Mangroves for the Future
INVESTING IN COASTAL ECOSYSTEMS

MANGROVES FOR THE FUTURE PHASE II

VIETNAM NATIONAL STRATEGY AND ACTION PLAN (2011-2013)

Revised July 19, 2011

EXECUTIVE SUMMARY

The purpose of this National Strategy and Action Plan (NSAP) is to assist Mangrove for the Future (MFF) Phase II in identifying, designing, and planning activities in Vietnam over an initial period 2011-2013. The NSAP should be considered a living document subject to change in response to new opportunities in the conservation, restoration and sustainable management of coastal ecosystems. It aims to provide an initial strategic orientation for MFF in Vietnam; work plans will be prepared on an annual basis.

In Vietnam, MFF will encompass support to all coastal ecosystems, using mangroves as a flagship ecosystem in recognition of the important range of ecosystem services mangroves provide. It will operate at two geographical scales: national and pilot sites at the sub-national level. The NSAP does not recommend specific provinces, but presents criteria for consideration in prioritizing site-based activities.

The first half of this document identifies key issues related to coastal area and coastal resources management, and national policies, plans, and programmes (PPPs) that address these challenges. The second half presents strategic entry points for MFF in Vietnam, starting with opportunities to mainstream MFF into national PPPs, followed by a prioritization of MFF II Programmes of Work (PoWs) and priority actions. Cross cutting issues of climate change, gender, private sector engagement, fund raising and communications are briefly considered.

In terms of mainstreaming MFF into PPPs, the NSAP recommends prioritizing programmes over policy initiatives because the former are associated with dedicated State budget allocations. Seven PoWs are identified as priorities for Vietnam: three (PoW 1: improved knowledge base; PoW 11: ICM; and PoW 10: sustainable financing) focus on national-level interventions, and a cluster of four interrelated PoWs focus on sub-national activities (PoW 2: coastal rehabilitation; PoW 8: sustainable livelihoods; PoW 9: community resilience; and PoW 14: adaptive management). The overriding role for MFF during this initial period is to serve as a learning network and information clearing house. Target audiences for this network are sub-national (particularly provincial) decision makers.

Priority actions for 2011-2013 are establishing, and communicating to relevant stakeholders the national learning network-cum-information clearing house and the inception of a Small Grant Facility (SGF). US$100,000 has been allocated for the SGF, which will support demonstration projects for one or more of the PoWs in the 2-8-9-14 cluster. Upon successful completion of a first round of SGF projects, further funds could be allocated for a Large Grant Facility (LGF) starting in 2012. LGF projects should package all four sub-national priority PoWs into an integrated package, complete with a policy advocacy component linking to national-level learning network activities. MFF should proactively draw on national and sub-national activities to contribute to MFF regional studies.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS AND ACRONYMS

AFOLU	Agriculture, Forestry and Other Land Uses
APD	Avoiding Planned Deforestation
A/R-CDM	Afforestation/Reforestation Clean Development Mechanism
ARR	Afforestation, Reforestation and Revegetation
AUMDD	Avoiding Unplanned Mosaic Deforestation and Degradation
CBO	Community-Based Organisation
CFM	Community Forestry Management
FIPI	Forest Inventory and Planning Institute
GoV	Government of Vietnam
ICM	Integrated Coastal Management
IUCN	International Union for the Conservation of Nature
LGF	Large Grants Facility
MARD	Ministry of Agriculture and Rural Development
MFF	Mangroves for the Future
MONRE	Ministry of Natural Resources and Environment
MPA	Marine Protected Area
NCB	National Coordinating Body
NGO	Non-Governmental Organisation
NSAP	National Strategic Action Plan
NTFP	Non-Timber Forest Product
ODA	Official Development Assistance
PEMSEA	Partnerships in Environmental Management for the Seas of East Asia
PFES	Payment for Forest Ecosystem Services
PoW	Programme of Work
REDD	Reduced Emissions from Deforestation and Degradation
SDS-SEA	Sustainable Development Strategy for the Seas of East Asia
SGF	Small Grants Facility
SLR	Sea Level Rise
SUF	Special-Use Forest
VASI	Vietnam Administration of Seas and Islands
VCS	Voluntary Carbon Standards

1. INTRODUCTION

1.1 Mangroves for the Future

A response to the 2004 Indian Ocean Tsunami, Mangroves for the Future (MFF) was established as a partnership-based initiative to promote investment in coastal ecosystems. Supported by national governments, the United Nations, International Union for Conservation of Nature (IUCN), NGOs, donor agencies, and the private sector, MFF provides a unique regional platform for concerted action in support of Integrated Coastal Management (ICM), using mangroves as the entry point. After a first phase (MFF I: 2007-2009), MFF is now in its second phase (MFF II: 2010-2013). MFF II is designed to support eight full-member countries, including Vietnam, consolidate and improve coastal resource governance structures and strengthen the role of civil society in coastal decision-making and investment. Vietnam became a full member of MFF in January 2010. While not affected by the 2004 tsunami, Vietnam's long and densely populated coast is vulnerable to storms, flooding, and other natural disasters. It also has long experience preparing against and responding to natural disasters, including large-scale mangrove replanting.

1.2 Mangroves for the Future in Vietnam

In Vietnam, MFF II activities are overseen by the National Coordinating Body (NCB), which is chaired by Assoc. Prof. Nguyen Chu Hoi, Deputy Administrator, Vietnam Administration of Seas and Islands (VASI), Ministry of Natural Resources and Environment (MONRE). Dr. Nguyen Nghia Bien, Director, Planning and Finance Department, Forestry Administration, Ministry of Agriculture and Rural Development (MARD) is vice chair.[1]

The 7th MFF Regional Steering Committee (RSC) meeting in November 2010 decided to allocate an initial US$100,000 to Vietnam for a Small Grant Facility (SGF) with the possibility of an additional US$200,000 to US$300,000 upon successful disbursement of the initial tranche. A further US$100,000 was earmarked for a Large Grant Facility (LGF) in late 2011/early 2012 subject to the successful implementation of a first round of SGF grants.

In Vietnam, MFF will consider support to all coastal ecosystems, using mangroves as a flagship ecosystem given the range of supporting, provisioning, regulating and cultural ecosystem services mangroves they provide. The importance of mangroves has ascended in recent years with growing attention paid to their climate change adaptation and mitigation potential. A summary of mangrove forest cover dynamics in Vietnam is given in Annex I.

2. KEY ISSUES RELATED TO COASTAL RESOURCES MANAGEMENT

Vietnam's coastal area is under enormous pressure from over-population and over-capacity (Eucker, 2006; Pomeroy *et al*., 2009; Nguyen Chu Hoi, 2009a; VDR, 2010). Coastal sectors, including inshore fisheries, aquaculture, coastal agriculture, marine transportation and ports, oil and gas exploration and tourism have undergone rapid and largely unregulated growth in recent years (Nguyen Chu Hoi, 2009a). Ambitious, centrally set production targets combined with open-access management systems have eroded biodiversity and compromised ecosystem processes. Local communities are increasingly exposed to a changing climate with limited ecological resilience or sustainability (VDR, 2010). Unsustainable growth in competing sectors has caused resource use conflicts. Key factors contributing to the loss and degradation of coastal resources are described below.

2.1 Demographic

[1]Following Ministerial Decision No. 14-QD/BTNMT, dated 11/1/11, on Establishment of the National Coordinating Body for the Mangroves for the Future Programme, which also defines NCB membership.

- High population density: Vietnam's coasts are among the most densely populated regions in Southeast Asia (Shekhar, 2005); coastal population density in 2005 was 255 people/km^2 (VDR, 2010), with about 1,000 people migrating to coastal cities each day (Creel, 2003). In 2000, about 20 million people depended on coastal and marine resources. Vietnam's coastal population is projected to increase to over 30 million by 2020 (Nasuchon, 2009).

