershed, island, district, city). Priority should be placed on already identified sections of the coastline or ecosystems that have high to moderate physical, ecological and socio-economic vulnerability to climate change. Candidate sites being Telok Saleh; the Cemara area and southeast east region of Lombok Island where there is significant salt farming activity, the Kuta coast or the Three Gili Islands tourism zones. We suggest that one tourism zone and one salt making area on Lombok be selected for starting activities. In subsequent years, as experience is gained, expand to other areas and possibly Sumbawa Island and consider incorporating a site that has more public infrastructure siting issues (e.g. Kota Mataram) including fishing ports.

***Immediate activities for implementation in MB NTB***

The following activities are proposed to move forward:

- **Working Arrangements:** IMACS team to draft up, negotiate and sign with MB an MOU that sets out general goals and approach to an MB-IMACS partnership. CRC has provided draft language based on an existing UNRAM MOU (available in a separate working arrangements report).
- **Team Training and Strategy Development at URI Coastal Resilience Course** in June. MB to identify three partners (government, academia and private/NGO sectors) who speak English to attend CRC's international training course. This provides the team with detailed training as well as time to develop joint strategies for the MB partners to work together during IMACS activities. They can also form relationships and network with the MB SULTRA team at the course.
- **ToT for Executive Level Seminar:** CRC to implement an initial Training of Trainers for a select group of MB partners to achieve the following outputs:
  - Sharing of experience related to coastal community resilience, adaptation and vulnerability work (CRC to show some visual inundation modeling tools)
  - Developing key messages for the executive seminar that MB partners will deliver at a later date
  - Designing of the seminar agenda and activities to ensure the event is interactive and the executives clearly identify their needs and how MB could serve them.
  - Develop a more detailed "proposal" to IMACS by MB for subsequent on-the-ground activities to replicate this seminar and other trainings.
- **Sea Level Rise Simulations** developed for use in Executive Seminar. CRC will assist MB to develop very simple but visually powerful images of SLR in the province.
- MB should start working on a set of concepts and ideas based on the recommendations in this report, for a **three year strategy** in partnership with IMACS, with proposed objectives, actions, outputs and outcomes expected over the duration of the IMACS project

## 5.4 Mitra Bahari in Sulawesi Tenggara

### *Strategies for MB SULTRA*

Given the organizational weaknesses of MB in SULTRA at present, we recommend a go slow approach that starts with a small set of activities or practical exercises to test them out and help build more credibility among the members for the partnership. In addition, mentoring with MB SULSEL will provide an opportunity for MB network to support one another and expand the expertise available to IMACS activities in a short amount of time.

### *Core Initiatives*

**Capacity development and strengthening of MB.** This core initiative should focus on human resources strengthening of MB members and their primary stakeholders through the following activities:

- Reinvigorate MB in the Province, first by establishing new formal leadership via executive order of the governor. Without new leadership, opportunities will be limited.
- Promote Exchanges among MB Regions. Have NTB and SULSEL MBs share their experiences and have MB SULSEL advise MB SULTRA on organizational development and working relationships as they rebuild their program.
- Development and implementation of a province wide training and outreach strategy that targets different levels and types of clients in local government – decision makers and middle level management, NGOs and the private sector, especially tourism. This should include continuous briefings for Executives and Parliament members to provide decision-making services.
- Strategy meetings by MB to develop a short and medium term strategy of how MB will support community resilience building and adaptation actions within their region.
- Lesson drawing workshops and exchanges to improve performance and delivery on climate related services. There are opportunities here to have such local lesson drawing activities also help in integrating across the various components of IMACS

**Assessing and building community resilience.** Considering MB SULTRA's current capacity this should be a small role that they play on the ground. Though MB can still work closely with IMACS to begin the vital role of being a convener of coastal partners for learning. This should involve an integrated community-based approach that looks broadly at existing adaptive capacities and resilience, and ways to address the multiple impacts of change, both climate and non-climate related stressors. MB can assist the KKP PDPT program by serving as the facilitator to ensure that all groups conducting coastal community resilience assessments and action plans are coordinated and learning from each other's experience. If this task is too large for MB, then IMACS could simply conduct all of their meetings at the MB offices to signify the role of MB in the province. This coordination and learning role is central to MB's mission and IMACS should strengthen this institutional mechanism. MB might not conduct the PDPT assessments but they could evaluate the effectiveness of the various methods used and develop good practices for

future assessments. Those NGOs that receive small grants from IMACS to conduct village assessments should consider becoming MB members to once again build up the existing institutions.

**Improving major value chains of exiting livelihoods in coastal households for large scale impact.** These activities will involve development of an action research – extension agenda focused initially on one economic sector and potentially expanded in later years. Within selected value chains, assessments should identify specific improvements to production and marketing systems and to adapt to changes including climate stressors, and that expand economic benefits for vulnerable coastal communities. In the case on SULTRA, the primary coastal value chain of interest is seaweed farming. It is more likely that quick progress on building community economic resilience can be made focusing on existing value chains rather than trying to introduce new value chains or new livelihoods not already practiced in the coastal villages, especially if tangible impacts at scale for a large number of coastal households is the objective during life of project. IMACS led value chain work should extend from assessing the value chain, identifying strategies for improvements that benefit coastal community households currently engaged in this activity, and in implementing those strategies.

Seaweed farming is recommended as it is a priority economic activity of the province and MB SULRA and MB SULSEL have strong capacity in this area. MB can build off of AUSAID-ACIAR's work on value chains for immediate implementation of improvements where possible. We propose action – research on problems with the 'ice ice' environmental stressors, resilient genetic strains and developing resilient farming strategies. For example perhaps hedging bets by promoting the two varieties to be grown (cottoni and spinosum), while improving practices for the more climate sensitive cottoni variety.

