GEF

IMPACT

EVALUATION

The GEF in the South China Sea and Adjacent Areas

Volume 2: Annexes

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Impact Evaluation of the GEF in the South China Sea and Adjacent Areas

ANNEXES

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Annex 1: Selection Process for South China Sea as Focus of Impact Evaluation

GEF interventions through international waters focal area target transboundary water bodies which includes large marine ecosystesm (LME), river basins and aquifers that extent to two or more litoral countries[1]. Any impact evaluation of GEF activities to address international waters related transboundary concerns has to take into account this scale of GEF focus. Resource and time constraints made it imperative that such an exercise cover only one water body For site selection, the Evaluation Office considered all the large marine ecosystems where GEF has been engaged. It assessed the relative suitability of the candidate sites based on level of GEF engagement, maturity of GEF portfolio, applicability of the lessons from the site to other areas, and the extent the water body had already been covered through other major evaluations.

Among the candidates, South China Sea (including Gulf of Thailand) emerged as the most suitable candidate. GEF has been financing activities to address transboundary international waters related concerns in South China Sea since 1992. The GEF portfolio relevant to South China Sea includes 35 projects and 150 small grants provided through GEF's Small Grants Programme (SGP). It accounts for a cumulative GEF funding of US $ 110 million and a cofinancing of $ 694 million[2]. All three major GEF agencies (World Bank, UNDP and UNEP) have been involved in implementation of GEF projects in this region. The new GEF agencies – especially the Asian Development Bank – are becoming increasingly involved in GEF supported projects in South China Sea. During preparatory consultations, many of the GEF stakeholders also expressed that lessons from the SCS and adjacent areas would be applicable to other international water bodies in developing countries. Furthermore, while the 2004 International Waters Program Study had touched upon the South China Sea, this area had not been the primary focus past international waters evaluations undertaken by the Office. As a result of these considerations, the South China Sea was selected as a focus for this evaluation. More information on the selection criteria and process can be found at http://www.thegef.org/gef/node/3528.

[1] More recently during the fifth replentishment some issues pertaining to the high seas were also included, but these were not considered as potential evaluendum as projects are just starting.
[2] The 35 projects account for $ 107 million in GEF funding and $ 692 million in cofinancing. Remainder is accounted for by 150 SGP grants.

Annex 2: GEF Support in the South China Sea and Adjacent Waters

A. Projects included in the Evaluation

Table 1. Portfolio of GEF projects incident on the South China Sea and Gulf of Thailand

GEF ID	Project Name	Focal Area	Funding Stream	GEF Grant (US$ M)	Cofin. (US$ M)	Agency	Country
4	Hon Mun Marine Protected Area Pilot Project	Biodiversity	Others	1.00	1.15	World Bank	Vietnam
396	Prevention and Management of Marine Pollution in the East Asian Seas	International Waters	UNDP/ PEMSEA	2.92	0.00	UNDP	Regional
514	The Role of the Coastal Ocean in the Disturbed and Undisturbed Nutrient and Carbon Cycles	International Waters	Others	0.00	0.00	UNEP	Global
584	Global International Waters Assessment (GIWA)	International Waters	Others	0.03	0.04	UNEP	Global
587	Ship Waste Disposal	International Waters	Others	10.00	11.60	World Bank	China
597	Building Partnerships for the Environmental Protection and Management of the East Asian Seas	International Waters	UNDP/ PEMSEA	8.74	6.64	UNDP	Regional
610	Removal of Barriers to the Effective Implementation of Ballast Water Control and Management Measures in Developing Countries	International Waters	Others	0.42	0.16	UNDP	Global
615	Mekong River Basin Water Utilization Project	International Waters	Others	11.35	5.30	World Bank	Regional
884	Reduction of Environmental Impact from Tropical Shrimp Trawling through Introduction of By-catch Technologies and Change of Management	International Waters	Others	0.17	0.16	UNEP/FAO	Global
885	Reversing Environmental Degradation Trends in the South China Sea and Gulf of Thailand	International Waters	UNEP/ SCS	16.75	17.89	UNEP	Regional
1031	Biodiversity Conservation and Sustainable Use of the Marine Resources at Con Dao National Park	Biodiversity	Others	0.99	0.88	UNDP	Vietnam
1128	Biodiversity Management in the Coastal Area of China's South Sea	Biodiversity	Others	3.52	9.23	UNDP	China
1183	Tonle Sap Conservation Project	Biodiversity	Others	3.60	15.54	UNDP/ADB	Cambodia
1185	Integrated Coastal Resources Management Project	Biodiversity	Others	1.56	9.05	ADB	Philippines
1201	Conserving Marine Biodiversity through Enhanced Marine Park Management and Inclusive Sustainable Island Development	Biodiversity	Others	1.60	1.51	UNDP	Malaysia
1223	Removal of Barriers to the Introduction of Cleaner Artisanal Gold Mining and Extraction Technologies	International Waters	Others	1.19	2.18	UNDP	Global
1829	Coral Reef Rehabilitation and Management Project Phase II (COREMAP II)	Biodiversity	Others	0.75	6.71	World Bank	Indonesia
1916	Marine Aquarium Market Transformation Initiative (MAMTI)	Biodiversity	Others	0.78	1.74	World Bank	Regional
2135	Guangdong - Pearl River Delta Urban Environment	International Waters	WORLD BANK/ IF	10.00	432.38	World Bank	China

2138	Livestock Waste Management in East Asia	International Waters	WORLD BANK/ IF	7.70	17.01	World Bank	Regional
2188	East Asian Seas Region: Development and Implementation of Public Private Partnerships in Environmental Investments	International Waters	UNDP/ PEMSEA	0.44	0.36	UNDP	Regional
2261	Building Partnerships to Assist Developing Countries to Reduce the Transfer of Harmful Aquatic Organisms in Ships' Ballast Water (GloBallast Partnerships)	International Waters	Others	0.10	0.28	UNDP	Global
2329	Global Programme to Demonstrate the Viability and Removal of Barriers that Impede Adoption and Successful Implementation of Available, Non-Combustion Technologies for Destroying Persistent Organic Pollutants (POPs)	POPs	Others	4.11	7.66	UNIDO	Philippines
2474	Promoting Ecosystem-based Approaches to Fisheries Conservation and LMEs	International Waters	Others	0.06	0.04	UNEP	Global
2700	Implementation of Sustainable Development Strategy for the Seas of East Asia (SDS-SEA)	International Waters	UNDP/ PEMSEA	7.20	20.94	UNDP	Regional
2758	Coastal Cities Environment and Sanitation Project - under WORLD BANK/GEF Partnership Investment Fund for Pollution Reduction in the LME of East Asia	International Waters	WORLD BANK/ IF	5.35	21.68	World Bank	Vietnam
2759	Metro Manila Third Sewerage Project (MTSP) - under WORLD BANK/GEF Partnership Investment Fund for Pollution Reduction in the LME of East Asia	International Waters	WORLD BANK/ IF	5.35	87.81	World Bank	Philippines
2932	Alternatives to DDT Usage for the Production of Anti-fouling Paint	POPs	Others	3.55	4.11	UNDP	China
3187	Demonstration of Sustainable Management of Coral Reef Resources in the Coastal Waters of Ninh Hai District, Ninh Thuan Province, Viet Nam	International Waters	UNEP/ SCS	0.41	0.53	UNEP	Vietnam
3188	Demonstration of Community-based Mgt of Seagrass Habitats in Trikora Beach East Bintan, Riau Archipelago Province, Indonesia	International Waters	UNEP/ SCS	0.40	0.39	UNEP	Indonesia
3309	Participatory Planning and Implementation in the Management of Shantou Intertidal Wetland	International Waters	UNEP/ SCS	0.40	0.52	UNEP	China
3523	CTI West Pacific-East Asia Oceanic Fisheries Management Project - under the Coral Triangle Initiative	International Waters	Others	0.02	0.07	UNDP	Regional
3619	CTI Strategies for Fisheries Bycatch Management	International Waters	Others	1.61	4.13	FAO	Regional
3639	CTI GEF IW: LEARN: Portfolio Learning in International Waters with a Focus on Oceans, Coasts, and Islands and Regional Asia/Pacific and Coral Triangle Learning Processes - under the Coral Triangle Initiative	International Waters	Others	0.41	0.44	UNDP/ADB	Global

B. Determination of Incidence of GEF Investment in the SCS

Of the 34 projects that were both relevant to international waters related transboundary concerns and incident on South China Sea, 21 covered other water bodies as well. Since a simple aggregation of GEF investment would have led to an overestimation, there was a need to determine incidence of GEF investment on South China Sea. To determine this, the following approach was followed:

- Within a project, funding for components that were relevant to international waters related transboundary concerns was considered to be thematically incident; themes that were not relevant to international waters related concerns were excluded; the administrative and M&E related outlay was proportionately shared between relevant and non-relevant themes
- When a project spanned beyond South China Sea, then the incidence of sites where project activities were undertaken on South China Sea and the GEF support for them was taken into account
- When it was not possible to determine the incidence of sites or activities undertaken within a project, then the activities undertaken in Thailand, Vietnam and Cambodia were considered to be fully incident. For other countries a reduced level of incidence was assumed (i.e. 1/3 for china, 3/10 for Philippines and Malaysia, and 1/10 for Indonesia. These weights were derived based on a rough assessment of the coastline of a country incident on South China Sea.

This approach leads to a fairly accurate assessment of incidence of GEF funding on South China Sea. At the country level, however, owing to the significant number of regional and global projects this is likely to introduce some minor distortion. However, given that for several regional and global projects from the earlier phases of GEF, country-level data is not readily available, this trade-off between accuracy and simplicity in calculations was an appropriate one.

C. Demonstration Sites Covered through Field Verification

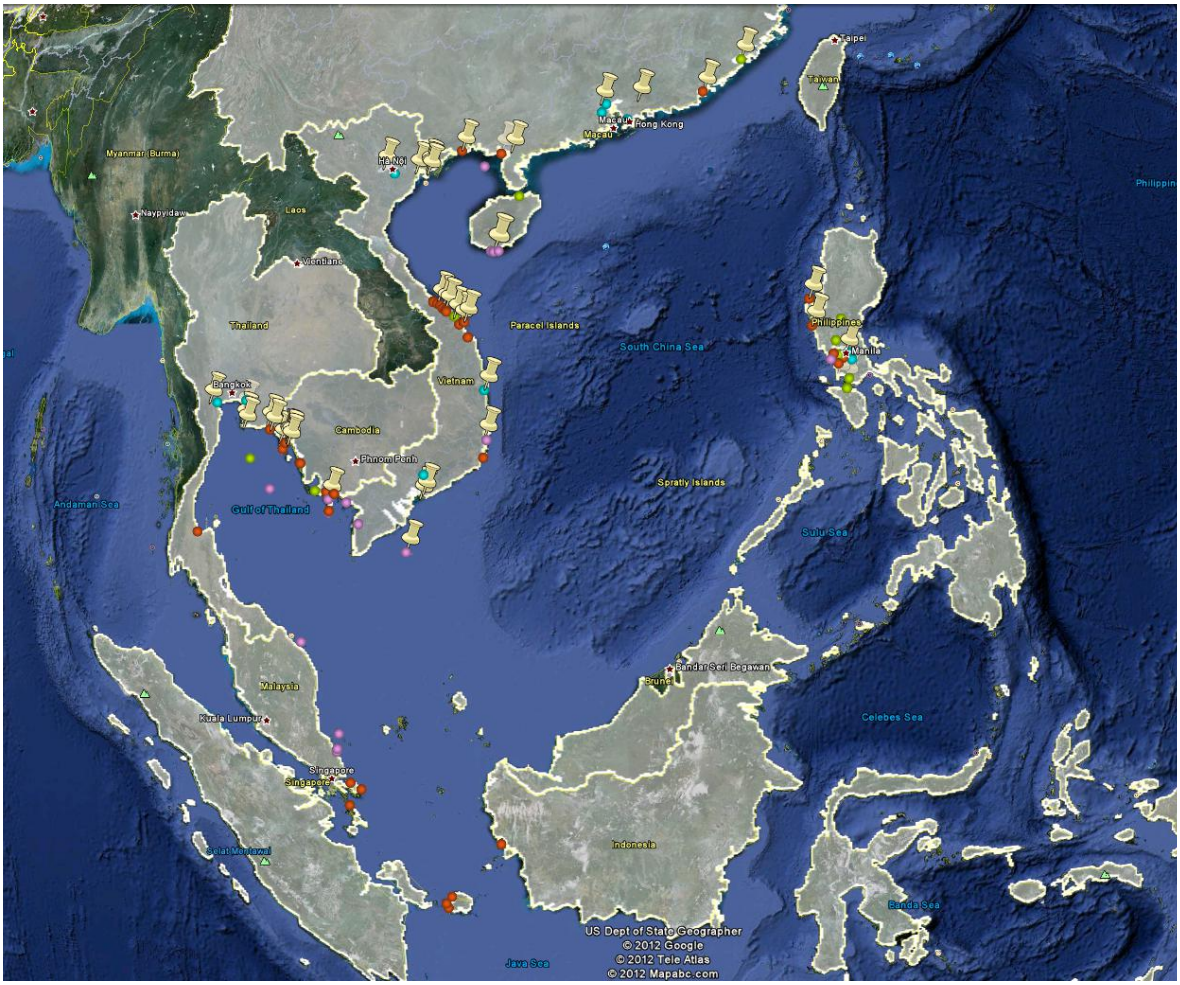


Figure 1. GEF-supported demonstration sites in the SCS LME (including UNDP-SGP projects supported by the UNEP-SCS project) and visited sites (pins)

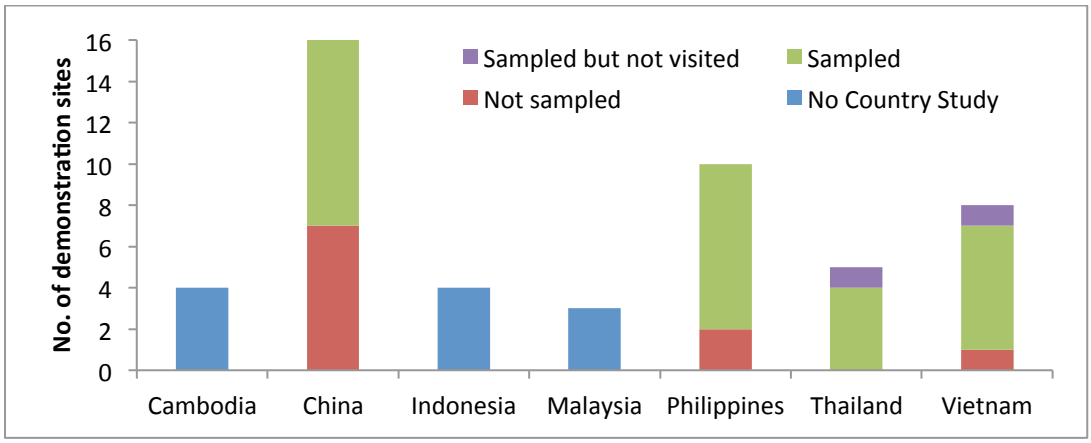


Figure 2. Distribution of demonstration sites located within the SCS LME by country