2.2 Economic

- High direct costs: The costs of restoring mangrove forests includes propagules/saplings and long-term management necessary for high rates of mangrove survival. Internationally supported reforestation costs are in the range of VND8-16 million/ha (US$400-800/ha); until recently, government cost norms were only VND4-5 million/ha (US$200-250/ha) and have been typically associated with very low survival rates.[2]

- High opportunity costs: Highly profitable land use alternatives, notably shrimp pond aquaculture (Brunner, 2010; Hawkins *et al*., 2010; Onyango *et al*., 2010), translates into high opportunity costs for conservation. These costs will challenge economic instruments, such as PES and REDD; innovative bundling of ecosystem services should be explored to compensate for mangrove protection efforts of local community service providers (section 5.3).

2.3 Policy

- Incoherent/incomplete policy, legislative and regulatory frameworks (Do Dinh Sam and Vu Tan Phuong, 2005; Swan, 2009; Hawkins *et al*., 2010): Policy shortcomings and overlapping responsibilities exist within and between the coastal (under MONRE jurisdiction) and forestry (under MARD) sectors. Narrowly defined single sector policies typically fail to take into account the interests of other sectors and stakeholders.

- Forest tenure primarily vested in the State: 70% of mangroves are classified as protection or special-use forest (SUFs: national parks and nature reserves), with less than one-third classified as production forest (Brunner, 2010). The State (primarily management boards and forest companies) is therefore the main mangrove forest owner in Vietnam. The national forest allocation program over the past 15 years has resulted in the allocation of 5-10% of (production) mangrove forest to individual households, which is problematic when managing such a dynamic ecosystem. Very few cases of community management of mangroves have been documented in Vietnam. 20-30% of mangroves remain unallocated and under the default control of Commune People's Committees (CPCs) (MARD, 2008; McNally *et al*., 2010), which typically lack the capacity to exercise effective management. Mangroves under CPC control often become *de facto* open access resources (Hawkins *et al*., 2010). Forest tenure is very relevant to emerging forest ecosystem service markets in Vietnam because communities are not legal entities under Vietnamese law and so cannot enter into legally binding contracts with end users (Hawkins *et al*., 2010; Onyango *et al*., 2010).

2.4 Practice

- Insufficient institutional capacity (Hawkins *et al*., 2010): Common to all natural resource management sectors in Vietnam (VDR, 2010) is the challenge of closing the gap between workable policy and persistently poor practices at the sub-national level. Increasing socialization of (i.e., the engagement of non-state actors in) natural resource management is driving a role change for government from command-and-control rule makers to service-providing partners to non-state (increasingly civil society) partners.

- Weak law enforcement and governance capacities: At the sub-national level major institutional shortcomings hamper efforts to instill more sustainable use of natural resources and install more

[2]Some (e.g. HCMC Sub-FIPI) have argued that government mangrove rehabilitation cost norms need to be tripled to achieve results.

integrated, ecosystem-based management systems (Hawkins *et al*., 2010). Law enforcement and governance deficiencies range from negligent civil service performance, the result of limited downward accountability and perverse incentives, to outright complicity in illegal resource extraction.

- Incomplete knowledge of ecosystem functioning (Hawkins *et al*., 2010) and complex coastal dynamics (Pham Trong Thinh *et al.,* 2009; Schmitt, 2010; McNally *et al*., 2010): Longer term planning for more sustainable development is undermined by the dominance of short-term economic returns in development planning at provincial and district levels. Low sub-national levels of awareness of the historical extent of mangrove cover have reduced the effectiveness of many rehabilitation and reforestation efforts.

3. NATIONAL POLICIES, PLANS, AND PROGRAMMES

Development planning in Vietnam considers economic growth and national security as paramount, with little consideration given to the interrelationship between socio-economic development, environmental protection and resource conservation (Hoang Ngoc Giao, 2005). In recent decades, government policy has encouraged development of aquaculture in mangrove areas, implicitly prioritizing short-term economic gains over longer term ecosystem service provision. In the past five years, national policies indicate a shift toward ICM in general, and mangrove rehabilitation and development in particular, acknowledging the need for sustained multiple coastal ecosystem service provision. However, a large gap remains between national policy and sub-national interpretation and practice (VDR, 2010).

3.1 ICM

Introduced relatively recently in Vietnam, ICM is an innovative approach that challenges (and is challenged by) deep-rooted compartmentalized sectoral approaches to natural resource management (Nguyen Chu Hoi, 2009a). A central motivation for promoting ICM in Vietnam is to resolve these sectoral multiple-use conflicts that are driving unsustainable development of the coastal area (Eucker, 2006; Pomeroy *et al*., 2009; Nguyen Chu Hoi, 2009a; VDR, 2010).

Several government and internationally supported ICM programmes have been implemented over the past 10-15 years, and an organizational framework for further ICM planning has been established by MONRE with the goal of nationwide adoption of ICM at the provincial level by 2013 (Eucker, 2006; Nguyen Chu Hoi, 2009a). These efforts culminated in a 2009 decree[3] on ICM, supported by a national ICM programme[4] for 14 coastal provinces running from Thanh Hoa to Binh Thuan.

The history of ICM in Vietnam reflects global experiences. These include the need for: an ecosystem-based approach to natural resource management to maintain ecosystem functionality; strong poverty reduction linkages for coastal communities and livelihood improvements, particularly for fishermen; and integrated upstream catchment management, since over 60% of the environmental impact on coastal areas is from land (Nguyen Chu Hoi, 2009b). Yet the results of the past decade of ICM work remain largely inaccessible to practitioners and sub-national decision makers that are priority stakeholders for MFF.

3.2 Mangrove forestry

Policies, laws and regulations governing mangroves in Vietnam are incoherent, incomplete and inconsistent. Consequently, attempts to manage mangrove ecosystems are frustrated by policy, legislative and regulatory complexity, confusion, contradiction and conflict. A root cause is that administrative responsibility for

[3]Government Decree No: 25/2009/ND-CP, dated 6/3/09, on Integrated Management and Protection of Natural Resources and Environment of Seas and Islands.

[4]Prime Minister's Decision No. 158/2007/QD-TTg, dated 9/10/07, on the approval of the Integrated Coastal Zone Management Program for North Central Region and Central Coastal Provinces until 2010 and Orientations until 2020.

mangroves and the coastal area is shared among multiple government institutions within two ministries: MONRE, which is responsible for coastal planning, land allocation, biodiversity conservation, aquatic ecosystem management and protection, and climate change; and MARD, which is responsible for the management of forests, terrestrial and marine protected areas, capture fisheries, aquaculture, sea dykes, storm and flood control (Swan, 2009).

A National Action Plan for Protection and Development of Vietnam's Mangrove Forests Until 2015 was prepared in 2005 (Do Dinh Sam and Vu Tan Phuong, 2005). The situation analysis in the 2005 plan has not changed significantly over past five years; indeed, pressures on coastal ecosystems have only intensified (Pomeroy *et al*., 2009; VDR, 2010). Consequently, MFF should align with the 2005 action plan. MFF should, however, prioritise those objectives that it is best placed to support. Table 1 summarises the alignment of the MFF with the action plan.