Abalone farming is an existing initiative between UNHALAO and Kendari Kota investments. However it should be seen as a secondary priority due to its replication in other parts of the province at this time. If work is done with abalone then limited research on climate change impacts on reproduction and juvenile production would be helpful.

**Guiding planning at ecosystem scale that also addresses coastal infrastructure and development at risk.** SULTRA is in a growth stage and there will be large infrastructure projects occurring in the coming decade. This provides an excellent opportunity for MB to help prevent inappropriate development or even mal-adaptations and save significant maintenance costs for government and industry. There are two specific areas where MB can start working at this larger ecosystem scale that also addresses priorities of the government:

- 1) Sedimentation, Erosion and Inundation of Kendari Bay and surrounding communities
  - a) Produce very simple SLR visuals for coastal areas that can be used in orientation training and media outreach
  - b) Identify the sources for sedimentation in surrounding watershed to reduce the dredging costs for the main provincial fisheries port and the Navy port.
  - c) Analyze erosion and inundation patterns for communities around Kendari Bay (who have seen increased wave height and erosion recently)

- 2) Bone Bay Special Area Planning. This is a very large scale area and should be a secondary priority after MB addresses more local issues. The two provinces want to work on fisheries and habitat loss in the bay. MB could help add a climate lens and mainstream adaptations into the planning.

### ***Immediate activities for implementation in MB SULTRA***

The following activities are proposed to move forward:

- **Working Arrangements:** IMACS team to draft up, negotiate and sign with MB an MOU that sets out general goals and approach to an MB-IMACS partnership. CRC has provided draft language based on an existing UNHALU MOU (available in a separate working arrangements report). A new MB SULTRA Director needs to be in place before the MOU can be signed.
- **Team Training and Strategy Development at URI Coastal Resilience Course** in June. MB to identify three partners (government, academia and private/NGO sectors) who speak English to attend CRC's international training course. This provides the team with detailed training as well as time to develop joint strategies for the MB partners to work together during IMACS activities. They can also form relationships and network with the MB NTB team at the course.
- **ToT for Executive Level Seminar:** CRC to implement an initial Training of Trainers for a select group of MB partners to achieve the following outputs:
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  - Designing of the seminar agenda and activities to ensure the event is interactive and the executives clearly identify their needs and how MB could serve them.
  - Develop a more detailed "proposal" to IMACS by MB for subsequent on-the-ground activities to replicate this seminar and other trainings.
- **Sea Level Rise Simulations** developed for use in Executive Seminar. CRC will assist MB to develop very simple but visually powerful images of SLR in the province.
- MB should start working on a set of concepts and ideas based on the recommendations in this report, for a **three year strategy** in partnership with IMACS, with proposed objectives, actions, outputs and outcomes expected over the duration of the IMACS project



## 5.5 UNHAS

UNHAS would be an ideal partner to provide support services to MB SULTRA, similar to their role when MB SULTRA was first established. Their close proximity is an asset to IMACS. We recommend that UNHAS play the following roles:

- Mentoring MB SULTRA as they strengthen their program. A new director will be assigned soon and their previous core funding (COREMAP) has ended. The two MB programs can do exchanges focused on administrative systems at universities, partnership building with private sect, extension methods and communication.
- Seaweed action research focused on their resilience to climate changes and diseases such as ice-ice.
- Adaption policy analysis with UNHALU focused on SULTRA context. CRC and IPB would lead the larger Indonesian policy study with UNHAS and UNHALU providing a leading role in SULTRA.
- Joint assessments in special area management programs such as Kendari Bay and Bone Bay (secondary priority). The two universities can combine their expertise to cover more issues and integrate across issues.

## 5.6 IPB

IPB can clearly provide a variety of support services to the IMACS program and in particular, to the capacity building strategies recommended to be implemented through Mitra Bahari in NTB and SULTRA. We recommend that IPB be engaged in the following Manner:

- Administratively, we recommend that any direct contracts with IPB for climate change activities be done through the Faculty of Fisheries and Marine Science. Dr. Dietrich Bengen should be the main point of contact and the project leader. We had extensive discussions with IPB and other universities about contracting universities and the issue of PP 53 regarding hiring of government officers. It is the opinion of the universities that there is no conflict with this regulation by contracting universities directly. A key issue is that any faculty time involved in such contracts, as government officers, must be part-time and be budgeted as hourly time, and cannot be greater than the number of hours in a regular work week.
- For the policy review work in the existing CRC task order for CRC, we will engage IPB to assist in this effort via our current contract, and will most likely include some assistance from UNHAS as well as MB-UNHALO and MB-NTB/UNRAM.
- We recommend that IPB be designated as a mentor to MB-NTB/UNRAM, and that UNHAS mentor MB-SULTRA/UNHALO. As proposals are put forward for direct work with MB-NTB/UNRAM, that should include a scope of work for IPB as well – mainly as a backup to provide technical expertise that may be missing at UNAM, but additionally as senior mentors that will give final products jointly produced between IPB and UNRAM higher status and credibility. As part of this role, it would be important to have