Table 2. List of sampled demonstration sites

Demo/activity name	Country	GEF ID of associated project/s	Agency	Funding Stream	Start	End***
Bataan POPs**	Philippines	2329	UNIDO	Others (POPs)	2008	Continuing
Batangas Bay	Philippines	396 / 597 / 2700	UNDP	UNDP/PEMSEA	1994	Continuing*
Bolinao	Philippines	885	UNEP	UNEP/SCS	2005	2007
Boluo County - LWM	China	2138	World Bank	WORLD BANK/IF	2006	2010
Chonburi	Thailand	597 / 2700	UNDP	UNDP/PEMSEA	2002	Continuing*
Con Dao	Viet Nam	1031	UNDP	Others (Biodiversity)	2006	2009
Danang	Viet Nam	597 / 2700	UNDP	UNDP/PEMSEA	2001	Continuing*
Fangchenggang	China	885	UNEP	UNEP/SCS	2003	2008
Foshan	China	2135	World Bank	WORLD BANK/IF	2005	Continuing
Guangzhou	China	2135	World Bank	WORLD BANK/IF	2005	Continuing
Hanoi - LWM[3]	Viet Nam	2138	World Bank	WORLD BANK/IF	2006	2010
Hepu	China	885	UNEP	UNEP/SCS	2003	2008
Koh Chang	Thailand	885	UNEP	UNEP/SCS	2005	2008
Manila Bay	Philippines	597/2700	UNDP	UNDP/PEMSEA	2002	Continuing*
Masinloc	Philippines	885	UNEP	UNEP/SCS	2005	2008
Masincloc - ICRMP	Philippines	1185	ADB	Others (Biodiversity)	2010	Continuing
Metro Manila	Philippines	2759	World Bank	WORLD BANK/IF	2007	Continuing
Phu Quoc	Viet Nam	885	UNEP	UNEP/SCS	2006	2008
Puerto Galera – PPPs**	Philippines	2188	UNDP	UNDP/PEMSEA	2008	2010
Qui Nhon	Viet Nam	2758	World Bank	WORLD BANK/IF	2009	Continuing
Ratchaburi - LWM	Thailand	2138	World Bank	WORLD BANK/IF	2006	2011
Sanya	China	1128	UNDP	Others (Biodiversity)	2005	2010
Shantou**	China	3309	UNEP	UNEP/SCS	2007	2011
Shankou-Weizhou	China	1128	UNDP	Others (Biodiversity)	2005	2010
Trat	Thailand	885	UNEP	UNEP/SCS	2005	Continuing*
Xiamen	China	396 / 597 / 2700	UNDP	UNDP/PEMSEA	1994	Continuing*

*While these sites continue to have activities supported by GEF through subsequent projects, the initial demonstrations have already been completed and are therefore at a stage where progress to impact could be assessed.
**Due to logistical constraints encountered during field verification, these sites were not visited but verified through in-depth interviews with key informants.
***Status as of January 2012. Foshan and Guangzhou (GEF ID 2135) were completed by December 2011, but were not reported as such while the evaluation was being finalized, and are therefore counted as "under implementation" in this report.

D. GEF Support by Country

Table 3. GEF funding for activities that are incident on SCS and targeted at national and local scales

Countries	Estimated GEF grant for National components of regional projects in US $ m (number of projects in parentheses)[4]	GEF grants for national projects in US $ m (number of projects in parentheses)	GEF SGP grants in US $ m (number of small grants in parentheses)	GEF grant total (in US $ million)
Cambodia	2.64	3.60	0.05	6.29

[3] This demonstration site was formerly called Ha Tay. Ha Tay Province was merged with Hanoi in 2008, which is why this site is now referred to as Hanoi.
[4] These include projects in which multiple countries have participated. Therefore, number of projects will not add up vertically for regional, global and the total of these projects.

	(3)	(1)	(2)	
China	5.13 (5)	27.47 (5)	0.09 (2)	32.69
Indonesia	2.08 (4)	1.15 (2)	0.04 (2)	3.27
Malaysia	0.00 (0)	1.60 (1)	0.34 (8)	1.94
Philippines	3.64 (4)	11.01 (3)	0.53 (15)	15.18
Thailand	6.44 (5)	0.00 (0)	1.44 (111)	7.88
Vietnam	5.59 (5)	7.75 (4)	0.37 (10)	13.71
All countries	25.52 (6)	52.57 (16)	2.87 (150)	80.96

Table 4. GEF funding for activities – estimated by targeted scale

GEF-supported activities	Estimated GEF funding (US$ million) incident on SCS
Global and regional scale	**34.4**
Global projects	2.4
National and local scale	**81.0**
National components of regional projects	25.5
National projects	52.6
Regional components of regional projects	32.0
Small Grants Programme (SGP)	2.9
Grand Total	**115.4**

E. GEF Support by Focal Area

Table 5. GEF Funding for IW relevant activities incident on South China Sea (in US$ million)*

Focal Area	GEF Funding support through projects				GEF Funding support through SGP Grants	Grand total of GEF Funding Support
	National	Regional	Global	Total for projects		
Biodiversity	13.01 (7)	0.78 (1)	0.00 (0)	13.79 (8)	0.97 (*27*)	14.76 (8, *27*)
International Waters	31.90 (7)	56.72 (9)	2.40 (8)	91.02 (24)	1.71 (*119*)	91.02 (24, *199*)
Multi-focal Area	0.00 (0)	0.00 (0)	0.00 (0)	0.00 (0)	0.20 (*4*)	0.20 (0, *4*)
Persistent Pollutants	7.66 (2)	0.00 (0)	0.00 (0)	7.66 (2)	0.00 (*0*)	7.66 (2, *0*)
Total	52.57 (16)	52.15 (10)	2.40 (8)	112.48 (34)	2.87 (*150*)	115.35 (34, *150)*

*Numbers in parentheses indicate number of projects and grants (*italicized*).

F. GEF Support and Cofinancing by Implementing Agency

Table 6. GEF Support and Cofinancing by Implementing Agency

Implementing Agency	Activities		Funding Statistics		
	Number of projects	SGP Grants	GEF funding for activities (US $ M)	Co-financing (US $M)	Cofinancing ratio (US $ M)
ADB	2	__	1.56	9.05	5.8
FAO	1	__	1.61	4.13	2.2
UNDP	12	150	33.57	49.40	1.5
UNEP	7	__	18.05	19.41	1.1
UNIDO	1	__	4.11	7.66	1.9
World Bank	9	__	52.28	585.39	11.2
Jointly implemented activities	2	__	4.18	16.137	3.9
All agencies	34	__	115.35	691.18	6.0

G. GEF Support to Activities by Targeted Scale

Table 7. GEF Support to Activities by Targeted Scale

GEF-supported activities	Estimated GEF funding (US $ M) incident on SCS
GLOBAL AND REGIONAL SCALE	**34.4**
Global projects	2.4
Regional components of regional projects	32.0
NATIONAL AND LOCAL SCALE	**81.0**
National components of regional projects	25.5
National projects	52.6
Small Grants Programme (SGP)	2.9
Grand Total	**115.4**

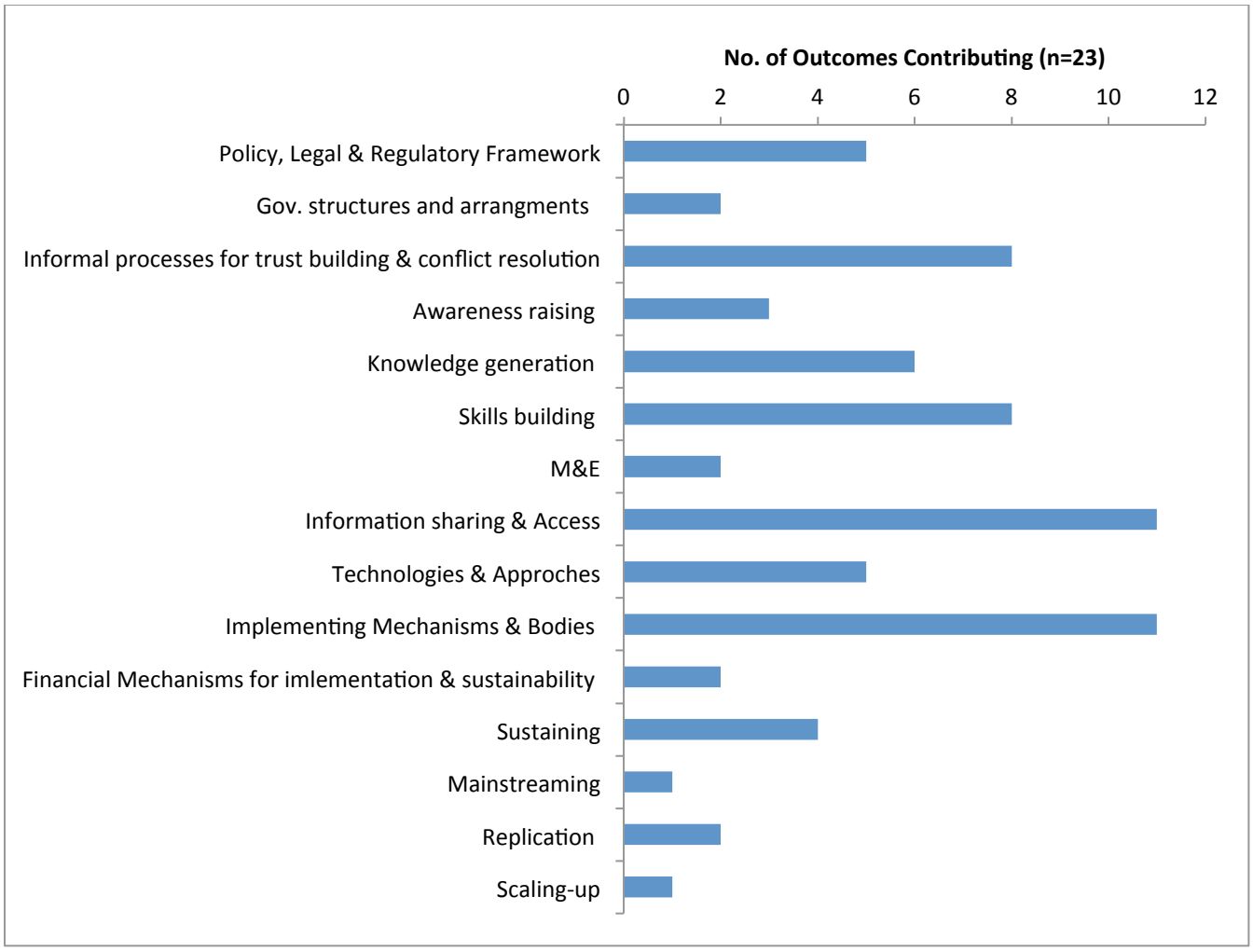


Figure 3. Areas of contribution of regional components of completed GEF-supported regional and national IW projects in the SCS. Source: Project Documents

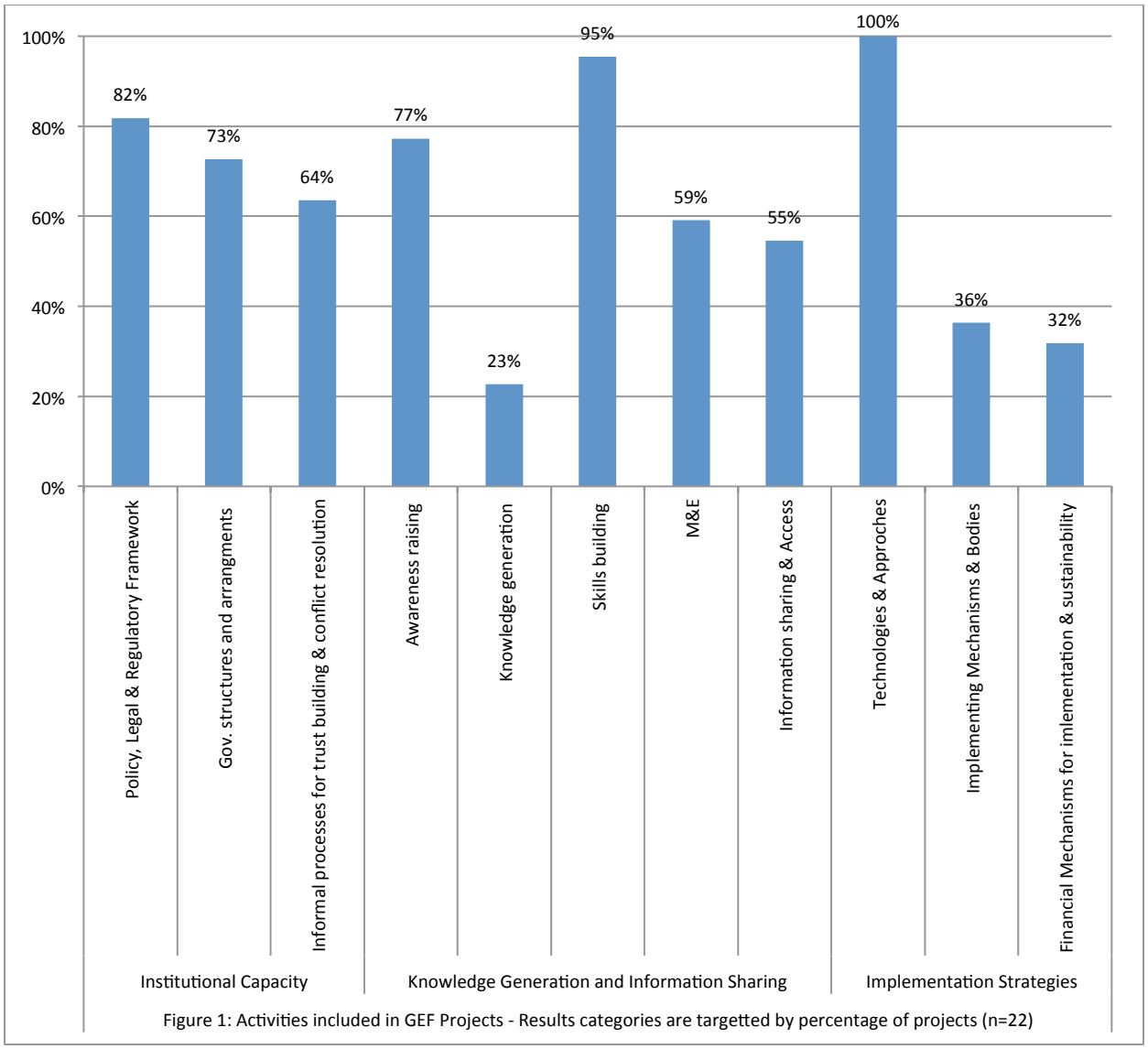
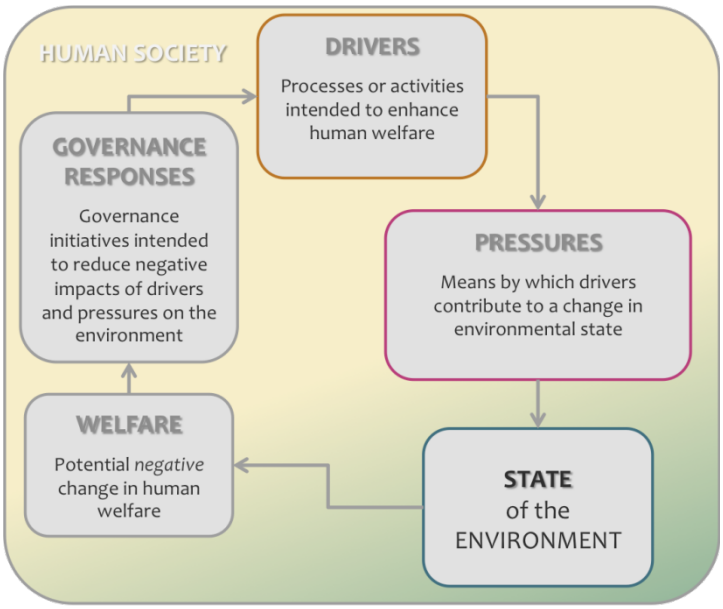


Figure 4. Areas of contribution of GEF projects at the national scale (n=22). Source: Project Documents

Annex 3: Methods of Analysis Used

A. DPSWR Model



Over the years, several frameworks have been developed to capture the interactions between the ecosystems and the socioeconomic systems. The S-RESS (Stress-Response) framework developed by Rappart and Friend (1979) was the first major effort in this direction. OECD (1991, 1993) developed a pressure-state-response (PSR) framework to understand environmental issues in their socioeconomic context. The PSR framework was further developed into drivers-pressure-state-impact-response (DPSIR) model by the European Environmental Agency (1995). The DPSIR model was further clarified as the DPSWR (drivers-pressures-state-welfare-response) framework for use by an EU FP7 project whose over-all objective is "to provide a comprehensive scientific knowledge base and practical guidance for the application of the Ecosystem Approach to the sustainable development of Europe's regional seas" (www.KnowSeas.com). The KnowSeas project is affiliated with LOICZ and is accredited to the Living With Environmental Change (LWEC) programme (http://www.lwec.org.uk). The DPSWR framework is a useful tool to clarify interactions between human activities (drivers, pressures), ecological systems (state), social and economic systems (welfare), and environmental policies and mechanisms (responses) (Cooper 2012). Systems thinking is a "discipline for seeing wholes" (Senge 1990, p. 69); it endeavors to see interrelationships between things, focusing often on feedback loops between components of a system. Systems thinking does not presuppose our ability to understand the character and behavior of all components of the system and their relationships; rather it encourages one to see crucial elements that underlie complex situations. The illustration above provides a graphical representation and definitions for the DPSWR framework used in this study. It is important to note that the DPSWR representation of the system does not always imply strict causality; rather it should be regarded as a hierarchical classification. Further, due to the complexity of any system, we cannot capture all the causal links within it nor can we use linear relationships to characterize those links that can be captured. Any DPSWR representation of the system is therefore a schematic, and not a complete picture of a system. In addition there are always factors outside of the defined boundaries of the system that influence its behavior and linkages within it.