Table 1: Alignment of MFF with National Action Plan

National Mangrove Action Plan	MFF	
Objective	**Strategic position**	**Rationale**
1. Change the perception of key managers and policy makers at local levels (province and district) on mangrove ecosystem values.	Primary focus for MFF serving as a learning network and information clearing house, informing local decision makers and practitioners.	Fundamental short-coming is the persistent policy-practice gap; local stakeholder practices can be significantly improved through information exchange.
2. Formulate and complete the legal framework to backstop mangrove ecosystem management. Reinforce management effectiveness of mangrove ecosystems for concerned agencies from central to local level.	Engage only at the explicit invitation of government for strategic priorities for coastal area conservation. Draw on learning network capacity to inform reformative agenda.	Inter-ministerial/departmental conflicts of responsibility pose high-risk for MFF engagement. Although, solicited technical assistance to selected government-led processes could prove instrumental.
3. Protect, rehabilitate and develop mangrove ecosystems.	Identify niche technical assistance role, introduce innovative models drawing on international best practice to inform government programmes.	Significant State and international investments in protection and rehabilitation; MFF cannot compete, but can instruct, with demonstration best practice models.

The previous national target programmme (NTP) for forestry known as Programme 661[5] is under review and a new 5-year NTP is being prepared by MARD. Initial indications suggest a more selective focus on protection forests, both upland catchment and coastal protection forests (including mangroves), and disaster risk reduction in line with the NTP to Respond to Climate Change.[6] The new NTP for forests is likely to have a broader thematic scope than Programme 661 with greater emphasis placed on extension service provision, knowledge management and dissemination, and capacity building (Nguyen Nghia Bien, pers. comm., 2010). Introducing international best practice in mangrove forest protection and rehabilitation, for the dual purpose of coastal protection and sustainable livelihood development, is a key role that MFF could provide to complement government and international funding for mangrove rehabilitation.

In addition to assistance to the national mangrove forest restoration and development project, MFF could support the second phase of MARD's TFF-funded Community Forestry Management (CFM) pilot. Very few attempts have been made to pilot CFM in coastal areas despite the problems (because of their complex ecology and fragmented nature) of allocating mangroves to households (Joffre and Luu, 2007; Pham Trong Thinh, 2010). The second phase the CFM pilot started in early 2011. It will overlap to some extent with UN-

[5]Prime Minister's Decision No. 661/QD-TTg, dated 29/7/98, on Objectives, Tasks, Policies, and Organisation for the Establishment of Five Million Hectares of New Forest.

[6]Prime Minister's Decision No. 158/2008/QĐ-TTg, dated 2/12/08, on Approval of the National Target Program to Respond to Climate Change.

REDD, which will include several pilots, including one in mangrove forests (almost certainly Ca Mau Province).

3.3 National policies, plans, or programmes relevant to MFF

National Programme to Restore and Develop Coastal Mangrove Forest for the Period 2008-2015 (MARD)
The most significant State investment in mangroves is the national project to Restore and Develop Coastal Mangrove Forest for the Period 2008-2015, which was approved by the Prime Minister in 2009. This VND2.4 trillion (US$120 million) plan to channel the new national forestry NTP funding to mangrove rehabilitation should achieve scale and nationwide coverage for priority regions (notably the Mekong and Red River Deltas). Immediate objectives include:

- Improved protection for the existing *c*. 210,000 ha area of mangrove forestland.
- Increased nationwide mangrove forest coverage by *c*. 100,000 ha.
- Prioritized plantation and protection of 500 m wide mangrove belts in front of sea dykes.
- Developed models of mangrove rehabilitation, development and protection.
- Mapped mangrove area for the whole country.
- Improved policies for coastal mangrove rehabilitation and development.
- Developed national database system for coastal mangrove management.

ICM Programme for North Central Region and Central Coastal Provinces (MONRE)
This regional programme has been in operation since 2008, with an initial budget to 2010 of VND150 billion (US$7.5 million) and a further VND500 billion (US$25 million) earmarked for activities to 2020. VASI-led up-scaling of this programme is being supported by Partnerships in Environmental Management for the Seas of East Asia (PEMSEA) Sustainable Development Strategy for the Seas of East Asia (SDS-SEA) initiative, with a US$475,000 (VND9.5 billion) budget for 2010-2013. PEMSEA SDS-SEA activities extend ICM to coastal provinces[7] beyond the north central and central regions (Nguyen Chu Hoi, 2009a). It will be imperative for MFF to foster a close cooperation with the PEMSEA SDS-SEA National Coordination Committee.

Integrated Management and Protection of Natural Resources and Environment of Seas and Islands (MONRE)
Decree 25 is the first integrated policy covering coasts, seas, and islands in Vietnam. It offers guidance on ICM implementation, coastal functional zoning and marine spatial planning (Nguyen Chu Hoi, 2009a). The decree identifies VASI as responsible for coordinating the implementation of ICM plans and programmes. Pollution control, environmental accidents, natural disaster preparedness and coastal protection are among the key ICM issues addressed. Sources of financial, human and technological resources required to enable effective ICM are also outlined.

Planning of Vietnam's MPA System to 2020[8] (MARD)
After more than a decade of international support and piloting of MPAs, the government has approved a national system of 16 MPAs to ensure that marine ecosystems and species with high economic and scientific value are protected, and that MPAs contribute to improving the livelihoods of coastal fishing communities. The first phase (2010-2015) focuses on operationalising the 16 MPAs, the second phase (2016-2020) on creating new MPAs. A total investment cost, to 2020, is VND460 billion (US$23 million), but no State or international funding has been secured. Five projects are identified in the national MPA plan for the first phase of implementation:

- Database development for marine protected areas.

[7]Quang Ninh, Hai Phong, Nam Dinh, Thua Thien-Hue, Quang Nam, Da Nang, Khanh Hoa, Ba Ria-Vung Tau, Soc Trang, and Kien Giang.
[8]Following Prime Minister's Decision 742 QD-TTg, dated 11/5/10, on Approving the Planning of Vietnam's Marine Protected Areas System to 2020.

- Detailed planning, establishing and putting into operation the system of 16 MPAs.
- Research and develop policy and mechanisms to manage the MPAs system.
- Capacity building on MPA management for managers from central to local level.

NTP to Respond to Climate Change (MONRE)
The government's response to climate change is encapsulated in the NTP to Respond to Climate Change. Actions relevant to MFF include:

- Implementing pilot projects to assess climate change impacts, especially sea level rise, on fields, sectors and localities that are most vulnerable to climate change, i.e., water resources, irrigation, agriculture, health and livelihoods, deltas, and coastal areas.
- Action plan that will develop integrated river basin management and ICM models to adapt to climate change.
- Action plan that will propose measures to develop protective forests (upstream and coastal forests) in accordance with climate change scenarios.

UNESCO Man and the Biosphere (MAB) Programme
Vietnam has six biosphere reserves in the coastal area: Can Gio, Cat Ba, Cu Lao Cham-Hoi An, Kien Giang, Mui Ca Mau, and the Red River Delta, in addition to the proposed biosphere of the Mekong River Mouth in the three provinces of Ben Tre, Soc Trang, and Tra Vinh. The approach of using biosphere reserves as learning laboratories for sustainable development, including impact assessment and adaptation to climate change, has been developed in cooperation with other World Heritage Sites and Geo-parks under UNESCO (Nguyen Hoang Tri, 2009).

4. MAINSTREAMING WITH NATIONAL POLICIES AND PROGRAMMES

Support to policy reform should be an MFF priority. MFF can assist by conducting or commissioning policy studies to inform new regulations, and by direct assistance to the reform process. However, MFF should only respond to explicit requests for support from MARD/MONRE. Close collaboration with MARD/MONRE can yield significant results, but it can be a time-consuming processes. Several policy reform opportunities exist:

4.1 MONRE

- New National Strategic Action Plan on ICM to address over population/over-capacity in fisheries and aquaculture production through mainstreaming of environmental sustainability in coastal planning and inter-linked industry sectors (export aquaculture, inshore fisheries, tourism, etc.).
- Law of Marine Resources and Environment Protection and Law of ICM, both currently in the process of preparation and tentatively planned for submission to the National Assembly for approval in 2011.
- New National Strategic Action Plan for Conservation and Sustainable Development of Vietnam's Coastal Wetlands (2011-2020; previous strategic action plan expired 2010).