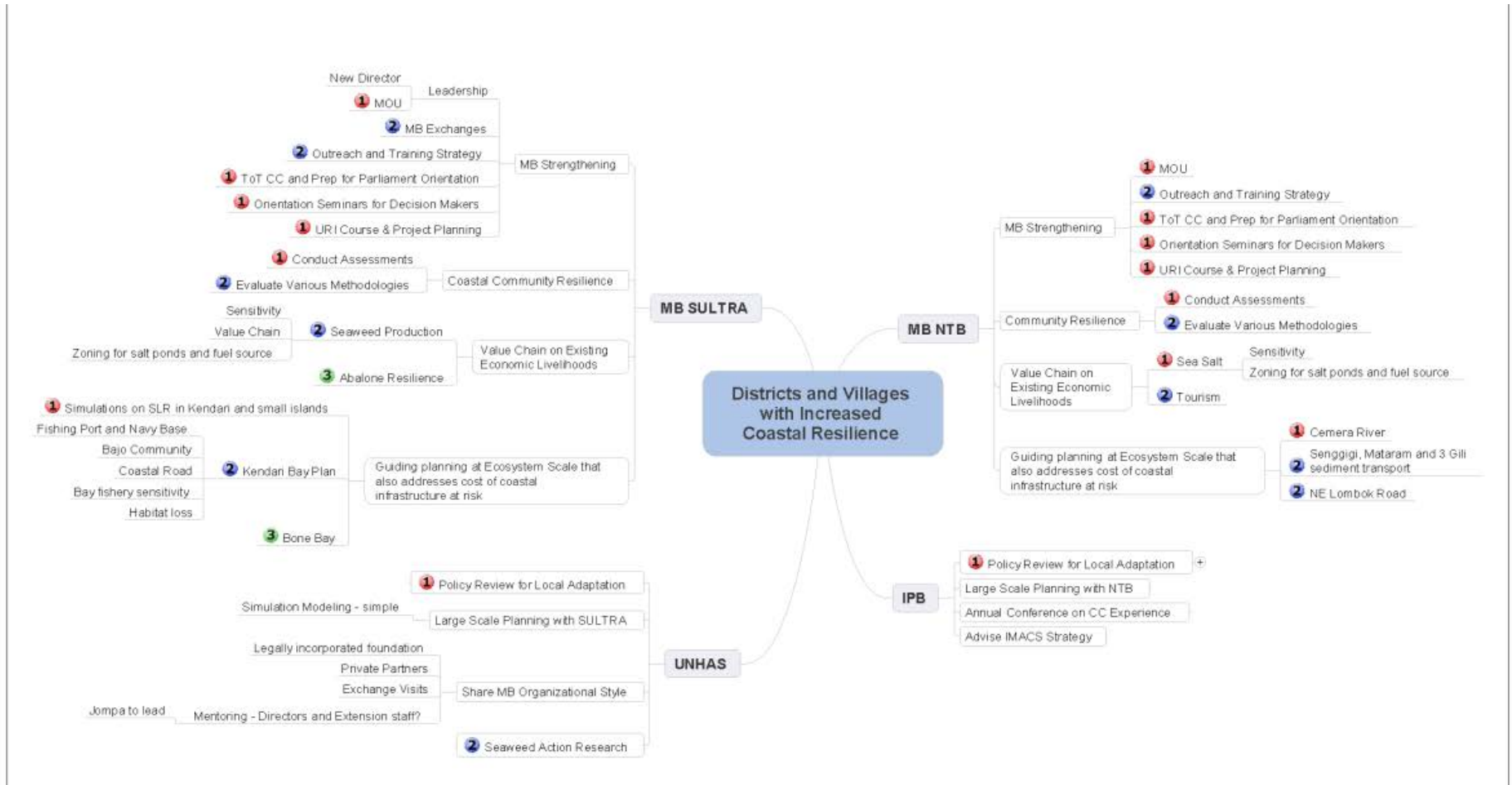
IPB at the ToT sessions CRC will provide to MB-TNTB/UNRAM in March and be involved in the sessions that will be devoted to developing a longer term proposal to IMACS. In particular, we believe that IPB can play a specific role in preparing a vulnerability assessment and adaptation plan, and mainstreaming that into existing ICM plans at the Kabupaten/Kota and provincial levels, depending on site selected (See NTB section of this report).

IMACS should work directly with IPB and the MB-NTB and KKP/DKP NTB partners in designing sessions at the National Symposium on Coastal Management (Oct 26-28, 2012), either a concurrent session or perhaps better, a pre or post day-long session that reviews current experience and lessons learned with respect to mainstreaming vulnerability assessments and adaptation planning at community and local (kota, kabupaten and provincial) scales. This would be a first in a series of annual events IPB could help organize with KKP and IMACS to draw out and document lessons and experience on this topic nationwide to help inform more fully, field work activities as well as national policy and programs. CRC can also play a facilitating role and assist in the design and outputs from these events.

## **5.7 General**

There is a need to establish a simple file sharing and blogging site for all IMACS partners to access and use. Emails are not an efficient mechanism for knowledge management. Simple low cost “workspaces” exist. CRC uses Central Desktop. The COREMAP listserve ( <mailto:coremap2@yahogroups.com> ) administered by KKP has also been a highly active communications tool but has generally been a more public communications space as opposed to an internal team communications tool. CRC could assist in this regards and could start establishing some file sharing workspaces and listserve/blog spots where members of the IMACS CCA team, including partners in NTB and SULTRA, UNHAS and IPB could participate as well.

**Relationship between Overall Goal of the MB Partnership, IMACS Objectives, Key Partners, and Core Activity Areas**



# Annexes

## **CRC Terms of Reference**

### Task 1: Conduct Capacity Assessments (December 2011 – February 2012)

The Subcontractor shall assess the capacity of Haluoleo and Mataram universities, provincial Program Mitra Bahari (PMB), or Sea Partnership, within IMACS pilot areas, and designated Centers of Excellence – Hasanuddin University in Makassar and Bogor Agricultural University to provide climate change adaptation and resilience (CCAR) advisory services to local governments. The subcontractor shall:

- Assess technical capabilities of the above listed IMACS partners to support CCAR policy making, planning, and response by local governments;
- Identify activities that will strengthen capabilities of IMACS partners to effectively advise local governments, private enterprises, coastal communities and other stakeholders on CCAR; and
- Define and prepare detailed terms of reference for IMACS collaboration with universities and PMB participation in IMACS.