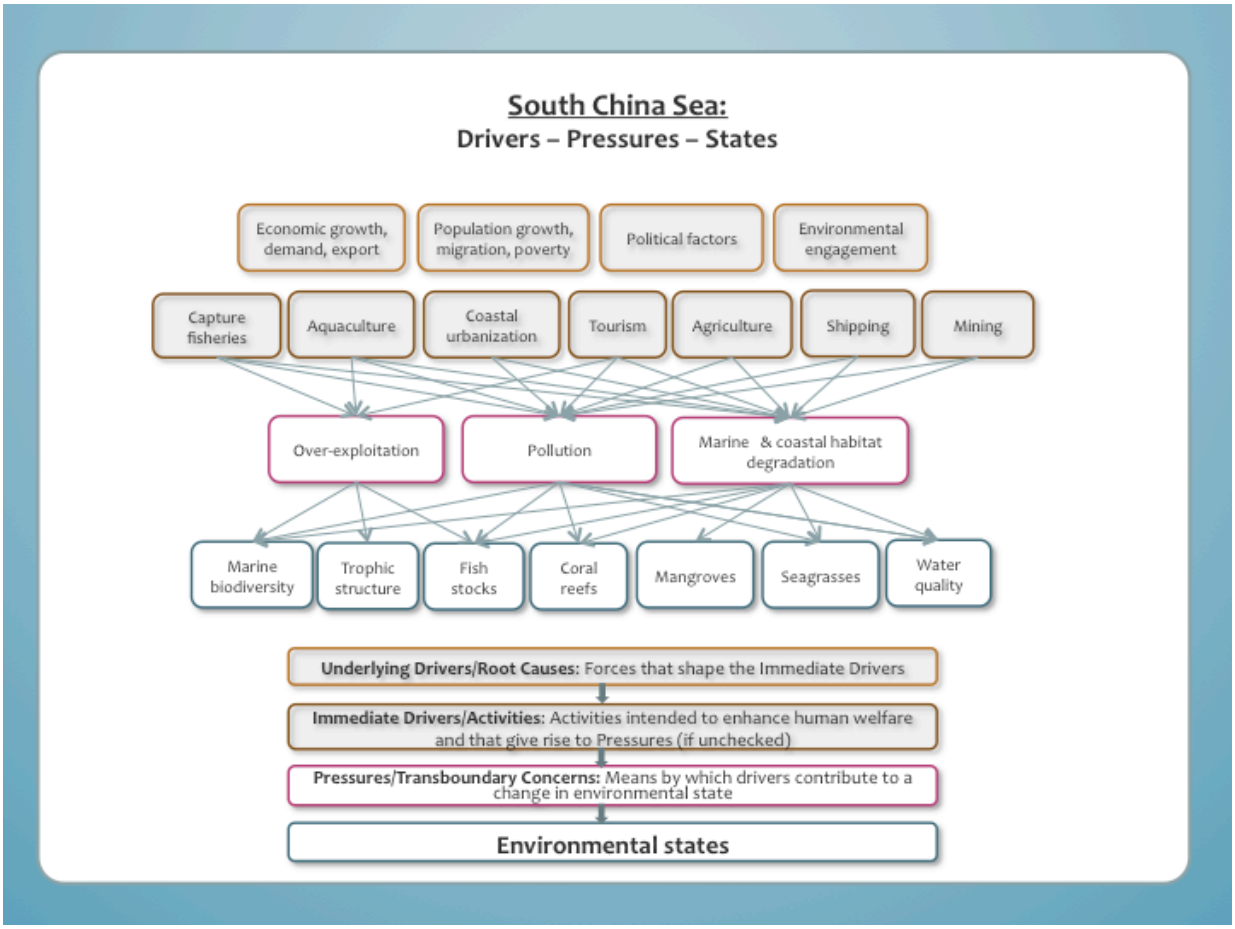


Figure 5. South China Sea: Drivers – Pressures – States model using DPSWR framework

To make the analysis more clear we distinguish between two types of drivers: (i) Immediate Drivers, which can be defined as activities intended to enhance human economic welfare and that give rise to Pressures,[5] and (ii) Underlying Drivers, which are forces that shape the Immediate Drivers. Underlying drivers have also been defined as root causes in the UNEP (2005) causal chain analysis. We have modified the root causes to be more explicit about what they entail. As such, underlying drivers in this study are: (a) Economic growth, demand, and export; (b) Population growth, migration, and poverty; (c) Political factors; and (d) Environmental engagement. These correspond to Economic, Demographic, Political, and Knowledge root causes (UNEP 2005). All underlying drivers are assumed to influence all immediate drivers/activities or sectors. The immediate drivers in this study are: capture fisheries, aquaculture, coastal urbanization, coastal tourism, agriculture, shipping, and mining[6,7]. All immediate

[5] The DPSWR framework focuses on drivers as human activities, i.e. on aspects of the system that Governance Responses can address in short to medium term. Although there are factors outside of the system's boundaries that affect the system, for example climate change, the system here is bound to factors that are under more immediate control of Governance Responses. This doesn't mean that we are not aware of climate change impacts and threats to the SCS ecosystem features, for example bleaching of coral reefs and ocean acidification, it only means that these actors are outside of the boundaries of the system under study.

[6] Other immediate drivers could have been included, such as logging and industrial development. Due to time constraints for including relevant data, we chose to limit our system's schematic to immediate drivers for which we have obtained relevant data. Future work should consider adding these sectors.

drivers in this study are economic sectors except coastal urbanization. However, coastal urbanization is included as an immediate driver because of its place in the system's hierarchy, as presented in our system schematic (see Figure 5); underlying drivers influence coastal urbanization, and coastal urbanization contributes to creating the pressures as identified in this report. We look at drivers and states through three pressures, also identified as transboundary concerns[8,9]: (a) Overexploitation; (b) Pollution; and (c) Marine and coastal habitat degradation. Figure 5 shows a representation of drivers, pressures and states for the South China Sea system using the DPSWR framework[10].

Welfare changes play an important role in the DPSWR chain, especially in terms of trade-offs (between drivers and human welfare) and as a link between the state of the environment and policy and other responses. Figure 6 shows some existing key trans-boundary governance[11] responses (governance mechanisms) for dealing with these concerns. Governance responses are considered the environmental- and sustainability-orientated policy and institutional approaches that aim to influence the underlying social and economic drivers (e.g. through implementing incentives or driving behaviour change), or modifying the activities of a specific driver in a sector (for example limiting fisheries catch through a TAC, developing spatial approaches for example to reserve the nearshore areas for small scale fisheries to reduce conflict, or implementing technical measures to reduce bycatch). This should feasibly reduce the corresponding pressure and improve the environmental state of the system. The governance responses listed are transboundary in nature; they do not reflect the variety of unilateral, bilateral or voluntary agreements in place across coastal states in the SCS. Amongst these key instruments, all three pressures are addressed, in different ways, across the listed regional institutions and agreements. Coloured circles show instruments that address two or three of the concerns; orange circle is associated with over-exploitation, green with marine and coastal habitat destruction, and blue with pollution. Figure 6 is not meant to be a comprehensive picture of transboundary governance responses in the South China Sea; rather it is a representation showing that there is a wealth of governance responses to the driving forces and pressures of over-exploitation, marine and coastal habitat degradation and pollution.

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[7] Please note that economic sectors are sometimes defined as pressures and not as immediate drivers. We used this particular way of defining layers within our DPSWR schematic because it allowed us to highlight the three concerns particularly well.

[8] While Talaue-McManus (2000) identified freshwater as the fourth concern, this report focuses on concerns that to a substantial degree affect the South China Sea ecosystem.

[9] Although pollution may not at the moment be a transboundary, but a local concern, we are taking a preventative approach in which there is a possibility that pollution may become a transboundary concern, if appropriate measures are not taken. Pollution may also have transboundary consequences if it affects habitats that are necessary for specific stages in the life cycles of fisheries and migratory species. However, based on an examination of oceanographic conditions, it seems that except for a few cases it is unlikely that land-based pollution will have very serious transboundary effects.

[10] This system diagram should be seen as only one version of the South China Sea system representation. It is very likely that other authors would have produced a different representation. Regardless, this diagram should provide a good overview on which others can build upon.

[11] Rather than viewing governance simply as governing, we take Jentoft (2007) approach and view governance as a system in which a 'governing system' and a 'system-to-be-governed' interact to form a system in its own right, which is based on a set of formulated principles guiding these interactions and caring for institutions that enable them. Governance in this view is principled, interactive, and multi-stakeholder driven and consists largely of negotiating conflict, making compromises, and reaching (temporary) consensus.

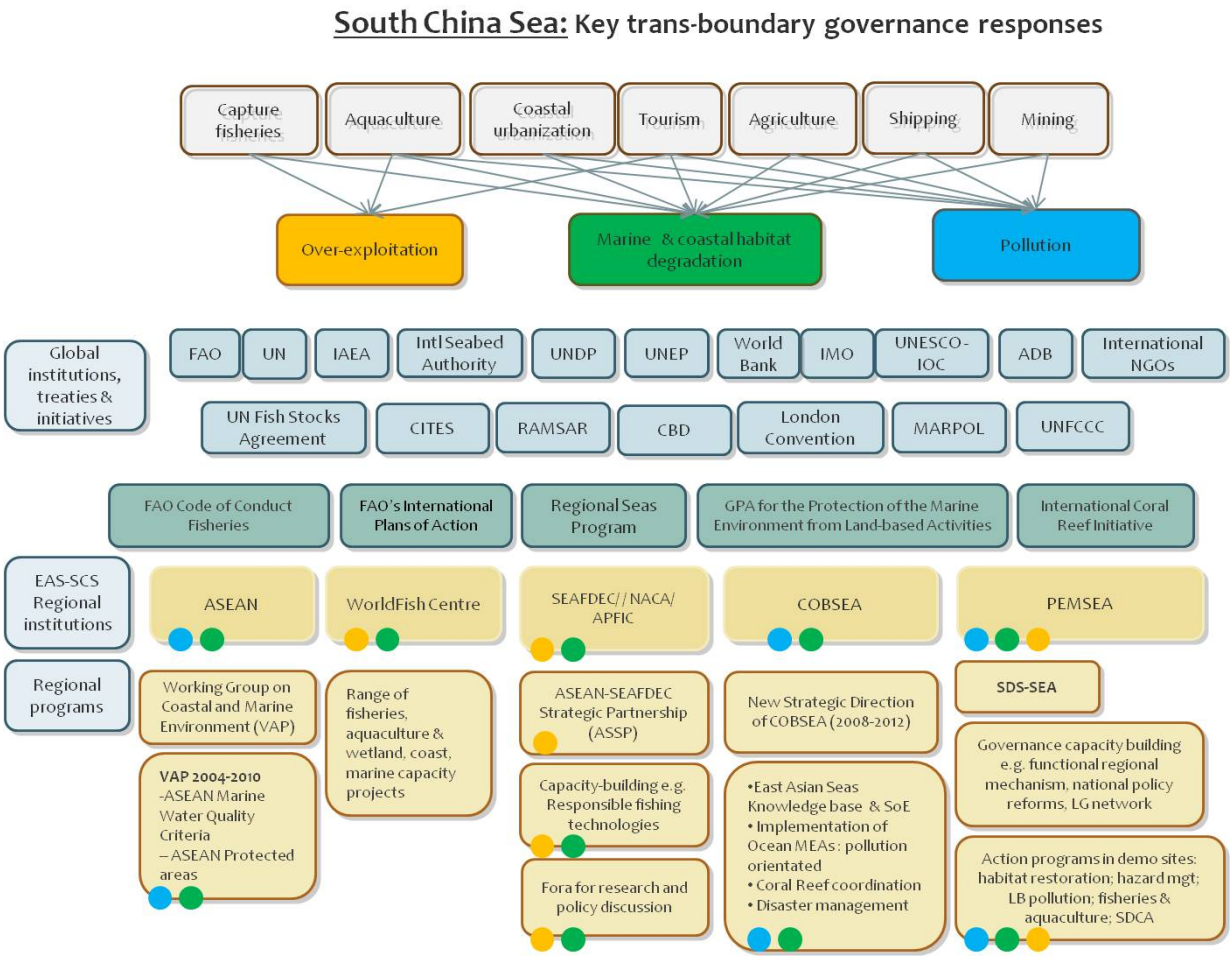

Figure 6. Key transboundary governance responses in the South China Sea

We use indicators to provide us with a more detailed understanding of drivers, pressures, and states. "Indicators can be thought of as the instruments on the deck of a fishing vessel, showing the state of the operating systems necessary to ensure that the vessel can safely continue its operations. Just as the deck instruments do, indicators summarize large quantities of information into the few relevant signals the captain needs to take action." (FAO 1999, p. 12).

As the focus of this study was an outlook of trends, indicators were chosen with this purpose in mind and given data availability. Most (although not all) indicators were also chosen based on their potential familiarity to broader audiences. Time series data were obtained for the chosen indicators or their proxies. A few indicators have also been chosen for which no time series data exist, but which were thought to be important for a better understanding of the SCS system. Where we could not find relevant data for an indicator, we opted for the use of a proxy. Due to the lack of data some indicators and proxies are also particularly broad. In addition, the complexity of relationships within the system prohibits characterization of linear relationships between indicators. Consequently, some indicators and proxies are rather hard to interpret, and often there appears to be no apparent linkages between

indicators across the various layers of the system. As such it is important to view all indicators and proxies as a suite of indicators/proxies in which all of them complement rather than converge to each other and thus contribute, even in the smallest way, to a better understanding of the system.