4.2 MARD

- Circular for mangrove PFES under Decree 99, identifying which services can be sold and bought, who are the end-user customers and who, in the context of coastal land tenure, are the service providers.
- Policy for protection of forest development (scheduled for 2011), with focus on mangroves and coastal forest ecosystems (MARD is committed to developing this new policy under the new NTP); both coastal and upland catchment forests are recommended for priority investment).

- National Regulations on Forest Management, which currently make no reference to, and therefore no provision for, mangroves,[9] is scheduled for revision in the initial period of MFF operations.

Given the complexities of policy reform, MFF should aim to influence programmes rather than policies. The advantage of this approach is that it targets sub-national practice by influencing large State budget allocations to areas of concern to MFF. Two national programmes are recommended as priorities: MONRE's ICM programme for the central provinces and MARD's coastal mangrove forest restoration and development programme (section 3.3).

5. ANALYSIS OF PRIORITY PROGRAMMES OF WORK

This analysis identifies seven priority PoWs for MFF in Vietnam. Two PoWs are default priorities for all MFF countries: Improved knowledge base (PoW 1) and ICM (PoW 11). These two PoWs will comprise the basis of national-level MFF operations, delivered by the NCB (section 8.2). An additional priority PoW has been identified for national-level policy advocacy: PoW 10 on sustainable financing. This reflects Vietnam's leadership in developing PFES systems and in REDD preparedness.

In addition to these three national-level priority PoWs, a cluster of four other PoWs are recommended for sub-national implementation: coastal rehabilitation (PoW 2); sustainable livelihoods (PoW 8); community resilience (PoW 9); and adaptive management (PoW 14).

MPAs (PoW 13) are identified as a lesser priority. Due to an incomplete and incoherent policy, legislative and regulatory framework for Vietnam's MPAs, coupled with a history of significant, yet ineffective, financing for the MPAs,[10] MFF should not target MPAs directly (e.g., supporting operational management planning, management capacity building, sustainable financing mechanisms or policy advocacy). This does not mean that MPAs should be disregarded. Site-based interventions that target one or more of MPAs (coastal SUFs, biosphere reserves or Ramsar sites[11]), will receive preferential support.

National-level implementation

5.1 Improved knowledge base (PoW 1)

In order to shift policy and practice toward managing coastal ecosystems as natural infrastructure that support human well-being and security, MFF should operate primarily as a learning network and information clearing house. Serving as a neutral platform for information exchange, MFF should become a leading source of knowledge for coastal area policy, planning and management. This role would include the following functions:

- Collecting and collating case studies.
- Analyzing and synthesizing emerging lessons learnt.
- Disseminating key policy messages and evolving technical best practice.

[9] Prime Minister's Decision No. 186/2006/QD-TTg, dated 14/8/06, Promulgating the Regulation on Forest Management.

[10] The main MPA support mechanism is the 5-year Danida/MARD Sustainable Livelihoods in and around Marine Protected Areas (LMPA) project, which will end in June 2011. LMPA has asked IUCN's Global Marine Species Assessment Programme to help with an economic analysis to justify State budget financing for MPAs on the basis of their proven role in protecting fish stocks and contributing to more sustainable local livelihoods. A GEF MPA component to a US$100 million World Bank loan to reduce the dependence of coastal communities on unsustainable fishing is also under discussion.

[11] Sites on the Ramsar List of Wetlands of International Importance under the Convention on Wetlands of International Importance, especially as Waterfowl Habitat (Ramsar Convention).

- Commissioning thematic studies under relevant PoWs.[12]

Target audiences are government officials, particularly provincial and district-level government decision makers.

5.2 ICM (PoW 11)

A draft national ICM Strategy for Vietnam to 2020 and Orientation up to 2030 was approved by MONRE in 2005. MFF alignment with this strategy is summarized in Table 2.

Table 2: MFF alignment with strategic goals of the draft national ICM strategy

National ICM strategic goal	Priority MFF PoWs	Administrative level of operation
Recognition of the integrity of the coastal zone	1. Improved knowledge base (learning network; policy advocacy)	National
Developing management mechanisms at the national level	1. Improved knowledge base (learning network; policy advocacy)	National
Strengthening capacity at the national and the local level	1. Improved knowledge base (learning network; policy advocacy) 2. Coastal rehabilitation 8. Sustainable livelihoods 9. Community resilience 14. Adaptive management (demonstration models)	National Sub-national
Developing ICM tools in order to support ICM at local levels	2. Coastal rehabilitation 8. Sustainable livelihoods 9. Community resilience 14. Adaptive management (demonstration models)	Sub-national
Promoting and facilitating implementation of ICM at the local level	14. Adaptive management (demonstration models)	Sub-national
Strengthening international co-operation	1. Improved knowledge base (learning network; policy advocacy)	National

Demonstration models within the PoW 2-8-9-14 cluster will require strong advocacy to achieve lasting impact. The NCB could, if requested by MONRE, support policy studies in preparation of new ICM ordinance in close co-operation with the PEMSEA SDS-SEA NCC (section 3.3).

5.3 Sustainable financing mechanisms (PoW 10)

Two types of sustainable financing mechanisms are currently being considered for coastal areas: PFES under Decree 99; and forest carbon financing for international (or possibly domestic) funds or markets (both REDD and Afforestation, Reforestation and Revegetation).

MFF has already explored forest carbon financing opportunities in Vietnam. It appears that the opportunities for mangrove carbon projects are few and significant investments are likely to be made by others (e.g., UN-REDD). The prospects for Afforestation/Reforestation Clean Development Mechanism (A/R-CDM) mangrove projects in Vietnam are limited. Significant government investment in mangroves makes it difficult to demonstrate additionality. And weak forest law enforcement makes it difficult to ensure permanence. There are also concerns about damaging coastal mudflats that support important shorebird populations; large-scale afforestation could result in the removal of these critically important habitats.

[12]Preferentially selecting opportunities to harmonise with, and contribute to, applicable regional studies: carbon financing, climate change resilience and alternative livelihoods (note convergence with Vietnam priority PoWs).

Mangroves present greater potential for Agriculture, Forestry and Other Land Uses (AFOLU) projects under the Voluntary Carbon Standards (VCS). Afforestation, Reforestation and Revegetation projects would face the same challenges as those confronted by A/R-CDM interventions. There is greater potential for VCS/REDD mangrove projects for a limited number of sites. REDD projects could be introduced to either stop planned deforestation and/or forest degradation. Avoiding planned deforestation (APD) projects may be helped by the recent failures of shrimp aquaculture on land converted from mangroves. There is also high level political impetus behind protecting mangrove forests for their storm-protection and climate change adaptation values. As shown by recent studies in Kien Giang Province (Duke *et al*., 2010; Wilson *et al*., 2010), there may be potential for avoiding unplanned mosaic deforestation and degradation (AUMDD) projects (McNally et al., 2010*).* MFF will continue to explore carbon financing opportunities as part of the MFF II series of regional studies.

Support to mangrove PFES offers the most immediate opportunity for MFF: mangrove PFES is proposed in new MARD policy and MFF could support policy studies and inform development of detailed implementation guidelines.