### Deliverable No. 1: Capacity Assessment Report

Upon completing the activities outlined in Task 1, the Subcontractor shall provide a capacity assessment report on the current capabilities of the PMBs and universities at the two pilot sites, and Hasanuddin University in Makassar and Bogor Agricultural University as Centers of Excellence in CCAR. The report shall include recommendations on key measures for strengthening their outreach capabilities to support the needs of local governments and communities. The report shall include details on key findings and recommendations for activities that will promote institutionalization of CCAR knowledge within PMB and universities. All deliverables are required to be delivered in MSWord with size 12, Times New Roman font and 25 to 30 pages in length including relevant tables and annexes.

## Assessment Tool

# CAPACITY ASSESSMENT for IMACS PARTNERS ADDRESSING COASTAL COMMUNITY RESILIENCE

CRC@URI Draft Jan 22, 2012

### *Purpose*

CRC shall assess the capacity of:

- University of Haluoleo
- University of Mataram
- Program Mitra Bahari (PMB) within the two IMACS pilot areas
- Hasanuddin University in Makassar
- Bogor Agricultural University (IPB)

to provide climate change adaptation and resilience (CCAR) advisory services to local governments. Findings will guide the technical assistance that CRC will provide to these organizations during the IMACS project time period – until September 2014.

Tasks include:

- Assessing the technical capabilities of the above listed IMACS partners to support CCAR policy making, planning, and response by local governments;
- Identifying activities that will strengthen capabilities of IMACS partners to effectively advise local governments, private enterprises, coastal communities and other stakeholders on CCAR; and
- Defining and preparing detailed terms of reference for IMACS collaboration with universities and PMB participation in IMACS.

### *Methodology*

A simple institutional (linkages between multiple organizations) capacity assessment framework focused around the Mitra Bahari Consortium will guide a discussion around the services that local district governments (and to a lesser degree MMAF) are demanding from universities to address coastal community resilience to climate change. Key informants in district and provincial government, NGOs and the universities will be interviewed to probe the assessment indicators. Site visits to areas that the government and university are working will be beneficial to grounding the assessment and hearing from additional stakeholders informally.

The Assessment tool is divided into two categories – development of the organization and integrated coastal management technical capacity (with a focus on coastal resilience to climate change). The services that the university can provide should be driven by the needs of the local governments and coastal communities.



## **ASSESSMENT PHASES**

### **1. SITUATIONAL ANALYSIS**

- Priority management issues (use Resilience factors as lens), actions taken (adaptation or not) and their linkages
- Key Stakeholders

Key Informants –

- District (and potentially some Provincial government offices) DKP, BAPPEDA, BAPEDAL,
- Universities
- Mitra Bahari Prov and National
- (Business and NGOs if time permits?)

### **2. ORGANIZATIONAL CAPACITY ASSESSMENT**

- Organizational development (targeted for the two provincial Mitra Bahari Partnerships **only**)
- Technical capacity (of MBs and Universities)

We will assess the universities' technical capacity to deliver services to local government and coastal communities in relation to coastal climate change issues. Once the desired services are clear we will identify who at the universities (faculty, PSL or other) can best deliver the services.

### **3. TRAINING NEEDS ASSESSMENT**

- Use the resilience elements and priority issues from the situational analysis to identify the desired level of services (performance for assessments and implementation). Then analyze solutions to building the necessary capacity to offer services.
- Start with Government and local university needs, then seek support from national centers of excellence
- Service Providers (MB, Universities - local and national centers of excellence) links to the technical capacity assessment above for each organization

### **4. FINAL REPORT**

- Summary of Issues and Priorities related to coastal communities and climate change
- Existing Capacity Strengths and Gaps to address the issues
- Recommended IMACS actions for Task 3
- Recommendations for working arrangements between organizations
- Recommendations on larger strategy for Coastal Community Resilience

# 1. SITUATIONAL ANALYSIS on Coastal Community Resilience

Questions for Local Governments, Universities (Faculty and PSLs) and Mitra Bahari:

1. What are the primary **issues** you see related to climate change and coastal communities (could be broader than climate)?
2. Who are the key **stakeholders** related to each of the issues? How have you organized stakeholders and government offices around climate change issues (or natural disaster)?
3. For these **issues** what actions have been taken, and what is planned? Have you done any CCAR vulnerability assessments, adaptation plans and/or adaptation actions?
4. If and how are you implementing the CZMA act requirements on CZM strategic plans, actions plans, hazard mitigation, buffer strips
5. How high a **priority** do you see this?
6. Do the key **stakeholders** have any interest in acting on these priorities? How has government and other partners allocated resources to address these issues?
7. What are your primary **needs** (demands) to address these issues?
8. What **services** can your organization **provide**? How could you improve in this area?
9. Which **services** do you **need** from external providers? How has the local university in general and PSL in particular provided services to you and others in the past?
10. What has been the **effectiveness** and efficiency of working with the MB in the past? Are there areas for improvement?

Issues	Status on Actions (done or planned)	Priority Stakeholders	Priority Needs	Internal Capacity	External Providers

## 2. ORGANIZATIONAL ASSESSMENT

Section one which is focused on organizational development will only be applied to the provincial Mitra Bahari programs. Section two focuses on technical capacities to provide services. This will be applied to MB, Governments and the Universities.