It is also important to note that this analysis was not meant to provide a comprehensive list of indicators or existing data sets. Neither is it meant to provide a detailed report on environmental impacts in the South China Sea or overall responses to the issues. Rather, the purpose is to look at a suite of indicators through the DPSWR framework and at the regional level to inform a big picture evaluation of the activities in the region[12]. As such, the indicators and proxies used in this report are those that capture large-scale, rather than local, changes[13]. For some of the other possible indicators and for a description of the environmental impacts in the South China Sea, an interested reader is referred to the reports and websites in our bibliography.

In what follows, over-all (regional) trends in underlying drivers, immediate drivers, pressures, and the environmental state of the South China Sea region for each of their associated indicators are presented in a tabulated manner. To gain a better understanding of changes in drivers, pressures, and states, trends are divided into: short-term (from 2000), medium-term (from 1980), and long-term (from the earliest data available). Terms 'decreasing', 'constant', or 'increasing' are used to summarize trends for each indicator. When these terms do not make sense for a particular indicator, other terms may have been used. To differentiate between various rates of change, either increasing or decreasing, adjectives 'slightly' and 'sharply' are used. 'N/A' is used either if data for the particular indicator are not time series, or if they do not span particular periods. A color scheme has also been applied with the shades of grey representing the severity of the trend in relation to its likely negative effect on the marine and coastal environment (darker grey representing a likely more severe and lighter grey representing a likely less severe effect). Note that sometimes an increasing trend (such as in a pressure), while at other times a decreasing trend (such in a state) will be associated with a negative effect on the marine environment. In all cases, however, darker color signifies an indication for a potential negative effect on the marine environment. Cells in white are either those with N/A, or where trend is likely to have a positive effect on the marine and coastal environment, or where the trend is varied or inconclusive. In the tables, trends are classified at the regional level (i.e. aggregated over all countries) and do not necessarily represent trends for every country in the region. These over-all trends should not be considered as definitive answers about changes in drivers, pressures, and states of the South China Sea region; rather they are an indication of change.

[12] We realize that there are other indicators that could have been used in addition or instead of the ones that we have used. We have used indicators that are relatively familiar to a broader audience and for which data were the most easily accessible to us.

[13] Most data are presented per country. Where a particular country is not included in the graph, this is either because there was no data available for it or the quantity was zero.

Table 8. Over-all trends in selected underlying drivers indicators at the regional level

Underlying Driver	Indicator or proxy	Short-term (from 2000)	Medium- term (from 1980)	Long-term (from earliest data)
Economic growth, demand, export	GDP growth rate 1961-2010 (Source: World Bank)	Continuing growth	Continuing growth	Continuing growth
	GDP growth rate per capita 1961-2010 (Source: World Bank)	Continuing growth	Continuing growth	Continuing growth
	Fish & seafood consumption 1961-2007 (Source: FAOSTAT)	Increasing	Sharply increasing	Increasing
	Fish & seafood export 1961-2007 (Source: FAOSTAT)	Sharply increasing	Sharply increasing	Increasing
	Meat export by China 1961-2007 (Source: FAOSTAT)	Slightly decreasing	Sharply increasing	Increasing
Population growth, migration, poverty	Total population 1961-2011 (Source: FAOSTAT)	Increasing	Increasing	Increasing
	Total urban population 1961-2011 (Source: FAOSTAT)	Sharply increasing	Increasing	Increasing
	GDP per capita 1960-2010 (Source: WorldBank)	Sharply increasing[14]	Sharply increasing	Increasing
	Human Development Index (current) (Source: ADB)	N/A	N/A	N/A

Table 9. Over-all trends in selected immediate drivers indicators at the regional level

Immediate Driver	Indicator or proxy	Short-term (from 2000)	Medium- term (from 1980)	Long-term (from earliest data)
Capture fisheries	Landings by functional group 1950-2006 (Source: Sea Around Us)	Constant or Decreasing	Increasing	Increasing
Aquaculture	Aquaculture production 1950-2008 (marine &	Sharply Increasing	Sharply increasing	Increasing

[14] Because GDP per capita data used here are based on nominal GDP, increasing trends also capture increases in prices. GDP per capita is used in this report primarily for comparison of changes in poverty between countries. GDP growth rate should be looked at for an actual understanding of the growth of the regional economy.

	brackish environment) (Source: FAO)			
Coastal Urbanization	Total urban population 1961-2011 (Source: FAOSTAT)	Sharply increasing	Sharply increasing	Increasing
	Total population in Hong Kong & Singapore 1960-2009 (Source: World Bank)	Increasing	Increasing	Increasing
Tourism	International Tourist Arrivals 1990-2009 (Source: UNWTO)	Increasing	N/A	N/A
Agriculture	Meat production 1961-2006 (Source: FAOSTAT)	Increasing	Sharply Increasing	Increasing
	Cereal production 1961-2006 (Source: FAOSTAT)	Sharply increasing	Increasing	Increasing
Shipping	Merchant fleet by flag of registration 1980-2010 (Source: UNCTAD Stat)	Sharply increasing	Increasing	N/A
	Shipping connectivity index (Source: UNCTADstat)	Increasing	N/A	N/A
Mining	Gold production (Source: BGS)	Increasing or Constant	N/A	N/A
	Production of coal 2005-2009 (Source: BGS)	Increasing	N/A	N/A
	Oil supply 2000-2010 (Source: USEIA)	Constant or Decreasing	N/A	N/A

Table 10. Over-all trends in selected pressures indicators at the regional level

Pressure	Indicator or proxy	Short-term (from 2000)	Medium- term (from 1980)	Long-term (from earliest data)
Over-exploitation	% of catch per stock status 1950-2006 (Source: Sea Around Us)	Constant[15]	Increasing	Increasing
	CPUE by gear various years (Source: Lymer et al. 2010)	Decreasing[16]	Decreasing	Decreasing (data for China only)
Pollution	Nitrogen fertilizer use 2002-2009 (Source: FAOSTAT)	Slightly increasing	N/A	N/A
	Livestock 1961-2009 (Source: FAOSTAT)	Constant[17]	Increasing	Increasing

[15] Constant trend (at high rates of exploitation) is still an indication of (potentially lower) pressure.
[16] Note that a decreasing CPUE indicates an increasing pressure.
[17] Constant (high) livestock numbers are still an indication of (potentially lower) pressure.

Marine & coastal habitat degradation	Catch rate by trawl and dredge gears 1950s-1990s (Source: Watson et al. 2006)	N/A	Sharply increasing	Increasing
	Landings by bottom trawls 1950-2006 (Source: Sea Around Us)	Decreasing[18]	Sharply increasing	Increasing
	% Growth in agricultural land 1961-2009 (Source: FAOSTAT)	Continuing growth	Continuing growth	Continuing growth

Table 11. Over-all trends in selected environmental state indicators at the regional level

State	Indicator or proxy	Short-term (from 2000)	Medium- term (from 1980)	Long-term (from earliest data)
Marine biodiversity	% IUCN red-listed marine species (Source: IUCN Red List)	N/A	N/A	N/A
Trophic structure	Marine trophic index 1950-2006 (Source: Sea Around Us)	Slightly increasing	Decreasing	Decreasing
	Fishing-in-balance index 1950-2006 (Source: Sea Around Us)	Slightly increasing[19]	Increasing	Increasing
Fish stocks	% of stocks per status 1950-2006 (Source: Sea Around Us)	Decreasing	Sharply decreasing	Decreasing
Coral reefs	Coral reef distribution and threat levels (Source: Burke et al. 2011)	N/A	N/A	N/A
	Live coral cover in Southeast Asia 1994-2008 (Source: Tun et al. 2008)	Constant or Increasing	Decreasing	N/A
Mangroves	Mangrove area 1980-2005 (Source: FAO)	Decreasing	Sharply decreasing	N/A
Seagrasses	Seagrass distribution and diversity (Source: UNEP-WCMC)	N/A	N/A	N/A
	Seagrass area, number of species recorded and area lost (Source: UNEP 2004)	N/A	N/A	N/A

[18] Decreasing landings from bottom trawls may be an indication of lower pressure. However, landings are still very high and as such pressure still exists (although it may be lower than in the previous decades).
[19] Increasing Fishing-in-balance index indicates potential negative environmental trends in trophic structure.

Water quality	Frequency of HAB events 1950s-1990s (Source: Yan et al. 2002)	N/A	Sharply increasing[20]	Zero (China)
	Organic Water pollutant (BOD) various years (Source: World Bank)	Increasing[21]	N/A	N/A

B. Social Network Analysis

Social network analysis is a tool used to describe and examine the interactions among actors in a defined population, as well as to explore the patterns that may emerge from these interactions. It does not, however, explain why these patterns have emerged, nor does it predict what patterns will form in the future.

Methodology

Defining the population

To generate the list of actors to include in the analysis, literature with the specific objective of providing a review of regional actors/programs involved in environmental issues were used in lieu of surveys. An internet and library search yielded 10 such independent sources published between 1993 and 2010 (see Table 13 in this Annex). Actors that were mentioned in at least two of these reviews were included in the analysis. Except for the United Nations (UN) agencies, actors that represented different departments or offices of the same institution were considered the same entity (e.g. the different working groups of the ASEAN), unless they were of a different nature from their parent organization (e.g. UN and UN Foundation). Countries were included as regional actors only in their function as bilateral donors. Different channels for aid delivery were consolidated under their respective countries (e.g. USAID and NOAA for USA).

For the purposes of this analysis, an "actor" is defined as an entity that has a governing body and an organizational structure to manage itself, implement its own programs, and make decisions independent of its original founders, external funding sources, and fixed time periods. Examples of actors that were originally initiatives but have become independent entities are ADB, PEMSEA, COBSEA, MRC and SEAPOL. By this definition, no projects and programs were considered as actors, despite their extensive involvement in environmental affairs or their leadership by intergovernmental steering committees (e.g. Yellow Sea LME project, UNEP-GEF SCS Project).

Scoring and analysis

Ties between actors were identified through the information given in the same 10 sources. As such, this analysis does not include ties that may exist, but were not mentioned in these sources. Due to the limited information available, ties were only recorded as present ("1") or absent ("0"), and were not classified according to their nature or strength.

[20] Increasing frequency of HAB events indicates decreased water quality.
[21] Increased BOD indicates decreased water quality.

The actor matrix drawn was asymmetric/ directed, i.e. the ties between actors were not necessarily mutual. A tie was counted as "1" if the actor was an initiator of an intervention or a provider of resources (funds, technical advice, coordination), and "0" if the actor was the implementer of an intervention or receiver of these resources. An actor was counted as a provider of resources rather than an implementer of an intervention if the relationship resulted in contributions to the other actor's objectives, without itself benefiting financially or technically from the contribution. If the actor initiated an intervention or provided resources but benefited from this relationship (e.g. funding for its own programs), then the actor was counted as an implementer/ receiver. If the tie was an explicit agreement or partnership, regardless of the actual resources exchanged, a score of "1" was given to both actors connected by the tie.

Table 12 summarizes the criteria used for scoring the ties between actors. Ties were counted for interactions that were generally programmatic, sustained, or frequently repeated. If the interaction was an ad hoc activity or had yet to take place, no tie was counted.

Table 12. Criteria for scoring actor ties

	TYPE OF RECIPROCITY OF RELATIONSHIP		
ROLE OF ACTOR	No financial or technical benefit in return	Received funds in return and/or only own programs implemented	Formal partnership
Implementer of intervention	1	0	1
Initiator of intervention	1	0	1
Provider of resources	1	0	1
Receiver of resources	NA	0	1

Survey of actors

An online survey was also conducted to collect information pertaining to the actors most important to the respondents' work in the field of international waters, and the types of services and initiatives exchanged relevant to this work (see Figure 7 for survey questionnaire). Respondents could provide details of relations for a maximum of 10 actors, but were given the opportunity to list additional actors that were deemed equally important to the 10 already identified.

Two sets of respondents were targeted for the survey: 1) PEMSEA's 19 non-country partners, and 2) the 15 most-connected regional actors (excluding GEF and PEMSEA) derived from the results of the social network analysis based on a literature review (see above). Three of the actors belonged to both sets, making the target population size 31. Of these, 26 responded (12 from the 15 most-connected actors, 14 from the PEMSEA partners).

To ensure that the results were relevant to the study, given that the analysis was at a regional scale, country-level actors identified by the respondents were grouped into sectors. These include ministries of national governments that were identified as important because they represented their respective

countries as members in a respondent regional organization. In this case, the actors were grouped into the sector "national governments". National ministries and national research institutions were analyzed as regional actors when they did not represent their country as member, but rather functioned as service providers. Some actors identified were sectors in themselves (e.g. NGOs, local governments), and therefore were analyzed as such.

Microsoft Excel 2007 and the network analysis and visualization software UCINet 6.289 / NetDraw 2.097 (Borgatti et al 2002) were used to analyze actor relations and produce the graphs.

Scope and limitations

The analysis based on the review of literature considered only actors with interactions or interventions at the *regional scale*. As such, there may be actors of high importance at the country level (e.g. bilateral donors) that were not included[22]. Furthermore, the actors were selected based on their *perceived importance* by stakeholders in the region rather than their actual impacts, scope of environmental concerns, or level of funding. For the same reason, this analysis does not attempt to make a comprehensive recording of actor relations. The conclusions of this analysis must therefore be taken with these limitations in mind. The results are *only indicative* of the actual structure of the network, and are complemented by information gathered through interviews and case studies.

For the survey, efforts were made to identify the most appropriate contact person in the organizations to ensure that the responses reflected the institutional reality. However, it is inevitable that the responses would have been influenced by which organizations the responding individual was most in contact with at the time the survey was conducted. Furthermore, the responses represent actors that are important to the respondents, and do not reveal relationships with other regional actors that may also exist, but are not considered as important. Logistical constraints prevented the size of the survey population from being expanded. Obvious relationships that exist (e.g. between GEF and PEMSEA) are also not reflected in the analysis, as only ties identified by respondents have been included.

[22] A separate analysis was done on bilateral donors working at country level, and their relationship with GEF as cofinancers of projects (see Annex 4A).

Table 13. List of sources for deriving population of actors for social network analysis, by chronology

SOURCE	YEAR	SCOPE	METHODOLOGY	REMARKS
ADB	2002	Mechanisms for cooperation in Southeast Asia	Unknown	--
COBSEA	2005	Actors and programs involved in coastal pollution and habitat management	Unknown	--
Kato & Takahashi	2001	Sub-regional environmental governance systems	Unknown (IGES framework)	Focus on chapter and conclusions on Southeast Asia; Northeast Asia and South Asia chapters not included in network analysis
MFF Secretariat	2009	Principal regional institutions responsible for ICM	Archival and internet research, written questionnaires, personal interviews with representatives of surveyed institutions (except IOC), discussion at 3rd East Asian Seas Congress (Manila, 2009)	Discussion on South Asian actors not included in network analysis; NOWPAP excluded by authors because member countries not part of MFF
Rijsberman	1998	Cooperative activities in coastal zone management in Asia	Workshop documents, discussion at Expert Group Meeting on Regional Cooperation in Management of Coastal Zones and Non-Living Marine resources Development in Asia and the Pacific (Bangkok, 1997), author experience	--
Tan	2003	Coastal and ocean governance institutions and organizations with coastal and marine management mandate	Archival and internet research, emails to secretariats, discussion at Experts' Meeting on Coastal and Ocean Governance (KL, 2002)	East Asian Seas region; PEMSEA excluded by author
Tengberg & Cabanban	2010	Mechanisms with coordinating roles in East Asian Seas based on mandate	Unknown	--
UNDP-GEF	1993	Organizations and programmes involved in	Unknown	--

		marine pollution management in East Asia		
UNEP	2005	Intergovernmental actors and sources of resources for water governance in South China Sea	Unknown	--
UNEP	1997	Regional cooperation and environmental initiatives in Asia and the Pacific	Unknown	Only sections relating to biodiversity, freshwater resources, education and information, climate change, and coastal & marine resources were included in the network analysis

Figure 7. Online survey of key regional actors and PEMSEA non-country partners

Impact Evaluation of GEF Support in the South China Sea and Adjacent

Top 5 Institutions

This survey aims to identify the most important institutions that your organization works/has worked with in the field of international waters. International waters issues pertain to ICM, fisheries, marine and land-based pollution, MPAs and habitat protection, alternative coastal livelihood, and marine policy. You will be asked to identify the types of relationships your organization has with them, the degree of formality of these relationships, and the types of initiatives that these institutions are involved in. Your answers will be held strictly confidential and will only be used to provide recommendations for future GEF support.