Sub-national-level implementation

5.4 Coastal rehabilitation (PoW 2)

MARD is implementing a VND2.4 trillion (US$120 million) mangrove rehabilitation plan. And in the Mekong Delta, significant international investments are underway or planned (GTZ/AusAid, UN-REDD). The strategic role for MFF in this field will be to support piloting technical models that achieve high rates of survivorship, and maximize ecosystem services and livelihood benefits.

There may be opportunities for MFF to support projects that replant using a wider range of species and greater structural diversity in order to increase ecosystem resilience. Community-managed nurseries could be an area for support. With MARD proposing to replant 200,000 ha of mangroves, large quantities of seedlings will be required to meet this target.

Another priority area for MFF support could be historical studies of coastal dynamics to inform provincial rehabilitation efforts. Key weaknesses in previous attempts at government mangrove rehabilitation have been uniform application of homogeneous monoculture plantations with little consideration for maintenance needs or costal dynamics, which dictate suitability of mangrove rehabilitation at any given site.

5.5 Sustainable livelihoods (PoW 8)

Mangrove rehabilitation, integrated with shared governance approaches (PoW 14: adaptive management), can make a significant contribution to coastal livelihoods through improved provisioning and regulatory ecosystem services. In addition to community-based mangrove rehabilitation, and associated adaptive collaborative management,[13] MFF could support livelihood interventions that build assets:[14]

- Natural assets: community mangrove nurseries; integrated agriculture-aquaculture-mangrove forestry models;[15] forest shrimp, fish, seaweed aquaculture.
- Human assets: improved local knowledge of resilient production techniques (modified calendars, crop/livestock diversification) in sustainable fisheries, aquaculture and agriculture.

[13]For example, the CARE pilot model of community-based mangrove rehabilitation, maintenance (crucial to the 85% survival rate) and management developed in Thanh Hoa, 2009 (Swan, 2008a; Swan, 2009b; Nguyen Viet Nghi, 2010; Swan, 2010a).
[14]Following DFID (2004) Sustainable Livelihoods Approach framework.
[15]For example, the GTZ ICM model of integrated benefit sharing between mangrove co-management and clam co-operatives developed in Soc Trang province, 2009 (Schmitt, 2009; Lloyd, 2010; Schmitt, 2010).

- Financial assets: improved credit access, non-monetary capital investments, micro-credit, small and medium enterprise development; bundled ecosystem service provision.[16]
- Social assets: collaborative management institutional process and structures (secure tenure and access rights, negotiated resource use regulations, community-based organisations, etc.).
- Physical assets: essential low-cost machinery, tools and equipment necessary as integral components of sustainable livelihood models that target other assets.

Ultimately, the issue of over-capacity in aquaculture and capture fisheries needs to be addressed, and national policy is required to move a significant proportion of coastal livelihoods to non-marine livelihood alternatives. Such large-scale reform is beyond the scope of MFF. Consequently, MFF should limit its scope of intervention to demonstration pilot projects and draw on lessons learnt from previous attempts in developing sustainable livelihoods in MPAs (McEwin *et al*., 2008).

5.6 Community resilience (PoW 9)

The impacts of climate change are summarized in Section 6.1. Community resilience to natural disasters and climate change is covered largely by the other priority PoWs:

- Coastal rehabilitation (PoW 2): mangroves and other coastal ecosystems serve as buffers against extreme weather events, storm surge, erosion, floods and salt water intrusion.
- Sustainable livelihoods (PoW 8): inshore fisheries, aquaculture and agriculture sector best practices help safeguard rural livelihoods, food security and coastal biodiversity against the impacts of extreme climate events, precipitation change, ocean acidification, SLR, and sea surface warming.
- Adaptive (collaborative) management (PoW 14): facilitating community-based disaster risk reduction through proactive planning (as opposed to reactive emergency relief) and capacity building that addresses the site-specific needs of local communities.

MFF support for natural disaster resilience in Vietnam should be *community-based* and avoid two areas of intervention characterized by high cost, risk, and technical complexity: tourism (as an alternative livelihood option) and hard engineered coastal defenses (such as beach and dune nourishment, climate-proofed building standards, and structural shoreline stabilization).

MF support for mangrove PFES (PoW 10) would also contribute to community resilience by providing additional economic incentives to protect critical habitats that protect against flooding and storm surges as well as coastal erosion.

5.7 Adaptive management (PoW 14)

Collaborative natural resource management offers MFF a strategic opportunity for mangrove conservation and restoration in Vietnam. Two approaches present themselves for further field experimentation: (1) co-management; and (2) community forestry management (CFM). Almost no examples of CFM are known for mangroves, but the approach has been tested extensively in upland areas over the past 15 years (Wode and Bao Huy, 2009). MFF could support demonstration pilots in addition to capturing and disseminating lessons learnt to inform a second phase national CFM piloting, implemented by the Forestry Administration, and commencing in 2011.

Recently, mangrove co-management has received international support at two pilots: CARE in Thanh Hoa (Swan, 2008; Swan, 2009a; Swan, 2009b; Nguyen Viet Nghi, 2010; Swan, 2010), and GTZ in Soc Trang (Schmitt, 2009; Lloyd, 2010; Schmitt, 2010). Other mangrove co-management models (Le Thi Van Hue, 2004;

[16]MFF support to ecotourism (particularly for foreign markets) is not advocated due to limited natural asset values (i.e., highly degraded coastal ecosystems), together with prohibitively high capital investments (infrastructure, training, marketing, etc.).

Sultana and Thompson, 2004; Le Thi Van Hue, 2008), together with a much larger body of fisheries co-management projects (Nguyen Thi Hai Yen and Adrien 2003; Truong Van Tuyen *et. al.* 2006; Pomeroy and Guieb 2008; Truong Van Tuyen 2008; Takahashi, 2009), have also been piloted. Meanwhile, collaborative management models have emerged in SUFs (Swan, 2010b). Several SUFs experimenting with co-management are coastal mangrove parks or reserves.[17] After decades of State-only command-and-control approaches to natural resource management, the need for more participatory approaches, such as co-management, is increasingly recognized (VDR, 2010). A crucial role MFF could play in this arena is through the national programme learning network and policy advocacy functions.

6. CROSS-CUTTING ISSUES

6.1 Climate change

Vietnam, particularly the Mekong Delta, is often cited (Carew-Reid, 2007; IPCC, 2007; ICEM, 2009; Doyle *et al.*, 2010) as one of the most vulnerable nations to climate change impacts such as SLR[18] and increased storm frequency and intensity. MARD is increasing its commitment to mangrove conservation through its National Programme to Restore and Develop Coastal Mangrove Forest for the Period 2008-2015, as is MONRE through its ICM investments in the central coastal region.

Mangroves and coastal ecosystems are important for both climate change adaptation (coastal protection) and mitigation (carbon sequestration). They are also vulnerable to the impacts of SLR, increasing sea temperatures, and more frequent and severe storms. Functioning coastal ecosystems are more resilient to climate change because they sustain the supply of services that are important to people: fisheries, food security, storm protection, flood mitigation, erosion control, water storage, groundwater recharge, retention of nutrients and sediments, filtering of pollutants, etc. Maintaining biodiversity sustains natural resource-dependent livelihoods, such as capture fisheries and aquaculture.

MFF can contribute to national climate change efforts through information sharing and policy advocacy (PoWs 1, 11 and 10), and through pilot community resilience projects (incorporating one or more elements of PoWs 2, 8, 9 and 14). The choice of sustainable financing (PoW 10) as a priority for national-level engagement in Vietnam should support co-financing relations with other projects and organizations.