### *I. DEVELOPMENT OF Mitra Bahari at Provincial Level (with links to National Program)*

#### MANAGEMENT STRUCTURE

*Key Component: Recognition by University and Partners*

- A. No formalized structure
- B. University and Government organizational chart shows center embedded within other unit
- C. Independent placement on University/Govt Organizational Chart; clear lines of reporting and responsibility
- D. Independent placement and clear lines of reporting complemented by linkages and integration with other key units shown on Univ. Org. chart

*Key Component: Administrative Structure*

- A. Internal organization unclear, structure lacking in controls and checks and balances, duplication and gaps in structure
  - B. Clear lines of authority and responsibility; inefficiencies and duplication exist
  - C. Authority and responsibility clear, little duplication, structure hierarchical
  - D. Structure clear, less hierarchical Table of Organization; structure adapted as necessary to meet changing needs of Center's work
- How do you organize MB within the university structure?

#### PLANNING AND MISSION

*Key Component: Mission*

- A. No mission statement exists
- B. Mission statement is unclear; projects and proposals do not focus on the mission
- C. Mission statement is clear but not all staff can articulate it, not all projects focus on coastal management
- D. Mission statement is clear; all staff can explain it; all work of center focused on mission

*Key component: Planning*

- A. No strategic or annual planning exists
- B. No strategic plan. Annual plans not realistic, may be out of date, not consistent with current projects
- C. Strategic plan is out of date or in progress. Annual plan exists and has realistic goals. Planning generally used to direct the program.
- D. Strategic plan completed or updated within last two years. Annual plans are ambitious and realistic. Planning and reporting on plans are used as effective management tools.



LEADERSHIP (modify this to sense their style)

- A. Director controls all activities, little or no staff input to decisions, no secondary leadership has developed
- B. Decisions made by director and senior staff; director has limited participation in other university activities
- C. Director and senior management share leadership role for center; Director active in other leadership activities of the University
- D. Decision making participatory; leadership potential recognized and promoted within the center; Senior staff active in key initiatives at the university and in the national and international community

Are there strong advocates for MB within the University?

MANAGEMENT STYLE

*Key Component: Inclusiveness – to what degree are the partners involved in decisions, advisory or implementation?*

*Key Component: Delegation*

- A. No delegation from director
- B. Authority for some activities delegated to senior level managers
- C. Director delegates much authority, senior staff delegate significant level of operational authority
- D. Director delegates all day-to-day decision-making to senior staff who further delegate to line staff and teams.

*Key Component: Transparency*

- A. None. Reasons behind financial and administrative decisions affecting Center known only to Director
- B. Only selected senior staff advised of rationale behind decisions of Director
- C. Management decisions made by key staff, rationale shared with line staff
- D. Rationale behind decisions shared throughout center, with stakeholders and donors.

FUNDING

- A. All funds from a single source; one or only a few projects
  - B. Funds from more than one source, but not for a diverse set of projects, all funding external
  - C. Funds from several, diverse sources to support projects; University provides some funds for operations
  - D. Core support from University; external funding diverse, supporting a range of projects; funding sufficient for new initiatives
- How do funds transfer between MB and University?

## MANAGEMENT SYSTEMS

### *Key Component: Administrative and Financial Procedures*

- A. No established procedures; files and records disorganized or incomplete; depend upon university record-keeping
- B. Procedures informal, records and files kept, administrative controls exist; largely depend upon university for financial and personnel systems
- C. Manuals exist for financial and administrative procedures but not always understood or followed, files and reports organized and up-to-date, complements and operates well within the university system
- D. Excellent systems and procedures in place for following institutional regulations, integrated with university systems

### *Key Component: Staffing (planning & hiring)*

- A. No Center-wide staffing plan; staffed by University personnel only; staff have narrow or discipline-specific technical skills and lack many of the CM-requisite skills; understaffed administratively
- B. Short-term staffing plan but not fully implemented; staffed with mostly University personnel and few external hires/contractors; broadened range of overall technical skills and CM-requisite skills; small but competent finance and administrative staff
- C. Medium-term staffing plan with full implementation; wide range of University, cross-university and external/contractual hires; broad range of skills across disciplines; strong base of CM-requisite skills; highly skilled finance and administrative staff of adequate size; intermittent mentoring of junior staff by senior staff
- D. Long-term staffing plan and full implementation; wide range of hires with excellent technical, management, and leadership skills (includes well-recognized CM leaders); highly skilled finance and administrative staff; strong, active mentoring program implemented

### *Key Component: Professional Development*

- A. No professional development program (internal or external) for staff
- B. Staff encouraged to develop technical skills only linked to immediate needs of project(s), some funding available
- C. Professional development plans for each employee in place; sporadically implemented; largely focused on skills development in project-specific/weak areas
- D. Professional development plans in place; consistently implemented; include areas of professional "growth" for the Center. Are your staff certified as professional ICM?

## **II. TECHNICAL CAPACITY in ICM, Resilience and Vulnerability**

Answer each of the questions in relation to ICM, Resilience and Vulnerability

### **POLICY DEVELOPMENT**

- A. No policy studies or engagement in policy initiatives
- B. Policy recommendations made but without involvement of stakeholders; Recommendations not used or have little influence
- C. Policies developed in collaboration with limited set of stakeholders; some recommendations are implemented and are influential
- D. Center personnel called upon to be advisors to decision-makers; policy decisions often incorporated in government decisions

### **APPLIED STUDIES**

- A. Studies and assessments done and reports produced, but are of low quality, largely sectoral, and may not be management-driven
- B. Results and reports of better quality but results not easily used by managers
- C. Studies and assessments are solution-oriented and multidisciplinary. Used by managers. Little or no follow-up by center.
- D. Studies are accomplished in collaboration with managers, of high quality, interdisciplinary, center follows up.

### **GOOD PRACTICE METHODOLOGIES**

- A. No plans or guides produced
- B. Plans produced but of low quality
- C. Plans produced are issue oriented and multidisciplinary. Some use by managers. Little or no follow-up by center.
- D. Plans are produced in collaboration with managers, of high quality, interdisciplinary, center follows up.