1. Please list the TOP 5 institutions that are most important to your organization's work in international waters issues. If there are more than five, you will have the opportunity to provide more names at the end of the survey.

Institution #1

2. Institution #2

3. Institution #3

4. Institution #4

5. Institution #5

Impact Evaluation of GEF Support in the South China Sea and Adjacent

Top 5 Institutions - Relationships

1. Which option best characterizes the degree of formality of your organization's relationship/s with these institutions?

	Legally-binding commitment	Signed but non-legally binding commitment	Agreement without signed commitment	No agreement at all	Other
[Q1]	○	○	○	○	○
[Q2]	○	○	○	○	○
[Q3]	○	○	○	○	○
[Q4]	○	○	○	○	○
[Q5]	○	○	○	○	○

If Other, please describe briefly for each:

2. What types of initiatives are these institutions involved in, in relation to your organization's work with international waters issues? Please check as many as are applicable.

	Knowledge and information e.g. awareness-building, research	**Governance processes** e.g. establishment of laws, management bodies	**Pilots and demonstration** introduction of approaches/technology	**Investments** replication/ mainstreaming/ upscaling of approaches/technology	**Other**
[Q1]	☐	☐	☐	☐	☐
[Q2]	☐	☐	☐	☐	☐
[Q3]	☐	☐	☐	☐	☐
[Q4]	☐	☐	☐	☐	☐
[Q5]	☐	☐	☐	☐	☐

If Other, please describe briefly for each:

3. Which resources or services do these institutions PROVIDE to your organization? Please check as many as are applicable.

	Financial funding	**Technical** non-financial inputs e.g. advice, training, activity	**Coordination** creation of opportunities for interaction among organizations	**Other**	**None**
[Q1]	☐	☐	☐	☐	☐
[Q2]	☐	☐	☐	☐	☐
[Q3]	☐	☐	☐	☐	☐
[Q4]	☐	☐	☐	☐	☐
[Q5]	☐	☐	☐	☐	☐

If Other, please describe briefly for each:

4. Which resources or services do these institutions RECEIVE from your organization? Please check as many as are applicable.

	Financial funding	**Technical** non-financial inputs e.g. advice, training, activity	**Coordination** creation of opportunities for interaction among organizations	**Other**	**None**
[Q1]	☐	☐	☐	☐	☐
[Q2]	☐	☐	☐	☐	☐
[Q3]	☐	☐	☐	☐	☐
[Q4]	☐	☐	☐	☐	☐
[Q5]	☐	☐	☐	☐	☐

If Other, please describe briefly for each:

5. Of the relationships with each institution identified above, which ones are the MOST IMPORTANT for your organization?

[Q1]	
[Q2]	
[Q3]	
[Q4]	
[Q5]	

If Other, please briefly describe for each

6. Are there other institutions that your organization works/has worked with in the field of international waters that are as important as the ones you have identified above?

◯ Yes ◯ No

C. Timeline Analysis on Country Achievements Related to International Waters Concerns

COUNTRY: Vietnam

ACHIEVEMENT: MPA establishment and management

Transboundary Environmental Concern: *Check all that apply*	LR/LU	T/R	WD	NDP	TP	FI	O/M
		X				X	

Summary description of achievement:

Five operational MPAs, two NPs with marine conservation, operational by funding from Gov at present time (2011); MPA National Plan decided by Prime Minister (Approval of MPA program with potential funding from Gov; some fund allocated for feasible studies in establising 11 new MPAs to 2015

TIME	**INTERVENTION**	**Donor (fund, *000US$)**	**ACTIVITIES AND IMPACTS OF EACH CONTRIBUTION**							**IMPACTS:**	
			Technologies and Approaches	**Knowledge generation and information sharing**	**CB: Training & awareness-building**	**Governmental structures and arrangements**	**Trust-Building and Conflict Resolution (including Civil Society and Community Participation)**	**Policy, legal & regulatory frameworks**	**Broader Adoption**	**Extent of (i) Stress Reduction (SR);**	**Extent of (ii) Change in Environmental Conditions (CEC); (iii) Change in Socioeconomic Status (CSS)**

2010 - 2013	Coral reef conservation in Nui Chua National Park (on-going)	GEF MSP (400)	**IS:** Guard station, patrolling boats	Review & additional surveys of biodiversity & socio-economy	Traning for monitoring, livelihood alternatives, diving; Awareness compaign for communities, policy makers	Development of mechnism for integrated management of coral reefs and related resources	Working closely between scientists, Park managers and local people. **CS:** Involvement of local communities in pilot site management for coral reefs and tutles, livelihood	Development of management plan for marien conservation;Local regulations for pilot site management			
2002 - 2006	Hon Mun pilot MPA	GEF MSP (>900)	**IS:** Patrolling boats, tourist centre in Hon Mun island	Asseessment & moniroting of Biodiversity & environment quality	Traning for MPA staff on planning, moniotirng & surveylance; training for communities on livelihood alternatives; Public awareness program for school children and islanders	MPA management board with clear mandades established	Interations between MPA boards and communities establsied. **CS:** 7 village committee groups for community consultation & Community Consultation Group as forum for related stakeholders	Approval of MPA management plan and regulation for MPA maanagement; Facilitating for issues of provicial regulation on resource and environment management	As pilot MPA, experiences from this transffered to newly established MPA such as	**SR:** Effective enforcement in core zone	**CEC:** Maintaining habitat condition in core zone. **CSS:** More benefits from tourism
2006 - 2008	Demostration of coral reefs & seagrass management in Phu Quoc islands	UNEP/GEF SCS (365)	**IS:** Provision of 01 patrolling boat for one enforcement commune team **TT:** Fisheries Refugia concept & innitial practice	Extensive surveys on coral reefs and seagrass; & fisheries & tourist resources	Training for project management, habitat monitoring; Public awareness program at the district level	Formal establishment of MPA and its regulation based on outcome of the project	MPA concensus at the provincial, district and cummunity levels; cooperation between 2 provinces of Viet Nam & Cambodia in the transboudary waters. **CS:** 3 village groups establsihed for coral reef and seagrass management	MPA management plan developed; ficilitating for issues provincial regulations on resource and environment management	Received study tours of partners from Phillipnes, Thailand & Cambodia	**SR:** No more blast fishing; improvement of endangered species conservation	**CEC:** Maintaining hard coral cover (except in 2010 due to bleaching) and total density of coral reef fish

2006 - 2009	Coastal and Marine Biodiversity Conservation and Sustainable Use in the Con Dao Islands Region	GEF (986)	**IS:** Mooring bouys for zoning installed	Monitoring of coral reefs, seagrass and turtle implemented	Training on biodiversity monitoring; Awareness program for District level stakeholders		Incorporation of SEA into Social Economic Development Paln of the district. **CS:** Community Aliance Group established as the main community consultation forum; Provision fund to convert fishing boat in tourist boat (15boat until 2011)	Developement of Strategic Environment Assessment (SEA); zoning of marine areas & the operational management framework to be applied to these zones		**SR:** No blast fishing	**CEC:** Maintaining coral covers; some coral reefs destroyed restored. **CSS:** Livelihood of some fishermen improved thank to convert fro fishing to tourism
2006 - 2011	Livelihood in and around MPAs in Viet Nam	DANIDA (5,000 DKK)	**IS:** Supports for instalations of demarcation and mooring bouys in 3 MPAs	Development of website of MPA network in Viet Nam; support for habitat monitoring at 3 MPAs during 2008 - 2010	Training on establishment and management for officals at central and local levels; and on MPA managagemen t for local managers	Support to maintain institutional arrangement for MPA management at the national level	Exchanges of information related to MPAs involving central agenies and provincial policy makers and local managers. **CS:** Livelihood programs at 3 established MPAs	Supports to development and submission of national policies on MPA for approval by central government			
2004 - 2006	Cu Lao Cham MPA	DANIDA (>1,000)	**IS:** Patrolling boats	Asseessment & moniroting of Biodiversity & environment quality	Training on MPA management for local staff; Public awarfeness program for local communities	Establishment of MPA management board by provincial leader	Strong supports of provincial and dictrict leaders based on concensus on MPA	Provicial regulation for MPA management and island environment management		**SR:** No more blast fishing; reefs deraded becouse of flooding in 2007	**CEC:** Beaches cleaner and better sanitation in the island. **CSS:** Some fishermen become MPA staff; home stay model applied in the island

2001 - 2005	MPA network in Viet Nam	DANIDA (? million DKK)		Development of database on MPAs in Viet Nam		Development of national coordinating committee on MPAs and its opreration	Development of concensus on MPAs in Viet Nam. **CS:** Involvement of local communities in enforcement and monitoring	Preparation of national policies on MPAs			
2006 - 2010	Techical supports for MPAs in Viet Nam	NOOA (unkown)	**TT:** Techniques for bouy instanlation					Technical advise for development of MPA management in Phu Quoc MPA			
1997 - 2001	TA 5712-REG: Coastal and marine environment Management in the South China Sea (phase II)	ADB (2,700 for China, Camboidia & Viet Nam)		Reviews datat & information on potential C&MPAs in Viet Nam	Good capacity building for offcials who involved in TA			Coastal and marine protected area plan in Viet Nam			

*This type of activity inevitably cuts across all other types of activities. If an activity has several main objectives that fall under several activity types, please list the activity under all applicable columns.

ACHIEVEMENT: MPAs

1. Describe the context in which this accomplishment was achieved.

MPA concept legalised in the Law of Fisheries and number of guidelines, regulation in establsihment and management of MPAs. 5 MPAs formally establsihed & 2 Natioanl Park implemented activities for marien conservation. Natinal plan for development and management to 2015 of MPA approved by Prime Minister; Possible fund available from Government for pre-feasibility studies to develop 11 new MPAs to 2015

2. Were there any events that acted as a trigger to facilitate this accomplishment? If yes, describe these events and triggers.

There have been some changes in institutioanl arrangement for MPAs at the national level. The support from DANIDA program for operations of National Steering Committee play an important role to maintain the process in developing policy and establsihment of individual MPAs to achieve accomplishments today.

3. Were there any institutional or individual champions that played a key role in achievement of this accomplishment? To what extent did GEF activities support these champions?

Ten years' support from DANIDA played a key role in developing national policies and aplying MPA practices at the provincial level. GEF focused more on activities at the site level, considering succesful implementation of Hon Mun pilot MPA as the first formal MPA in Viet Nam. Some other advances of GEF projects include: knowledge & information, public awareness & capacity bulding and trust building

4. Over-all, what was the role that GEF played in the materialization of this accomplishment vis-à-vis contributions made by other actors? When applicable, discuss collaborative, competitive, and complementary dimensions of GEF engagement with other actors.

GEF supports have been important in implementing pilot activities at the provicial level. DANIDA has had long-term supports to MPA development in Viet Nam and facilitated policy development at the national level. These two donors have worked closely, considering co-fiance from DANIA for implementing GEF funded projects and also provision of fund for post-project activites following completion of GEF project. Two mechanisms in fund management (WWF for DANIDA fund and Provicial Executing Agency is a concern raised inimplemneting GEF - DANIDA project in Con Dao (Ba Ria - Vung Tau province)

Annex 4: Regional Context

A. Bilateral donors with Major Regional Coastal and Marine Initiatives

Apart from the development banks, bilateral donors comprise the most important source of funding for environmental initiatives in terms of amount of investment, and in terms of geographical and thematic scope of projects. Their mode of funding is also generally in the form of grants instead of loans.

Method, scope and limitations

Data on donor funding used in this analysis was downloaded from www.aidadata.org (Findley et al 2009)[23] on 29 September 2011. The scope of the projects included in the analysis was limited to the following areas of funding: biodiversity, biosphere protection, education/ training in water supply & sanitation, environmental education/ training, environmental policy and administrative management, environmental research, fishing policy and administrative management, waste management/ disposal, water resources policy administrative management, and water resources protection. These areas were selected because they cover GEF's areas of investment related to international waters in the SCS. The data do not include projects that were uncategorized, or were categorized under their more dominant theme (e.g. an economic or governance project with an environmental objective or component would be classified under economics or governance, and therefore not be included in the data obtained). Some projects may have been inappropriately categorized based solely on their names. In addition, many of the biodiversity and biosphere projects included are likely to be land-based rather than marine-related. Given these three limitations, errors are therefore expected in the population of projects analyzed. A total of 4,101 projects were included in the analysis, of which 135 are regional in nature.

The project dates range from 1973 to 2008. The figures used were the amounts committed by the donors rather than the actual disbursements, standardized in US dollars in current terms[24]. These figures constitute the total amount of investment of each donor in the region, regardless of the number of years of donor activity[25].

Regional-level funding

For initiatives in East Asia, ten of 13 bilateral donors working at the regional scale have invested a total of at least US$ 1 million (see Table 14). The majority of donors have allocated the largest amount of their funding to environmental policy and administrative management, followed by biodiversity and biosphere protection, and environmental research.

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[23] Michael G. Findley, Darren Hawkins, Robert L. Hicks, Daniel L. Nielson, Bradley C. Parks, Ryan M. Powers, J. Timmons Roberts, Michael J. Tierney, and Sven Wilson. *"AidData: Tracking Development Finance,"* presented at the PLAID Data Vetting Workshop, Washington, DC September 2009.

[24] More information on the process for standardizing currencies and commitment amounts can be found at http://aiddata.s3.amazonaws.com/codebook/AidData_CodeBook_Current.pdf

[25] Some regional projects, however, were found not to have been included in the aiddata.org database. The amounts for these projects were added based on available project information and are reflected in Table 11 in the evaluation report.

Table 14. Total investments of top bilateral donors for regional-level environmental initiatives in the East Asia region

Donor Country	Total Investment (US$M)*	Primary Theme	Total Number of Projects
European Commission	21.3	Bio-diversity	5
Sweden	18.7	Fishing policy and admin. management	15
United states	18.4	Environmental policy and admin. mgmt	35
Australia	15.9	Environmental policy and admin. mgmt	30
Canada	15.3	Environmental policy and admin. mgmt	4
Netherlands	8.8	Bio-diversity	6
Switzerland	6.3	Environmental policy and admin. mgmt	9
Italy	5.5	Environmental research	2
Germany	4.1	Environmental policy and admin. mgmt	2
Japan	1.4	Environmental policy and admin. mgmt / education	13
*amounts do not include investments in other projects that were not in the aiddata.org database			

Country-level funding

Thirteen out of 22 bilateral donors have invested at least US$ 100 million each in the seven SCS countries combined (see Table 15). At the country level, environmental policy and administrative management also receives the greatest funding. The second most-funded area, however, is water resources policy and administrative management. Fewer donors have invested in biodiversity and biosphere protection at the country level, and those that do provide a lower level of funding (see Figure 8).