MFF will use regional MFF reference tool and guidelines. This is particularly important for any future LGF. MFF could add value to the field of coastal community resilience through the promotion of vulnerability assessment best practice. This facilitates integration of community resilience concerns into development policies, plans, and programmes at the national, sub-national, and local scales. Field testing coastal climate change adaptation tools and methodologies[19] is an urgent need where MFF could make valuable contributions. Regional assistance will be provided for NCB capacity building in the area of mainstreaming climate change into national MFF actions.

6.2 Gender

Gender equity and equality are recognized by MFF as prerequisites for any conservation and sustainable development initiative. Coastal communities are exposed to livelihood vulnerability, which is determined largely by people's adaptive capacity, capacity that is not uniform across different subgroups of a

[17] For example, Bai Tu Long National Park (Quang Ninh), San Chim Bac Lieu Nature Reserve (Bac Lieu), and Xuan Thuy National Park (Nam Dinh).

[18] SLR of 1 m would impact 11% of the Vietnamese population (nearly 10 million people), mainly in the Mekong and Red River Deltas (IPCC, 2007).

[19] For example, USAID's Adapting to Coastal Climate Change – a guidebook for development planners; CARE International's Community-Based Disaster Risk Management Planning and Preparedness Processes and Climate Vulnerability and Capacity Assessment (CVCA); IUCN's Community-Based Risk Screening Tool – Adaptation and Livelihoods (CRiSTAL).

community. The inequitable distribution of rights, resources, responsibilities and relationships (i.e., social capital or power), in addition to cultural norms and possibly government policy, constrains many people's ability to take action when confronted with a change in livelihood circumstances. This is particularly the case for women. Consequently, gender is a critical factor in understanding livelihood vulnerability, particularly in the context of climate change (CARE, 2010).

MFF's approach to gender mainstreaming in Vietnam should be based on a sound understanding of how gender influences livelihood vulnerability, together with how gender-empowering activities can be incorporated into MFF interventions at all levels, from policy advocacy at the national level to demonstrating best practice at the local level. Particular attention should be paid to interventions under PoW 8 and 9, sustainable livelihoods and community resilience, respectively. All SGF/LGF proposals should be screened for gender integration. As a minimum requirement, MFF will ensure adherence to the following principles:

- Ensure gender sensitization starting with participatory gender-sensitive analysis of livelihood vulnerability.
- Recognize and target interventions according to the differential gender-based vulnerability within different coastal regions, communities and households.
- Build on the existing natural, financial, physical, and most importantly, social assets and capacities of men and women.
- Target the most vulnerable men and women to build adaptive capacity and strengthen community resilience that underpins sustainable livelihoods.
- Identify, plan, implement, and monitor and evaluate site-based interventions with the participation of both women and men, including the most vulnerable groups in the community.
- Promote coastal area policies and programmes at national and sub-national levels that meet the specific needs of poor women and men.
- Support men and women to access and develop the rights, resources, responsibilities and relationships they need to adapt to their changing environment and ensure a sustainable livelihood.
- Promote gender equity and empowerment as long-term goals.

The responsibility for coordinating gender at the country level lies with the NCB and will be monitored by the MFF Regional Secretariat (RS). The RS will arrange technical advisory inputs required to integrate gender into MFF partner programmes. It will provide technical guidance and capacity building support to national programmes in the fields of:

- Developing a monitoring and evaluation framework to measure gender specific impacts of MFF projects, beginning with appropriate baseline information-gathering that includes gender-segregated data.
- Collecting information on rights, resources, responsibilities and relationships that underline gender inequity issues.
- Screening of all MFF project proposals for gender integration.
- Developing case studies on gender differentiated impacts of climate change and other gender-related issues in coastal areas.
- Providing updated gender guidelines to all MFF proponents that provide a checklist on how to ensure gender is part of project identification, planning, implementing, monitoring and evaluation.

6.3 Private sector engagement

The draft regional MFF private sector engagement strategy identifies ports and harbours, and mining and quarrying[20], as the two strategic priorities for Vietnam. These (together with tourism) may be important sectors to engage in the fullness of time but the immediate priority should be aquaculture, which is the prime driver of mangrove loss in Vietnam (Annex I). Aquaculture and inshore capture fisheries industries have direct impacts on priority PoWs for sub-national implementation: coastal rehabilitation (PoW 2); sustainable livelihoods (PoW 8); community resilience (PoW 9) and adaptive management (PoW 14). There is an urgent need to move aquaculture toward more sustainable production models characterized by lower quantity/higher quality produce. A less intensive shrimp farming system that combines high-value mangrove-dependent products with improved forest management can serve as the basis for this transition. Entry points for MFF include supporting certification from the Aquaculture Stewardship Council and demonstrating cost-effective rehabilitation of abandoned shrimp ponds.

6.4 Fund raising

MFF funding is modest. Regionally, MFF faces a budget shortfall of US$4-5 million. Consequently, the NCB will need to be proactive in securing and documenting sources of co-financing. Co-financing national MFF activities can be either in cash or kind. Four sources of co-financing are identified: national (and possibly provincial) budget allocations, PFES revenues, bilateral donor support, and private sector CSR budgets. These opportunities are summarized in order of priority in Table 3.

Table 3: Co-financing opportunities and MFF response

Co-financing opportunity	Response	Type of co-financing
1. State budget allocation	Influence, through piloting demonstration models for up-scaling by national/regional programmes	Short-term, in kind
2. Bilateral donor aid	Concerted communications and fund-raising efforts to market MFF to in-country bilateral donors	Short-term, in cash
3. PFES revenues	Explore, under PoW 10, opportunities for developing mangrove PFES policy and practices as sustainable financing mechanisms	Long-term, in kind
4. Private sector CSR	Explore private sector partnerships that strategically (not opportunistically) support priority PoWs	Long-term, in cash

6.5 Communications and knowledge management

A national communications strategy, identifying priority communications opportunities and tools, will be developed as a separate document during the first year of operations (2011). Focus should be on the development of knowledge products (thematic reviews, guidelines, best practices, tool-kits, etc.) related to national priority PoWs (section 5), in addition to non-MFF interventions operating in the same fields. Key points to note are the need to: prioritise sub-national decision makers as a target audience, and selectively engage with other platforms, such as PEMSEA SDS-SEA, NGO Climate Change Working Group, and the Forest Sector Support Partnership.

7. PRIORITISATION OF ACTIONS IN 2011-2013 WORK PLANS

Actions under each prioritized PoW are summarized in Table 4, indicating strategic entry points for intervention based on a preliminary stakeholder mapping. Annex II presents an annual work plan for the coming year.

[20]Both sectors still dominated by State agency and company operations, with limited private sector involvement.