### **TRAINING AND EDUCATION**

#### *Key Component: Training*

- A. Sectoral/disciplinary training courses only are offered. No ICM training
- B. ICM training offered infrequently. Academic, not pragmatic orientation, not needs-driven, does not use practitioners as trainers
- C. Courses offered 2-3 times per year. Practical courses driven by prior needs assessments include case studies; practitioners included as trainers
- D. As in C, but courses (>3 per year) offered regularly, are well-attended. Curriculum is evaluated and adapted.

#### *Key component: Education*

- A. Center does not offer university courses in ICM; no participation in degree program in ICM, no faculty status
- B. Some academic courses in ICM offered at University, but no degree program in ICM
- C. Sectoral/disciplinary academic courses include ICM components; ICM courses use case studies; ICM Degree program planned or new

D. Degree program exists and well-attended; Courses integrate practical experience, practitioners are invited lecturers

#### FIELD EXTENSION

- A. No ICM extension but sectoral work or technical studies for field initiatives only
- B. ICM extension programs exist, but only intermittent engagement with stakeholders on ICM plans
- C. Extension programs include long-term engagement with key stakeholders to develop ICM programs or plans
- D. Extension programs include long-term engagement with key stakeholders or community groups to implement ICM programs. Results seen in improved quality of life and/or environment.

#### COMMUNICATION AND DISSEMINATION OF INFORMATION

- A. Technical reports and project documents are project-responsive with limited audience. low level, infrequent, lacking in consistent strategy
- B. Communication strategy articulated, audience better targeted, primarily print medium used, stakeholder awareness increased
- C. Communication strategy implemented, audience well targeted, media varied, stakeholder awareness increased, center recognized locally as CRM information source
- D. As in C, but national and international recognition as information source, demand for services and products high.

#### INTEGRATION AND LEARNING

- A. Little communication among functional groups within the Center; no documentation of learning
- B. Integration among functional groups is ad-hoc and informal, minimal transfer of learning to other situations
- C. Formal and informal structures facilitate communication of learning within Center; cross-project learning is documented and applied; Integration obvious in annual workplans
- D. Computer-based learning systems complement traditional forms of learning within the Center and with other partners; learning formally documented and disseminated.

#### TECHNOLOGY

- A. No availability of technological resources
- B. Minimal, must depend on partners, if any gear then very focused on limited areas
- C. Got tools but limited skills to apply
- D. Got tools and skills

(Do you have good access to internet, use skype, skills to use them?)

#### INFORMATION

- A. No data accessible, shared or collected
- B. Some data accessible, limited sharing or collecting.
- C. Got data but limited skill to apply/analyze
- D. Got data, collects own and applies