Japan provides the greatest amount of country-level funding, followed by France. However, France is not a top donor in any of the countries except for Indonesia, where it is the second largest bilateral donor after Japan. It also has no initiatives at the regional level[26]. Denmark is the top donor in the countries where Japan provides significantly less funding, even though it ranks sixth in terms of total investments in the 7 countries (see Tables 15 and 16). Generally, Japan provides a much higher magnitude of funding than any other bilateral donor in the countries where it is the primary donor. Of the SCS countries, China receives the greatest amount of bilateral funding.

Table 15. Total investments of top bilateral donors for country-level environmental initiatives in the seven SCS countries

Donor Country	Total Investment (US$M)	Primary Theme	Total Number of Projects
Japan	5810	Environmental policy and admin. mgmt	764
France	779	Environmental policy and admin. mgmt	162
Germany	689	Environmental policy and admin. mgmt	563
Netherlands	498	Water resources policy and admin. mgmt	288

[26] France, however, is a cofinancer of a regional GEF project in the Mekong River Basin, and is one of the Mekong River Commission's development partners (http://www.mrcmekong.org/about-the-mrc/development-partners-and-partner-organisations/). The dataset used has no records of any cofinancers for the areas of investment examined. Much of the cofinancing from bilateral donors is towards infrastructure projects of development banks.

United States	494	Environmental policy and admin. mgmt	604
Denmark	453	Environmental policy and admin. mgmt	197
European Commission	281	Water resources policy and admin. mgmt	26
Canada	253	Environmental policy and admin. mgmt	225
Italy	225	Environmental policy and admin. mgmt	51
Spain	212	Fishing policy and admin. management	77
Australia	157	Environmental policy and admin. mgmt	274
Norway	135	Environmental policy and admin. mgmt	284
Finland	104	Water resources policy/admin. mgmt	46

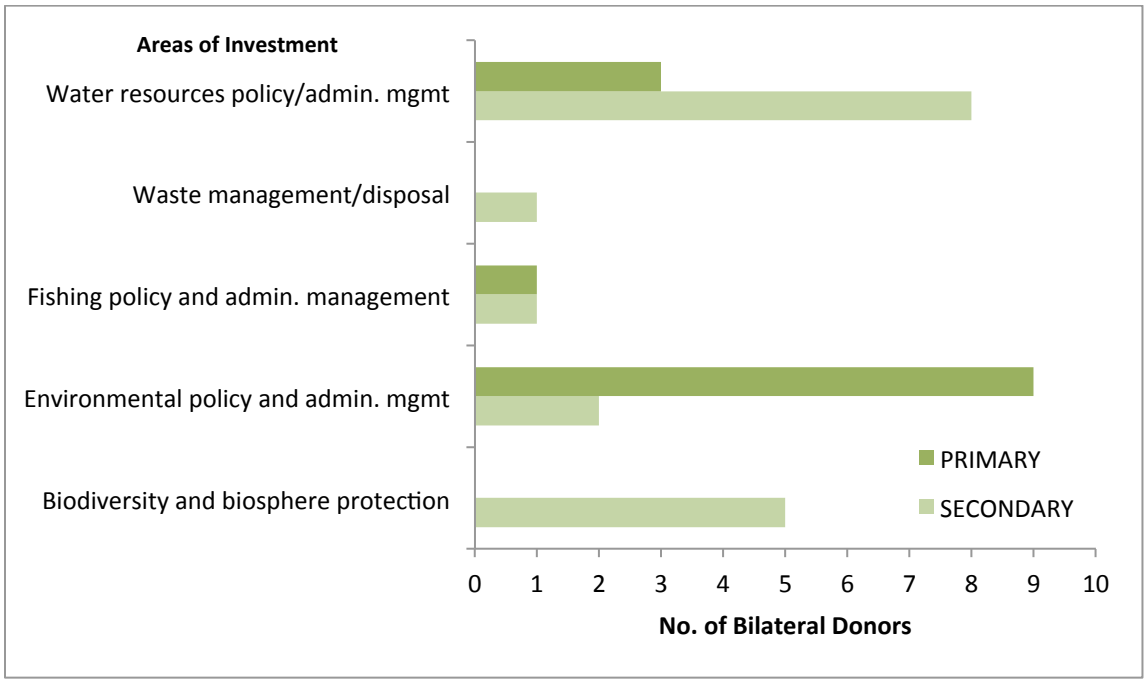

Figure 8. Areas of investment receiving the greatest allocation per donor at country level

Table 16. Top bilateral donors in each SCS country

Recipient Country	Primary Bilateral Donor	Secondary Bilateral Donor	Total Bilateral Donor Investment (US$M)
Cambodia	Denmark	Japan	150
China	Japan	Germany	4500
Indonesia	Japan	France	2570
Malaysia	Denmark	Japan	90
Philippines	Japan	USA	1700
Thailand	Japan	Denmark	1030
Vietnam	Denmark	Netherlands	886

Table 17. Bilateral donors with major regional marine and coastal initiatives, including contributions to GEF-supported projects (in italics)

DONOR COUNTRY	NAME OF IW-RELATED INITIATIVE
Australia (AUSAID)	• ASEAN-Australia Living Coastal Resources Program • ASEAN-Australia Tides and Tidal Phenomena • ASEAN-Australia Regional Ocean Dynamics • ASEAN-Australia Coastal Zone Environmental and Resource Management Project • *PEMSEA Project Phase 1* • *Coral Triangle Initiative (Global Learning Project)*
Canada (IDRC and CIDA)	• ASEAN-Canada Cooperative Programme on Marine Sciences • Southeast Asian Programme in Ocean Law Policy and Management (SEAPOL) • Workshop on Managing Potential Conflicts in the South China Sea • SEAPOL Gulf of Thailand Project • *PEMSEA Project Phase 1*
Denmark (DANCED and DANIDA)	• Mekong River Committee Environment Programme • *PEMSEA Project Phase 1 and 2*
Japan	• ASEAN Project on Oil Spill Preparedness and Response in the ASEAN Seas Area • SEAFDEC
Sweden (SIDA, SAREC and SENSA)	• Coastal and Marine Environmental Management in the South China Sea (with ADB) • Mekong River Commission • SEAFDEC • Wetlands Alliance • Southeast Asia Waster Partnership / Southeast Asia Technical Advisory Committee • Mangroves for the Future • Spatial Planning in the Coastal Zone (with COBSEA) • *PEMSEA Project Phase 1, 2 and 3 (mostly through the Coastal Management Center)* • *Coral Triangle Initiative (Fisheries Bycatch Management)*
United States (USAID)	• ASEAN-US Coastal Resource Management Project • ASEAN-US Environmental Improvement Project • ASEAN Wildlife Enforcement Network • Promoting Regional Cooperation in the Mekong River Basin • *Coral Triangle Initiative (West Pacific-East Asia Ocean Fisheries)*

Table 18. Bilateral funding support to GEF initiatives in the SCS

DONOR COUNTRY	CONTRIBUTION TO PEMSEA CLUSTER	CONTRIBUTION TO CTI CLUSTER
AUSTRALIA	0.0125	0.4
CANADA	0.015	0
DENMARK	0.193	0.025
EU	0	0.08
NORWAY	0.16	0
SWEDEN	2.386098	2.1
USA	0	0.2

B. Regional Arrangements in the SCS

Table 19. Regional mechanisms in the SCS involved in coastal and marine governance

OPERATIONAL REGIONAL MECHANISM	INITIATOR	YEAR FIRST FUNCTIONAL
ASEAN Expert Group on the Environment (AEGE), now the ASEAN Senior Officials on the Environment (ASOEN) ASEAN Working Group on the Coastal and Marine Environment (AWGCME)	ASEAN	1978
Coordinating Body on the Seas of East Asia (COBSEA)	UNEP	1981
Marine Resource Conservation Working Group (MRCWG) and Fisheries Working Group (FWG), now merged as Ocean and Fisheries Working Group (OFWG	APEC	1990
Ministerial Conference on Environment and Development	UNESCAP, UNEP, UNDP and ADB	1985
PEMSEA (through the Haikou Partnership Agreement)	GEF	2003

Table 20. Multilateral arrangements affecting coastal and marine resources and ecosystems in the SCS*

MULTILATERAL ARRANGEMENTS	Fisheries	Pollution	Biodiversity / Habitats	DEGREE OF COMMITMENT**
A Tripartite Agreement for Joint Marine Scientific Research in Certain Areas in the South China Sea between China National Offshore Oil Company, Philippine National Oil Company and Vietnam National Oil Company (JMSU)	N	N	N	3
Agreement on Maritime Transport between the Government of the Member Countries of the Governments of the Member Countries of ASEAN and the Government of the People's Republic of China	N	N	N	3
ASEAN Action Plan	N	Y	Y	2
ASEAN Agreement on the Conservation of Nature and Natural Resources	N	N	Y	3
ASEAN Cooperation Plan on Transboundary Pollution	N	Y	N	2
ASEAN Declaration on Heritage Parks	N	N	Y	1
ASEAN Oil Spill Response Action Plan	N	Y	N	2
ASEAN Regional Action Plan on Trade in Wild Fauna and Flora	N	N	Y	2
ASEAN-China Declaration on the Code of Conduct of Parties in the South China Sea (DoC)	N	N	N	1
Asia-Pacific Migratory Waterbirds Conservation Strategy	N	N	Y	2
Bangkok Declaration on the ASEAN Environment	N	Y	N	1
COBSEA Action Plan	N	Y	Y	2
Indian Ocean-Southeast Asian Marine Turtle Memorandum of Understanding	N	N	Y	2
Jakarta Declaration on Environment and Development	N	Y	Y	1
Joint Statement on Partnership in Oil Spill Preparedness and Response in the Gulf of Thailand	N	Y	N	1
Manila Declaration on the ASEAN Environment (ASEAN Environmental Programme)	N	N	N	1
Manila Declaration on Strengthening the Implementation of ICM for Sustainable Development and Climate Change Adaptation in the EAS Region	N	N	Y	1

Memorandum of Understanding between the Governments of the Member States of the Association of Southeast Asian Nations and the Government of the People's Republic of China on Maritime Consultation Mechanism	N	Y	N	2
Sustainable Development Strategy for the Seas of East Asia (SDS-SEA / Putrajaya Declaration)	Y	Y	Y	2
Regional Plan of Action (RPOA) for Responsible Fishing Practices including Combating IUU Fishing in the Region	Y	N	N	2
Resolution on Sustainable Fisheries for Food Security for the ASEAN Region	Y	N	N	1
SCS SAP	Y	Y	Y	2
Seoul Oceans Declaration (APEC)	Y	Y	Y	1
Singapore Declaration on Climate Change, Energy and Environment	Y	Y	N	1
COBSEA Regional Action Plan on Marine Litter (RAP-MALI)	N	Y	N	2
Osaka Action Agenda (inc. fisheries)	N	N	Y	2
Regional Programme of Action for the Protection of the Marine Environment of the East Asian Seas from the Effects of Land-based Activities	Y	N	N	2
Yangon Resolution on Sustainable Development	N	N	Y	1

*Arrangements or agreements that were entered into for the purpose of creating an organization are not included here to avoid double-counting, as regional organizations are analyzed as a separate category (e.g. Haikou Partnership Agreement creating PEMSEA).
**Degree of Commitment: 1 – Declarations, resolutions, statements, 2 – Action plans, strategies, MOUs, 3 – Agreements, cooperations, MOAs

Table 21. Bilateral arrangements among SCS countries affecting coastal and marine resources and ecosystems in the SCS

BILATERAL ARRANGEMENTS	CONCERN	LEGALLY BINDING?
Agreement between Malaysia an PRC on Maritime Transport	Transport	Y
Agreement between the Royal Government of Cambodia and the Government of Malaysia on economic, scientific and technical cooperation	Technical cooperation	Y
Agreement on cooperation in marine science & technology between Malaysia and PRC	Technical cooperation	Y

Agreement on fishery co-operation in the Tonkin Gulf between the Government of the People's Republic of China and the Government of the Socialist Republic of Viet Nam	Fisheries	Y
China-Philippines Memorandum of Understanding on Fisheries Cooperation (w/ Committee)	Fisheries	N
China-Philippines Memorandum of Understanding on Broadening and Deepening Agriculture and Fisheries Cooperation	Fisheries	N
Joint Oceanographic and Marine Scientific Research Expeditions in the South China Sea between Philippines and Vietnam (JOMSRE)	Research/ Biodiversity	N
Memorandum of Agreement between the provinces of Kien Giang (Viet Nam) and Kampot	Biodiversity	Y
Memorandum of Understanding Between Malaysia and PRC on Maritime Cooperation	Other	N
Memorandum of Understanding between Malaysia and the Republic Socialist of Vietnam for the Exploration and Exploitation of Petroleum in the Defined Area of the Continental Shelf Involving the Two Countries	Resource exploration and exploitation	N
Memorandum of Understanding between Malaysia and Thailand on the Establishment of a Joint Authority for the Exploitation of the Resources of the Sea-bed in a Defined Area of the Continental Shelf of the Two Countries in the Gulf of Thailand	Resource exploration and exploitation	N
Vietnam-Philippines Memorandum of Agreement on Cooperation in Search and Rescue	Safety	Y
Vietnam-Philippines Memorandum of Agreement on Cooperation in Oil Spill Preparedness and Response	Oil spill	Y
Vietnam-Philippines Memorandum of Agreement on Fisheries Cooperation	Fisheries	Y

Table 22. Multilateral and bilateral arrangements affecting the SCS that are focused on the environment

ENVIRONMENT-FOCUSED ARRANGEMENTS (MULTILATERAL & BILATERAL)	LEGALLY BINDING?	IN FORCE?	YEAR
Agreement on fishery co-operation in the Tonkin Gulf between the Government of the People's Republic of China and the Government of the Socialist Republic of Viet Nam	Y	N	2000
ASEAN Agreement on the Conservation of Nature and Natural Resources	Y	N	1985
ASEAN Cooperation Plan on Transboundary Pollution	N	UA	1995
ASEAN Regional Action Plan on Trade in Wild Fauna and Flora	N	Y	2005

ASEAN Sociocultural Community Blueprint	N	Y	2009
Asia-Pacific Migratory Waterbirds Conservation Strategy	N	UA	2001
COBSEA Strategic Direction 2008-2012	N	Y	2008
Indian Ocean-Southeast Asian Marine Turtle Memorandum of Understanding	N	Y	2009
Memorandum of Agreement between the provinces of Kien Giang (Viet Nam) and Kampot (Cambodia)	Y	Y	2008
MOU on ASEAN Oil Spill Response Action Plan	N	N	1994
Regional Action Plan on Marine Litter (RAP-MALI)	N	Y	2008
Regional Plan of Action (RPOA) for Responsible Fishing Practices including Combating IUU Fishing in the Region	N	Y	2007
Regional Programme of Action for the Protection of the Marine Environment of the East Asian Seas from the Effects of Land-based Activities	N	Y	2000
SCS SAP	N	N	2008
SDS-SEA	N	Y	2003
Vietnam-Philippines Memorandum of Agreement on Cooperation in Oil Spill Preparedness and Response	Y	Y	2010
Vietnam-Philippines Memorandum of Agreement on Fisheries Cooperation	Y	Y	2011

Table 23. Intergovernmental organizations with functions covering coastal and marine resources in the SCS

INTERGOVERNMENTAL ORGANIZATION	PRIMARY CONCERN	YEAR ESTABLISHED
APEC	Trade	1989
APFIC	Fisheries	1948
ASEAN	Trade	1967
ASEAN Centre for Biodiversity*	*Biodiversity*	*2005*
ASEAN Wildlife Enforcement Network*	*Biodiversity*	*2005*
COBSEA	Coastal management	1981
IOC-WESTPAC	Marine research	1989
MRC	Water resource management	1995
NACA	Fisheries	1988
PEMSEA	Coastal management	2006
SEAFDEC	Fisheries	1967

*While these are now independent organizations, in this analysis, they are considered as functioning under the ASEAN's mandate.