Table 4: Action areas for priority PoWs for Vietnam

PoW	Main intervention	Geographic focus	Civil society potential	Institutional presence	Strategic entry points
National					
1. Improved knowledge	NCB Regional studies	National Regional	NGOs Academia	FSPS II: fisheries co-management PEMSEA: national ICM up-scaling (Quang Ninh, Hai Phong, Nam Dinh, Thua Thien-Hue, Quang Nam, Da Nang, Khanh Hoa, Ba Ria-Vung Tau, Soc Trang, Kien Giang)	NCB: national, multi-stakeholder learning network. Initial focus on mangroves and civil society engagement; priority for sub-national learning
11. ICM	NCB Regional studies	National Regional	NGOs Academia	PEMSEA: national ICM up-scaling (Quang Ninh, Hai Phong, Nam Dinh, Thua Thien-Hue, Quang Nam, Da Nang, Khanh Hoa, Ba Ria-Vung Tau, Soc Trang, Kien Giang) FAO: co-management (Thua Thien-Hue) GTZ: ICM piloting (Bac Lieu, Soc Trang) NOAA: spatial planning (Hai Phong, Quang Ninh)	Engage with PEMSEA initiative; focus on extension of national ICM programme to delta areas with particular focus on mangroves and engagement of civil society and sub-national government
10. Sustainable financing	NCB Regional studies	National Regional	NGOs Academia	CARE: ARR potential (Thai Binh) Forest Trends: PES/ biodiversity offset policy advocacy GTZ-AusAID: REDD (Kien Giang) SNV: REDD (Ca Mau) UN-REDD: national readiness; pilot project (Ca Mau)	Facilitate national networking on sustainable (particularly carbon) financing; contribute case studies and emerging lessons to regional studies
Sub-national					
2. Coastal rehabilitation	SGF LGF	Mekong and Red River Deltas	Communities CBOs Co-operatives Mass organisations	CARE (Thanh Hoa) GTZ (Bac Lieu, Kien Giang, Soc Trang) Red Cross (northeast, Red River Delta)	SGF (and later LGF) projects demonstrate community-based models for national up-scaling
8. Sustainable livelihoods	SGF LGF	Mekong and Red River Deltas	Communities CBOs Co-operatives Mass organizations	CARE (Thanh Hoa) GTZ: co-management (Soc Trang) GTZ: AusAID (Kien Giang) FAO: fisheries livelihoods (Quang Tri, Thua Thien-Hue, Quang Nam)	SGF (and later LGF) projects demonstrate coastal ecosystem based ICM models

PoW	Main intervention	Geographic focus	Civil society potential	Institutional presence	Strategic entry points
9. Community resilience	SGF LGF	Mekong and Red River Deltas	Communities CBOs Co-operatives Mass organizations		SGF (LGF) projects climate-proofed for other priority PoWs
14. Adaptive management	SGF LGF	Mekong and Red River Deltas	Communities CBOs Co-operatives Mass organisations	CARE: co-management (Thanh Hoa) CRES: co-management (Thai Binh) FAO: co-management (Quang Tri, Thua Thien-Hue, Quang Nam) GTZ: co-management (Soc Trang)	SGF (and later LGF) projects build on co-management and community forestry experiences to inform national (fisheries and forestry) programmes and policies

7.1 Geographical scope

MFF will operate at two geographical scales: national (PoW 1) and at the sub-national level (site-based interventions under SGF, and later LGF, under all other priority PoWs). The SGF, MFF's immediate area of action, will be restricted geographically. This document does not recommend specific provinces, but presents key criteria for consideration in selecting locations for awarding small grants. National-level operations are elaborated in section 7.2 below. No geographic criteria are likely to apply to the LGF.

Table 5 presents a shortlist of five key criteria to be applied in determining which provinces to operate in the initial phase 2011-2013. These criteria will be used by the NCB to pre-select sites prior to a call for expressions of interest under the SGF, or as a screening tool to select SGF proposals once submitted.

Table 5: Criteria for selecting priority provinces for site-based interventions

Criterion	Justification
1. Representativeness	Pilot site representative of typical environmental and socio-economic contexts of wider region; demonstration model suitable for replication and up-scaling
2. Investment gap	Targeting important sites neglected by other (larger) investors and interventions; avoid duplication/competition with bigger programmes/projects
3. Co-financing	Targeting sites where significant and necessary added value can be demonstrated through *supporting* existing interventions
4. Accessibility	Ease of access for pilot demonstration and monitoring and evaluation purposes
5. Climate change vulnerability	Targeting sites of high climate change vulnerability (high need), but where long-term impacts can be secured

7.2 National-level programme

MFF's primary function should be to serve as a learning network and information clearing house. The target beneficiaries of the network are: (1) national policy makers; (2) provincial and district decision makers, and (3) field practitioners. Sub-national decision makers (provincial and district PCs, together with Departments of Natural Resources and Environment and Agriculture and Rural Development) are a priority audience and beneficiary. Awareness raising efforts at the provincial and district levels will permit MFF to address a major barrier to ICM and sustainable coastal development in Vietnam.

MFF cannot match the financial commitments made by State and donors in mangroves and other coastal ecosystems. The coastal area is already a crowded playing field with several well-financed established or pipeline projects (particularly in the Mekong Delta). Yet, each project is being implemented to some degree of isolation from those of other institutions; and all site-based interventions have weak conduits to the policy centre. A crucial role that MFF should fulfill, therefore, is capturing, distilling and disseminating key policy messages and best practice models throughout the country. MFF has already made *ad hoc* advances in this area through support to workshops on mangrove co-management (2009) and carbon financing (2010).

Operating as a network of government and civil society partners, MFF will advance the dialogue on mangrove and coastal ecosystem conservation. This networking function will help MFF keep abreast of developments in both national policy and sub-national practice, facilitating flexible and adaptive responses to the changing situation. It will also allow for cross-fertilization of ideas and experiences with other MFF countries.

MFF should also maintain a close dialogue with the PEMSEA SDS-SEA initiative to "develop a national ICM scaling up programme in support of national priorities for the sustainable development of coastal and marine resources and environment in Vietnam". In its initial phase, PEMSEA SDS-SEA will support VASI to deliver five sub-projects with varying degrees of overlap with MFF:

1. Establishment of institutional arrangements for ICM.
2. Development of a five-year framework programme for ICM scaling up.
3. ICM programme in priority provinces/cities.
4. Preparation of a roadmap for capacity development.
5. Organization of a Leadership Forum as venue for knowledge sharing.

PEMSEA SDS-SEA offers an opportunity for MFF to mainstream mangrove-specific and civil society concerns into government planning and policy making in the broader context of ICM implementation. NCB members and PEMSEA SDS-SEA NCC members will be invited to attend each other's meetings and workshops to ensure close co-operation.

MFF should retain some flexibility (and budget) to respond opportunistically to emerging needs. The NCB should be in a position to conduct/commission one or more discrete and targeted policy studies and advocacy processes each year (indicative policy advocacy opportunities anticipated at the close of 2010 are presented in section 4).

7.3 Small Grant Facility

Starting in 2011, the SGF will make funds available primarily to small-scale site-based interventions that preferentially target civil society beneficiaries (communities, community-based organizations**,** co-operatives, NGOs and local-level mass organizations). The purpose of such interventions will be to, first and foremost, raise civil society (and local government partners') awareness of the need for conservation, restoration and sustainable management of coastal ecosystems as key natural infrastructure which supports human well-being and security. Awareness of this need is acknowledged as an essential perquisite for elevating civil society participation in ICM in Vietnam. Priority PoWs (section 5) will guide NCB selection of proposals under the SGF following Section 2 of the regional *Operational Guidelines for Implementation of MFF Country Programs* (2008).

7.4 Large Grant Facility

Provisionally, US$100,000 has been allocated for a LGF in 2012 contingent upon successful completion of a first round of SGF projects in 2011. The thematic scope of large grants will comprise the four inter-related priority PoWs for sub-national intervention: coastal rehabilitation, sustainable livelihoods, community resilience and adaptive management. While SGF projects, by virtue of their scale, will be limited to one priority PoW per grant, LGF projects should include all four priority PoWs in their design. In addition, LGF projects should include provisions for direct policy advocacy and pilot intervention mainstreaming at both national and sub-national levels within the wider eco-geographic region in which the project is situated. LGF projects should be climate-proofed following MFF reference tools and guidelines. In addition to the need to address potential climate change impacts, LGF should also be administered under provisions detailed in regional LGF guidelines that cover other cross-cutting issues of gender, co-financing and communications.