# TRAINING NEEDS ASSESSMENT

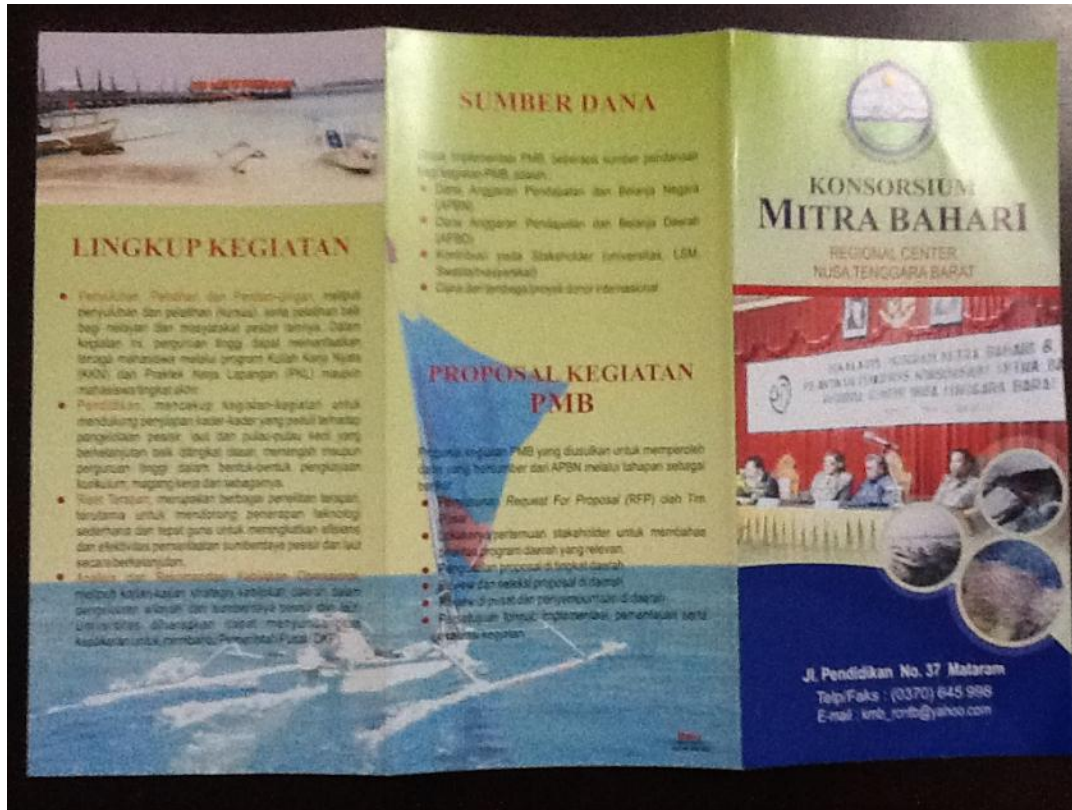
## *Training Needs Assessment Analysis*

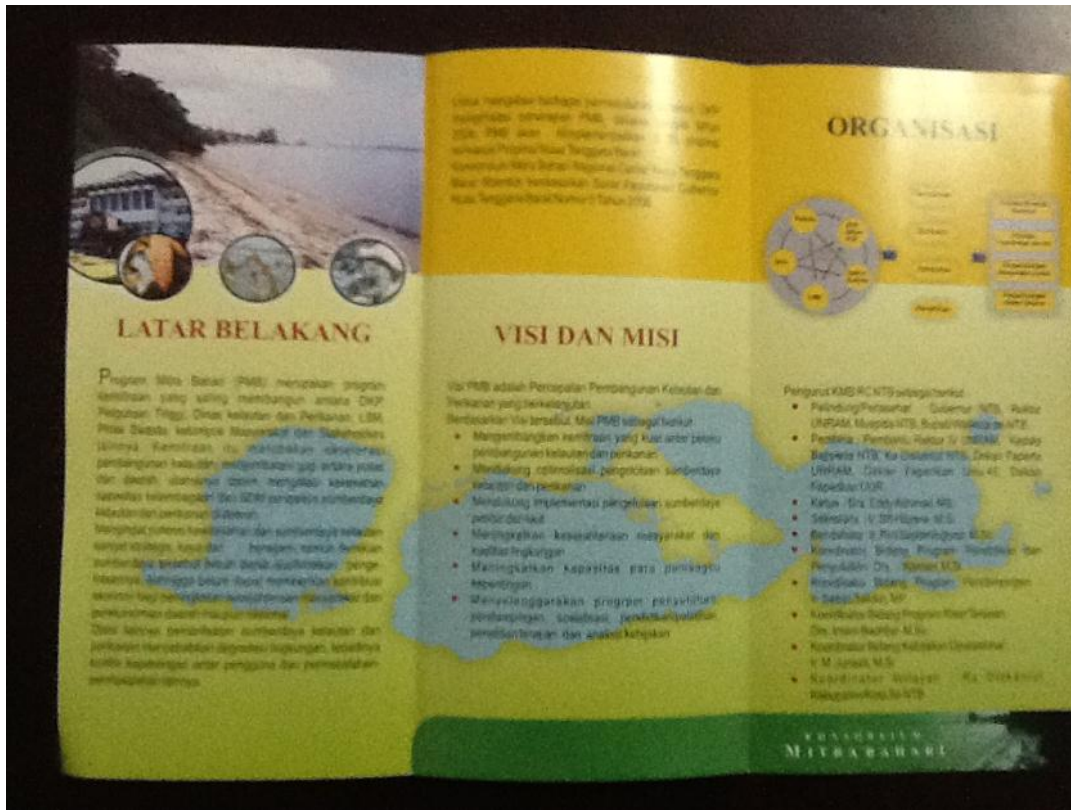
<b>Coastal Community Resilience Services</b>	<b>Optimal (demand) performance</b>	<b>Actual performance</b>	<b>Causes</b> (skills, incentives, motivation, environment)	<b>Solutions</b>
<b>Climate Data Analysis</b>				
<b>Bio-physical vulnerability assessments</b>				
<b>Social vulnerability assessments</b>				
<b>Economic vulnerability assessments</b> (livelihoods and public expenditures)				
<b>Mapping/GIS</b>				
<b>Communications</b>				
<b>Training/Education</b> (highlight areas)				
<b>Risk and Priority Setting</b>				
<b>Assessing Adaptation Options</b> – biophysical				
<b>Assessing Adaptation Options</b> – socio-economic				
<b>Implementing adaptations</b> (climate and non-climate early actions)				

- To accurately answer the Causes column Rossett (1997) requires discussions on feelings about the task to identify the opinions related to the competence and lack of optimal

## Mitra Bahari Brochure NTB

### Mitra Bahari NTB Brochure Showing Mission, Vision, Organization and Activities





**CRC Itinerary****Itinerary for CRC's Capacity Assessment of Mitra Bahari to Provide Services on Coastal Community Resilience**

January 18 – February 8, 2012

<b>Date</b>	<b>Location</b>	<b>Activity</b>	<b>People Interviewed</b>
Jan 18-19	USA	Fly to Indonesia	
Jan 20 Fri	Jakarta arrive 10am	Meetings with IMACS and KKP	Dr. Subandono and Tomi Supratomo (KKP)
Jan 23 Mon	Jakarta	IMACS Orientation meetings and introductions with IPB Faculty	John Michael Kramer, Dr. Dietriech Bengen
Jan 24 Tue	Fly to Bali	Fly to Bali	
Jan 25 Wed	Bali	MRP Meeting	
Jan 26 Thu	AM Bali	MRP Meeting	
	PM Fly to Mataram	Report writing	
Jan 27 Fri	Mataram	UNRAM MB Meetings	Ibu Sitti Hilyana & Pak Eddy Achmad – MB NTB
Jan 28 Sat	Mataram field site	Field Site Visit with UNRAM	Dr. Mansur, Dr. Yusron
		Provincial DKP and Planning Office meeting	Pak Made DKP and Pak Makchul BAPPEDA
Jan 29 Sun	Mataram	Report Writing	
Jan 30 Mon	Fly to Kendari	Fly to Kendari	
Jan 31 Tue	Kendari	Meetings with DKP	DKP Kepala Dinas
		UNHALU and MB Orientation	Dr. Aslan, Dr. Sadrun, Wa Iba, Dr. Ilwan
Feb 1 Wed	Kendari and North Konawe	Field site Visit with UNHALU	
		Meet with BAPPEDA	NAME?
Feb 2 Thu	Kendari	Meet with DKP Kota Kendari	NAME
	Kendari - Makassar	Fly to Makassar	
	Makassar	Meeting with UNHAS	Dr. Jompa
Feb 3 Fri	Makassar	Meeting with UNHAS	DEAN Niartiningsih, Dr. Mahatma and MB Secretary
	Fly UPG – CGK	Fly to Jakarta	
Feb 4 Sat	Jakarta	Meetings with IMACS	
Feb 5 Sun	Jakarta	Report Writing, Meeting with ICLEI	Steve Gawler
Feb 6 Mon	Drive to Bogor	Meet Dean of IPB and Faculty	Dr. Dietriech Bengen, and DEAN Indra Jaya
	Jakarta	Meet KKP Offices	Pak Gellwynn
Feb 7 Tue	Jakarta	IMACS Office – Debriefing, working arrangements with Universities	IMACS Team
	Jakarta	USAID Meetings	Celly and Ben
	Fly CGK to SIN (evening)	Depart for USA	
Feb 8	Fly Sin to PVD/USA	Arrive in USA	