C. Comparison of Regional Mechanisms

Table 24. Comparison of regional mechanisms in large marine ecosystems similar to the SCS and Gulf of Thailand

REGIONAL SEAS BODY (LME COVERED)	ROPME (ARABIAN SEA)	PERSGA (ARABIAN SEA)	NOWPAP RCU (EAST CHINA SEA & YELLOW SEA)	SSME TRI-NATIONAL COMMITTEE (SULU-SULAWESI)	SACEP/ SASP (BAY OF BENGAL)	BLACK SEA COMMISSION (BLACK SEA)	COBSEA (SOUTH CHINA SEA AND GULF OF THAILAND)
COUNTRY-FUNDED ACTIVITY CENTERS?	Y	N	Y	N	N	Y	N
GEF REGIONAL ENGAGEMENT	None	1996-present	?-2011?	2009?-present	2006?-2012?	1993-2006?	1994-2007
GEF REGIONAL ENGAGEMENT	NA	Red Sea & Gulf of Aden SAP and SAP implementation, POPs and GloBallast	Yellow Sea SAP	Fisheries component	BOBLME SAP	Black Sea SAP and SAP implementation, Danube River, pollution investments	SCS-GOT SAP
GOVERNING INSTRUMENT (EFFECTIVITY)	Convention (1982)	Convention (1982)	Action Plan (1994)	Action Plan (2006)	Action Plan (1997)	Convention (1994)	Action Plan (1981)
LATEST INSTRUMENT ADOPTED	1998	2005	2012-2017	2006	1995	2009	2008-2012
NO. OF COUNTRIES (NO. OF HIGH-INCOME COUNTRIES)**	8 (6)	8 (2)	4 (2)	3 (0)	5 (0)	6 (0)	9 (2)
UNRESOLVED TERRITORIAL CONFLICT?	Y	Y	Y	N	Y	Y	Y
TRANSBOUNDARY CONCERN FIRST ADDRESSED	Oil spills, hazardous wastes	Oil spills, hazardous wastes	Harmful algal blooms, ship pollution	Migratory species, fisheries	Fisheries, land-based pollution	Nutrient and oil pollution from Danube River	Land-based and ship pollution and habitat degradation
YEAR TRANS-BOUNDARY MGT FIRST PROPOSED	1974	1974	1991	1976	1979	1991	1979

**Classification based on World Bank lending groups (http://data.worldbank.org/about/country-classifications/country-and-lending-groups, accessed 12 June 2012)

Annex 5: National Context

Table 25. Key development indicators for SCS countries

Countries	Population (in millions in 2010)	Life exp. at birth (years) in 2010	Per capita GDP per annum (2010) in US $	Per capita GDP per annum (2010) in PPP in US $	Ave Annual GDP growth (2000 -10)	Poverty headcount ratio at $2 a day (PPP) (% of population)	Literacy (% of the population in 15 years and above)	Enrollment in tertiary education (% gross)	Researchers in R&D (persons per million)
Cambodia	14	63	795	2,194	8.0 %	53% (2008)	78% (2008)	8% (2008)	17 (2002)
China	1,338	73	4,428	7,599	10.5%	30% (2008)	94% (2009)	26% (2010)	1199 (2008)
Indonesia	240	69	2,946	4,325	5.2%	46% (2010)	92% (2008)	23% (2010)	90 (2010)
Malaysia	28	74	8,373	14,731	4.6%	2% (2009)	92% (2009)	40% (2009)	365 (2006)
Philippines	93	68	2,140	3,969	4.8%	42% (2009)	95% (2008)	29% (2008)	78 (2007)
Thailand	69	74	4,608	8,554	4.3%	5% (2009)	94% (2005)	46% (2010)	316 (2007)
Vietnam	87	75	1,224	3,205	7.3%	43% (2008)	93% (2009)	22% (2009)	116 (2002)

(Source: Databank, World Bank)

Table 26. Key IW-related indicators for SCS countries

Countries	Land Area (sq. km)	Total coastline (km)[27]	Mangrove forest (sq km)[28]	Coral Reef (sq km)[29]	Fisheries production by capture (Year 2010)	Fisheries production by aqua culture (Year 2010)	Container port throughput in TEU in 2009[30]	Oil and gas platform & installations (rigs) in SCS in 2010[31]	Organic water pollutants (BOD) emissions kg per day[32]

[27] http://www.wri.org/project/earthtrends/
[28] FAO estimate 2005
[29] Spalding MD, Ravilious C, Green EP (2001) *World Atlas of Coral Reefs*. University of California Press, Berkeley, USA
[30] UNCTAD, http://unctadstat.unctad.org/TableViewer/summary.aspx, accessed on 14th June 2012; TEU = Twenty feet equivalent units
[31] Data compiled from Lyons (2011), Twomey (2010), and Clarkson Research Services (2010).

Cambodia	**176,520**	**1,127**	**692**	**< 50**	**490,094**	**60,000**	**207,577**	**2**	**NA**
China	**9,327,480**	**30,017**	**225**	**1,510**	**15,418,967**	**36,734,215**	**107,492,861**	**120**	**9,428,874 (2007)**
Indonesia	**1,811,570**	**95,181**	**29,000**	**51,020**	**5,380,266**	**2,304,828**	**7,243,557**	**485**	**882,985 (2006)**
Malaysia	**328,550**	**9,323**	**5,650**	**3,600**	**1,433,427**	**373,151**	**15,671,296**	**249**	**208,312 (2006)**
Philippines	**298,170**	**33,900**	**2,400**	**25,060**	**2,611,720**	**744,695**	**4,306,723**	**8**	**144,629 (2005)**
Thailand	**510,890**	**7,066**	**2,400**	**2,130**	**1,827,199**	**1,286,122**	**5,897,935**	**265**	**581,425 (2006)**
Vietnam	**310,070**	**11,409**	**1,570**	**1,270**	**2,420,800**	**2,671,800**	**4,840,598**	**46**	**544,779 (2007)**

Table 27. Key proximate causes of environmental concerns in SCS countries[33]

Principle issues	Cambodia	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Coral Reefs	Over exploitation, Destructive fishing practices	Over exploitation	Over exploitation, Destructive fishing practices, Sedimentation	Over exploitation, Destructive fishing practices, Sedimentation, Pollution	Over exploitation, Destructive fishing practices, Sedimentation, Pollution	Over exploitation, Sedimentation, Pollution	Over exploitation, Destructive fishing practices, Sedimentation, Pollution
Fisheries	Over fishing, inappropriate fishing practices, pos- harvest loss, siltation, land-based pollution	Over fishing, inappropriate fishing practices, post-harvest loss, siltation, land-based pollution	Over fishing, inappropriate fishing practices, post harvest loss, siltation, land based pollution, oil spills	Over fishing, inappropriate fishing practices, post harvest loss, siltation, land based pollution, oil spills	Over fishing, inappropriate fishing practices, post harvest loss, siltation, land based pollution, oil spills	Over fishing, inappropriate fishing practices, post harvest loss, siltation, land based pollution, oil spills	Over fishing, inappropriate fishing practices, post harvest loss, siltation, land based pollution, oil spills
Mangroves	Aquaculture, Domestic use	Aquaculture, Urbanization	Aquaculture, illicit felling, Urbanization	Aquaculture, illicit felling, Urbanization	Aquaculture, Urbanization, Domestic use	Aquaculture	Aquaculture, Domestic use
Seagrass	Fishing by push nets, trawling, shipping	Land reclamation	Sedimentation, heavy coral mining and collection from reef flats	Land reclamation, oil spills, land based pollution, land reclamation	Industrial development, ports, recreational activities	Sewage and aquaculture waste, fisheries, collection for traditional medicines, land reclamation	Fertilizer production, animal feed production, Fishing by pushnets and trawling

[32] Databank, World Bank

[33] Derived from Talaue-McManus (2000) and information gathered through field work.

Annex 6: Support to Enabling Environment at the Local Scale

Table 28. Sites where legal, policy and regulatory framework has been targeted or influenced

Demonstration site	Country	Project	Focus on Legal and Policy instruments	Legal, Policy and regulatory Advisory Products developed	Influence on changes in legal, policy and regulatory framework at any scale
Bolinao	Philippines	885	Yes	Yes	Yes
Con Dao	Vietnam	1031	Yes	Yes	Yes
Danang	Vietnam	597/2700	Yes	Yes	Yes
Fangchenggang	China	885	Yes	Yes	No
Guangdong - LWM	China	2138	Yes	Yes	Yes
Hanoi - LWM	Vietnam	2138	Yes	Yes	Yes
Hepu	China	885	Yes	Yes	Yes
Hon Mun	Vietnam	4	Yes	Yes	Yes
Koh Chang	Thailand	885	Yes	Yes	No
Masinloc	Philippines	885	No	No	Yes
Phu Quoc	Vietnam	885	Yes	Yes	Yes
Sanya	China	1128	Yes	No	Yes
Xiamen	China	396/597/2700	Yes	Yes	Yes

Source: Field verification

Annex 7: Environmental Impacts at the Local Scale

Table 29 . Targeted Concerns and Incidence of Measured Stress Reduction by Demonstration Site

Name of the demonstration site	Country	ID of corresponding GEF projects	Marine and coastal habitat conservation		Fisheries management		Pollution reduction	
			Targeted	Stress Reduction	Targeted	Stress Reduction	Targeted	Stress Reduction
Bataan POPs	Philippines	2329	No	NA	No	NA	Yes	NA
Batangas Bay	Philippines	396 /597	Yes	Yes	Yes	Yes	Yes	Yes
Bolinao	Philippines	885	Yes	Yes	Yes	Yes***	No	NA
Chonburi	Thailand	597 /2700	Yes	Yes	Yes	Yes	Yes	Yes
Con Dao	Vietnam	1031	Yes	No	Yes	Yes***	Yes	No
Danang	Vietnam	597 /2700	Yes	UA	Yes	UA	Yes	UA
Fangchenggang	China	885	Yes	Yes	No	NA	No	NA
Foshan	China	2135	No	NA	No	NA	Yes	NA
Guangzhou	China	2135	No	NA	No	NA	Yes	NA
Guangdong – LWM	China	2138	No	NA	No	NA	Yes	Yes
Hanoi – LWM	Vietnam	2138	No	NA	No	NA	Yes	Yes
Hepu	China	885	Yes	UA	Yes	NA	No	NA
Hon Mun	Vietnam	4	Yes	Yes	Yes	Yes***	No	NA
Koh Chang	Thailand	885	Yes	No	Yes	No	No	NA
Manila Bay	Philippines	597 / 2700	Yes	No	Yes	UA	Yes	No
Masinloc	Philippines	885	Yes	Yes	Yes	Yes	No	NA
Masinloc - ICRMP	Philippines	1185	Yes	NA	Yes	NA	Yes	NA
Metro Manila	Philippines	2759	No	NA	No	NA	Yes	NA
Phu Quoc	Vietnam	885	Yes	Yes	Yes	Yes***	No	NA
Puerto Galera - PPPs	Philippines	2188	No	NA	No	NA	Yes	NA
Qui Nhon	Vietnam	2758	No	NA	No	NA	Yes	NA
Ratchaburi – LWM	Thailand	2138	No	NA	No	NA	Yes	Yes
Sanya	China	1128	Yes	Yes	No	NA	Yes	No
Shankou-Weizhou	China	1128	Yes	Yes	No	NA	Yes	No
Shantou	China	3309	Yes	Yes	No	No	Yes	Yes
Trat Province	Thailand	885	Yes	UA	Yes	Yes***	No	NA
Xiamen	China	396 /597 /2700	Yes	Yes	Yes	Yes	Yes	Yes

*NA – Stress reduction not expected because concern not targeted or demonstration not completed

**UA – Unable to assess due to unavailability of “before” and “after” data

*** --Anecdotal reports only

Table 30. Summary information on coral reef demonstration sites

Name of Site/s	Country	GEF Projects IDs	Coral reef area protected (ha)	Availability of long-term monitoring data
Batangas Bay	Philippines	396/597/2700	49000	Yes
Con Dao	Vietnam	1031	1000	Yes
Danang	Vietnam	597/ 2700	104	Not available
Hon Mun	Vietnam	4	600	Yes
Koh Chang	Thailand	885	1600	Not available
Masinloc	Philippines	885	197	Yes
Masinloc - ICRMP	Philippines	1185	UA	Not available
Phu Quoc	Vietnam	885	500	Yes
Sanya	China	1128	8500	Only baseline
Shankou-Weizhou	China	1128	3500	Not available

Table 31. Summary information on seagrass demonstration sites

Site	Country	GEF projects	Seagrass bed area in ha	Coverage through GEF demonstration	GEF-supported legal & management framework
Bolinao	Philippines	885	22,400	6000 under management plan 60 ha protected under demonstration, of which20 ha is core (no-take) zone	Municipal Ordinance No. 2007-02 declaring seagrass reserve
East Bintan	Indonesia	3188	2600	2600 ha conservation area under management 10 ha in 4 villages as a sanctuary (no take zone)	District Decree Number 267/VI/2010 and other giving legal status to sanctuaries protected by village communities
Hepu (two IAs)	China	885, 1128	540	150 ha covered through demonstration activities	Local legislation for seagrass protection
Kampot	Cambodia	885, SGP	25,240	Total area under management increased from 900 ha to 2500 ha, including 365 ha through SGP grant	Memorandum of Agreement with Phu Quoc
Phu Quoc	Vietnam	885	12,000	6500 under overall management 200 ha protected through demonstration activities	MPA established; Memorandum of Agreement with Kampot

Table 32. Summary information on mangrove demonstration sites

Site	Country	Support through (GEF project ID)	Year of start of GEF support	Area of mangrove planted with GEF support	Source of data	Baseline	Present	Net change
Chonburi	Thailand	597/2700	1999	49 ha	Remote sensing, field visit	521 ha (1999)	525 ha (2009)	4 ha
Fangchenggang	China	885	2003	45 ha	Remote Sensing, field visit	1487 ha (2005)	1525 ha (2009)	38 ha
Peam Krasop	Cambodia	885 and SGP grant	2003	Unknown	Remote sensing data and Interviews	11,230 ha (2005)	10086 ha (2009)	– 1144 ha
Shankou - Weizhou	China	1128	2005	60 ha	Field visit	0 ha	60 ha (2011)	60 ha
Shantou	China	3309	2007	200 ha	Interviews and field reports	0 ha	200 ha (2011)	200 ha
Trat	Thailand	885 and SGP grant	2005	Unknown, if any	Remote sensing and field visit	8,790 ha (2005)	8885 ha (2009)	95 ha
Xiamen	China	396 /597 / 2700	1994	27 ha	Field visit	0 ha (1994)	27 ha (2011)	27 ha