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Annex I Summary of Current Situation of Mangrove Forests in Vietnam

Mangrove ecosystem values

Mangroves, globally (MA, 2005; McLeod and Salm, 2006) and in Vietnam (Do Dinh Sam and Vu Tan Phuong, 2005; Schmitt, 2009; Schmitt, 2010), provide society with a wide range of ecosystem services of great cultural, social and economic values:[21]

- Provisioning services: subsistence and commercial fisheries[22] (food, habitat and nursery grounds for aquatic life); aquaculture; timber; fuelwood; non-timber forest products (NTFPs, e.g. honey, medicinal plants; mollusks, crustaceans, etc.).
- Regulating services: coastal protection (from storm surges, waves and floods);[23] reduced erosion; stabilization and accretion of land; water quality maintenance; climate regulation.
- Cultural services: tourism and recreation; spiritual appreciation.
- Supporting services: primary production (carbon sequestration); nutrient cycling.

Mangrove forest cover trends

Globally, mangrove forests are being lost up to four times faster than terrestrial forests, and this rate of deforestation is reflected in Vietnam's declining mangrove cover: from the period 2000-2005, the extent of natural mangrove forest in Vietnam was reduced by 19% compared to 4% for terrestrial evergreen broadleaved forests (MARD, 2008). Over the second half of the 20th century, Vietnam's mangroves have shrunk in area by nearly two-thirds (World Bank, 2005) from over 400,000 ha to around 155,000 ha by 2001 (Phan Nguyen Hong and Quan Thi Quynh Dao, 2003). The rate of mangrove forest loss in the period 1985-2000 is estimated to have been about 15,000 ha/year (Vo Sy Tuan, 2005).

MARD (2008) data indicates a national total of 323,712 ha of forested land designated as mangrove forest; yet one third (113,971 ha) of this land area is bare of standing trees. Almost three-quarters of Vietnam's existing mangrove forest cover is (recently) planted monocultures characterized by low biomass and diversity (UNEP, 2004; VEA-BCD, 2009). The last comprehensive national inventory of mangroves was conducted in 1999, but a range of site-specific data suggests that the improved forest protection and replanting programmes have stabilized mangrove forest cover over the past decade (World Bank, 2005) and moved Vietnam into a phase of net afforestation (FAO, 2007). Remaining mangroves are now highly fragmented: GIS databases from MARD's Forest Inventory and Planning Institute (FIPI) and MONRE indicated that the total area of mangroves in 2005 was no more than 150,000 ha, with an average patch size of *c*. 100 ha (Brunner, 2010).

The Mekong Delta is home to over 60% of Vietnam's existing mangroves, with an additional 20% found in the southeast region, and almost 20% in the coastal north and Red River Delta area (see Table 1).

[21] The annual economic value of mangroves five years ago, estimated by the cost of the products and services provided, was estimated to already be approaching US$1 million per hectare (Wells *et al*., 2006).

[22] Up to 80% of inshore fish catches, (valued at US$4 billion in exports in 2008), are directly or indirectly dependant on mangroves (Hamilton and Snedaker, 1984). 1 ha of intact mangrove forest is estimated to produce about 1 tonne of fish per year (Schatz, 1991). Income from fish and lumber from mangroves in Vietnam has been estimated to be about US$6,000/ha/year (Nguyen Chu Hoi, 1995; Nguyen Chu Hoi and Ho Thu Minh, 2003).

[23] A 1.5 km-wide belt of 6-year old mangroves in the Red River Delta reduced the height of incoming storm waves from 100 cm (at the seaward edge of the mangrove) to 5 cm (at the sea dyke on the landward side), compared to areas without mangroves, where a 100 cm-high wave was reduced to only 75 cm (Mazda *et al.,* 1997). US$1.1 million invested in mangrove rehabilitation in northern Vietnam saved US$7.3 million annually for dyke maintenance (Brown *et al.,* 2006).

Table 1 Current Distribution of Mangroves in Vietnam (MARD, 2008)

Region	Total area (ha)	% total	Natural (ha)	Planted (ha)
Northeast	37,651	18	19,745	17,905
North-central	1,885	1	564	1,321
South-central	2	0	2	0
Southeast	41,666	20	14,898	26,768
Mekong Delta	128,537	61	22,400	106,137
Total	209,741	100	57,610	152,131

Drivers of mangrove deforestation and degradation

Historically, Vietnamese mangrove forests began to experience significant reductions in extent with during the middle of the Second Indochina War (1960s) due to extensive application of defoliants by the U.S. Air Force in the Mekong Delta (Brunner, 2010). The post-war period (since the mid-1980s), under economic renovation policies of generalized trade liberalization and export growth, planned and unplanned responses to global aquaculture market signals have driven large-scale conversion of mangrove forest areas to shrimp farms (WWF, 2004; MARD, 2010; McNally, 2010). Extensive expansion of aquaculture in the 1980s and 1990s resulted in the loss of about two-thirds of Vietnam's mangroves by 2000.[24] The government continues to set high targets for developing the value of the nation's aquaculture industry (McNally, 2010), and the extent of sea and brackish water aquaculture continues to increase dramatically (McNally *et al*., 2010).[25]

In addition to aquaculture, the primary driver of mangrove deforestation, land reclamation for agricultural expansion, infrastructure development (particularly sea dyke and port construction), urbanization, industry, and tourism, all exacerbated by ineffectual Strategic Environment Assessments and weak Environmental Impact Assessment practices, further contribute to mangrove loss in Vietnam (Hawkins *et al*., 2010). In recent years, clam farming on mudflats has also emerged as a driver for mangrove clearance (McNally *et al*., 2010). Timber and fuel-wood harvesting, fishing and shellfish collection have also contributed significantly to the decline in mangrove forest quality in recent decades (Hawkins *et al*., 2010; McNally *et al*., 2010).

Environmental pollution, caused by leeching of biocide and fertilizer residues from agricultural production, is cited as a contributing factor to undermining mangrove ecosystem stability. Upstream hydrological engineering (hydroelectric dams and irrigation canals) contribute an additional layer of complexity in modifying local coastal dynamics, which could impact on mangrove ecosystem permanence through altering rates of erosion or accretion. Climate change-induced SLR and saline intrusion (particularly in the Mekong Delta), together with increased storm intensity and frequency (along the north and central coast), will be factors of increasing relevance to mangrove stability in coming decades (Schmitt, 2010).

Reforestation efforts

Vietnam has replanted more mangroves than almost any other country (Field, 2000), with the government having sponsored rehabilitation of mangroves for several decades and, most recently, approving a VND2.4 trillion (US$120 million) nationwide mangrove rehabilitation and development plan for 2008-2015 (MARD, 2008, see section 3.2). Afforestation efforts begun in 1975, after the unification of the country and were repeated in the early 1990s, when government rehabilitated nearly 53,000 ha. A number of international NGOs have also

[24] In 1981-1994 it was estimated that 250,000 ha of mangrove forest were cleared for aquaculture development (Brunner, 2010). For example, 63% of Xuan Thuy National Park's mangrove areas were replaced by shrimp ponds between 1986 and 2001 (Béland *et al.*, 2006).

[25] Vietnam General Statistics Office in 2010 indicated that aquaculture had expanded from <400,000 ha in 2000 to >700,000 ha by 2007 (McNally *et al*., 2010).

supported mangrove rehabilitation projects, with around 14,000 ha planted from 1991 to 2002 in eight northern and north-central provinces (FAO, 2007). Over the past decade thousands of additional hectares of mangrove have been planted for the purposes of storm protection and livelihood benefits, by NGOs such as the Danish and Japanese Red Cross and CARE, particularly in northern and central provinces. These plantations are typically dominated by *Kandelia obovata* planted in narrow strips (100-1,000 m wide) along the coastline in front of sea-dykes. In the Mekong Delta between 2004 and 2007 the World Bank Coastal Wetlands Protection and Development Programme planted 4,662 ha of mangroves (McNally *et al*., 2010).