## List of Contacts

ID	Company	Full Name	Title	Email	Address	Mobile Phone
1	MMAF IPB	Syofyan Hasan	Coastal and Disaster Office	aan_hasan@yahoo.com	Section of Climate Change Adaptation Directorate for Coastal and Marine Affairs Directorate General for Marine, Coast and Small Islands Ministry Of marine Affairs and Fisheries Republic of Indonesia Jl. Medan Merdeka Timur No.16 Telp: 021-3522059 Hp: 08159220532 E-mail: aan_hasan@yahoo.com & aan_hasan@hotmail.com	8159220532
2	Bogor	Dr. Dietriech Bengen	Faculty	dieter@indo.net.id	IPB	811110139
3	MMAF	R. Tomi Supratomo, SSi, M.Si	Head of Subdivision Cooperation Program Mitra Bahari	toimboy@yahoo.com	Head of Subdivision Cooperation Program Mitra Bahari Mina Bahari III Lt 11 Jakarta	
4	UNRAM	Sitti Hilyana	Secretary of Mitra Bahari NTB and HAPPI	sittihilyana@yahoo.com	Univ Mataram - Mitra bahari coordinator second mobile number - 08123704426	878866954
5	UNHALU	Dr. Aslan	Dean of Fisheries and MB Coordinator?	aslaod66@yahoo.com	Dean of Fisheries and Marine Science faculty. Standing in as coordinator of MB research projects Works on seaweed mariculture	081341 514869

6	UNRAM	Prof. Mansur Ma'shum	Soil and Water Management Specialist	mansurmashum@hotmail.com	UNRAM Research Centre For Water Resources And AGROCLIMATE	6.28176E+11
7	RARE	Taufiq Alimi	Vice President for Indonesia	talimi@rareconservation.org	Taufiq Alimi   Vice President, Indonesia Jl. Papandayan 11a Bogor, West Java 16151 Indonesia t: +62 251 8329449   f: +62 251 8325266   c: +62 813 9810 1831 www.rareconservation.org / www.rareplanet.org	081 398 10 1831
8	BAPPEDA NTB	Ir. A. Makchul	Head of Spatial Planning and Infrastructure Division	makchul@yahoo.com	Mataram - led the CRM activities in the 2000s	8123708998
9	UNRAM	Dr. Bambang Hari Kusumo	Soil and Environment Faculty	bambanghk@gmail.com		81907185209
10	UNRAM	Dr. Dewi Krisnayanti	Geomorphologist		studied in NZ	81806716446
11	UNRAM	Dr. Husni Idris	GIS		studied in Japan	8175748438
12	UNRAM	Dr. Yusron Saadi	Water Engineering		studied UK	85253656039
13	UNRAM	Ir. Mahrup	Local Wisdom		studied in Australia	81917006461
14	UNHALU	Wa Iba	Fisheries Lecturer	icharyr@yahoo.com	UNHALU Kampus Baru Anduonohu Kendari - Sulawesi Tenggara	81341898544
15	UNHAS	Jamaluddin Jompa		jjompa@indosat.net.id	UNHAS and also in Jakarta-Used to direct COREMAP and MB South	
16	UNRAM	Eddy Achmad	Director of MB NTB	eddyachmad-ms@yahoo.com	UNRAM Mataram, Lombok	8175784645
17	UNHAS	Dr. Mahatma Lanura	Ocean Chemistry and Fisheries Staff planning	mahat70@gmail.com	Kampus UNHAS Tamalanrea JL Perintis Kemerdekaan KM 10 Makassar 90245	81342696930

18	UNHAS	Prof. Dr. Ir. Niartiningsih, MP	Andi	Dean of Marine Sciences and Fisheries	miarsyam@yahoo.co.id	Hasanuddin University Faculty of Marine Sciences and Fisheries Fakultas Ilmu Kelautan dan Perikanan Jl. Perintis Kemerdekaan km 10 Tamalanrea Makassar 90245	8124235361
19	UNHALU	Dr. Sadarun		Head of Research Center for Coastal and Small Island Studies	s_sadarun@yahoo.com	in waiting to become MB director	0813 82886262
20	UNHALU	Dr. Ilwan Ewani		head of Fisheries Dept		Works on Abalone and testing in Kendari Bay Reefs - got \$500M Rupiah from Kota to do demonstration farms. First in Indonesia.	
21	MMAF	Gellwyn		Secretary General of KKP	gellwynn@gmail.com	KKP Jakarta	081 676 8499
22	IMACS	Sovia Purba		Institutional Development/Governance Advisor	spurba@chemonics.com	IMACS office Jakarta	8111040332
23	IPB - Bogor	DR. Indra Jaya		Dean of Marine Sciences and Fisheries	indrajaya@ipb.ac.id	Kampus IPB Darmaga Bogor 16680	0811 892394