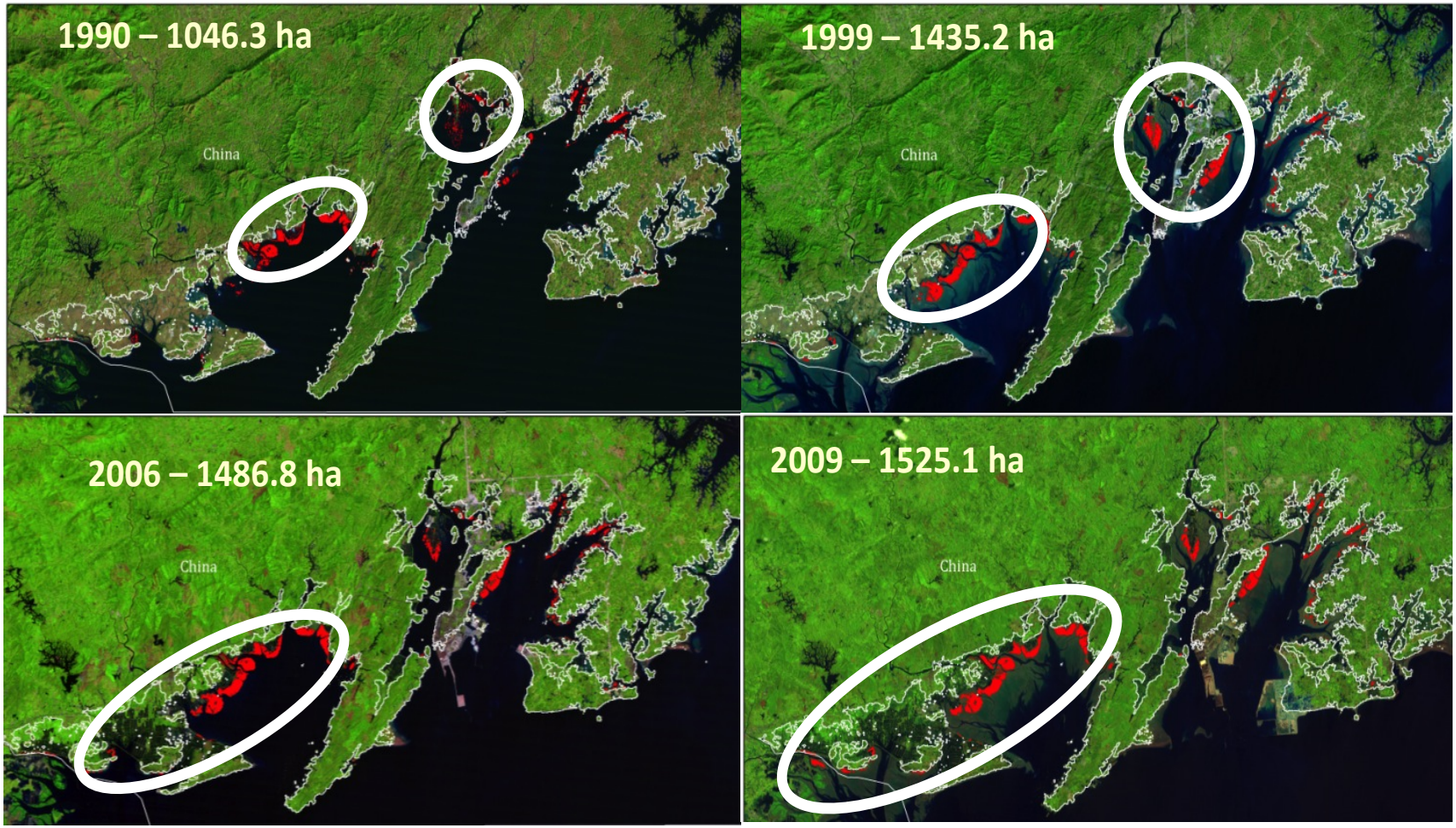

Figure 9. Increase in mangrove cover observed in Fangchenggang, China through remote sensing analysis

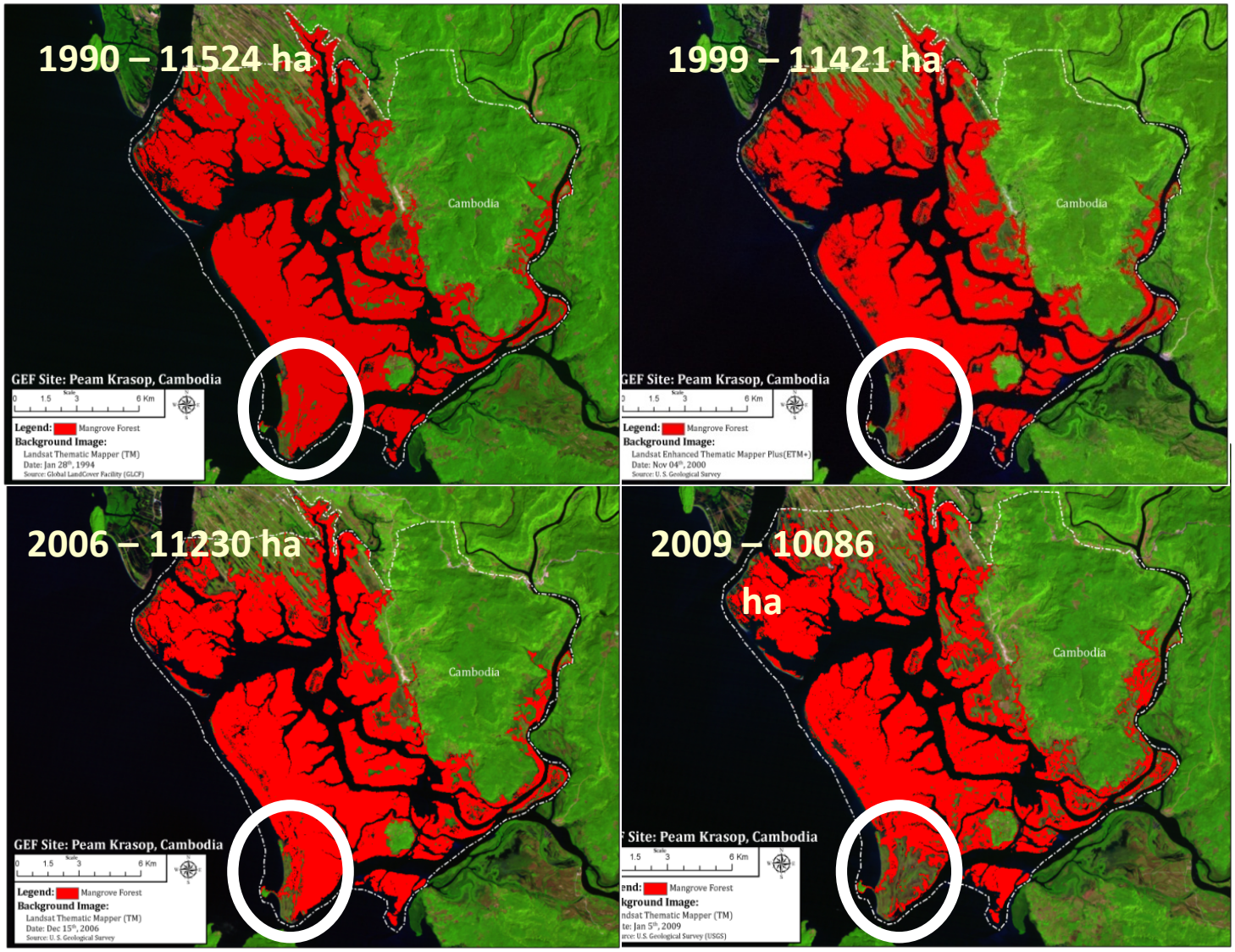

Figure 10. Decrease in mangrove cover observed in Peam Krasop, Cambodia through remote sensing analysis

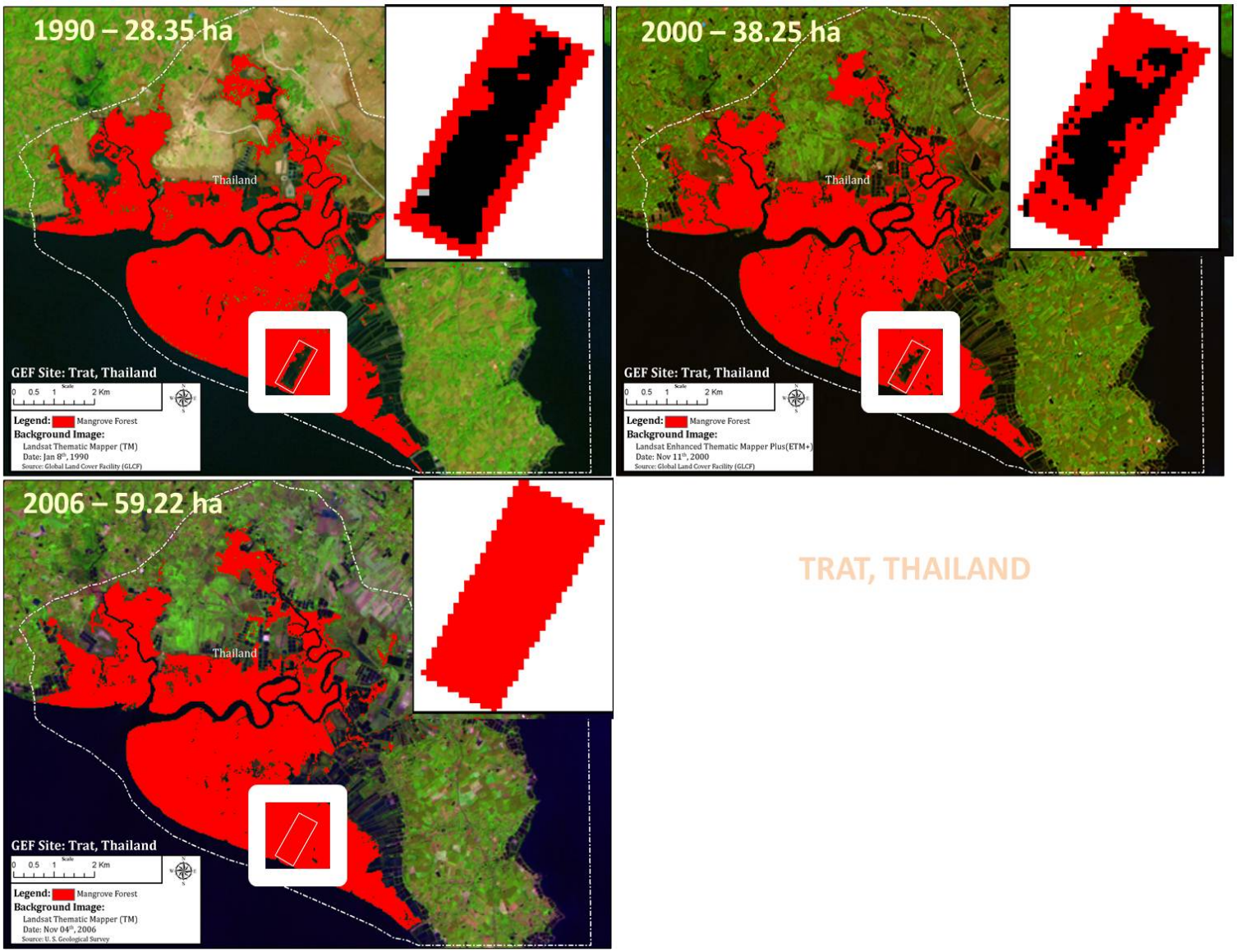

Figure 11. Increase in mangrove cover observed in Trat, Thailand prior to GEF support through remote sensing analysis

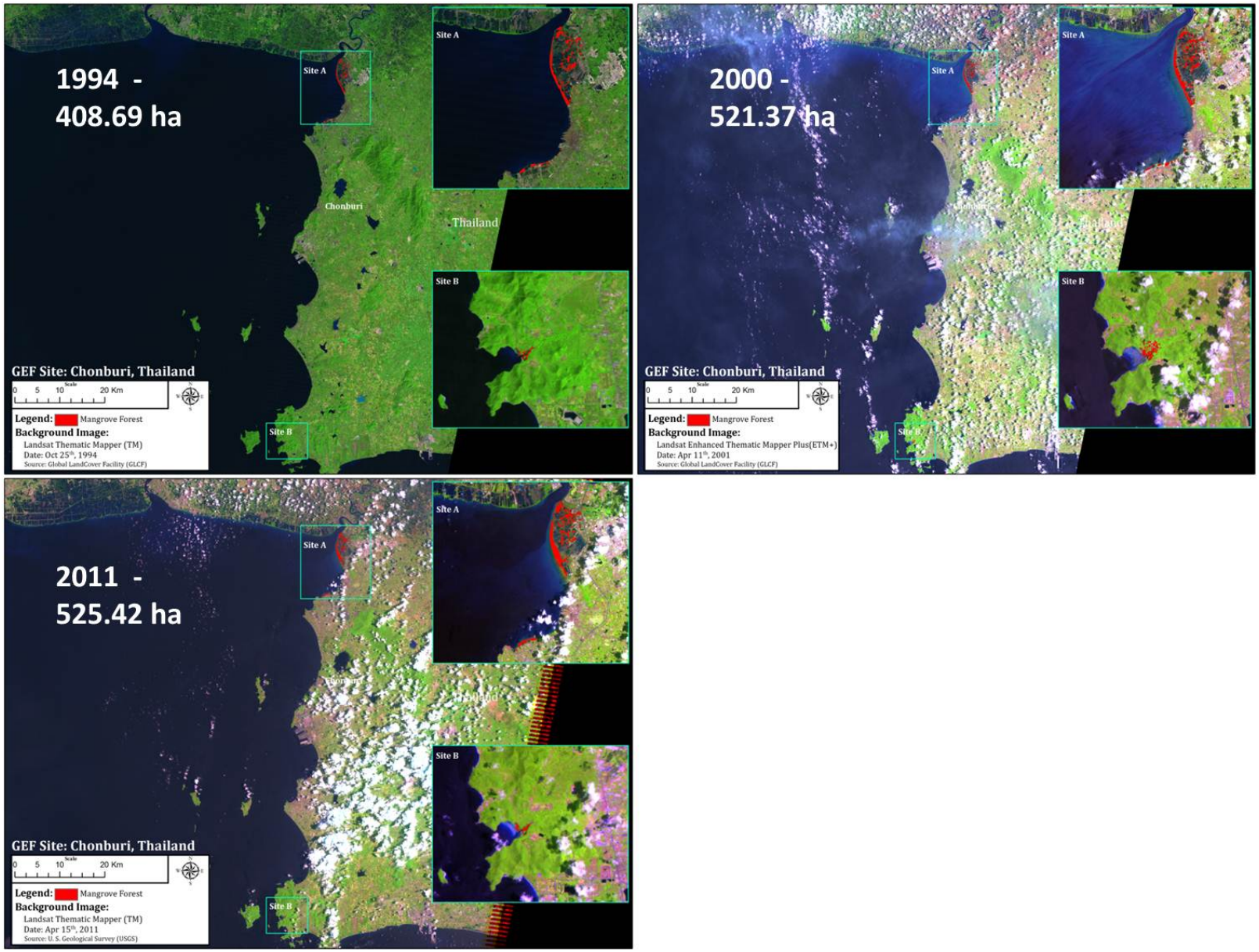

Figure 12. Slight increase in mangrove cover observed in Chonburi, Thailand through remote sensing analysis

Table 33. Demonstrations to address land-based sources of pollution and resulting stress reduction reported

Site	Country	Related GEF Projects	Project Cluster	Addressed marine pollution concern	Main Activity undertaken	GEF contribution for addressing pollution	Stress Reduction
Xiamen	China	396 / 597 / 2700	UNDP/PEMSEA	Wastewater	Treatment plants	Financing for development of policies and regulations, and inter-sectoral urban planning, institutional development; Support for policy and institutional development	Y
Batangas Bay	Philippines	396 / 597 / 2700	UNDP/PEMSEA	Wastewater	Treatment plants		Y
Danang	Vietnam	597 / 2700	UNDP/PEMSEA	Wastewater	Treatment plants		No data
Chonburi	Thailand	597 / 2700	UNDP/PEMSEA	Wastewater	Treatment plants		Y
Manila Bay	Philippines	597 / 2700	UNDP/PEMSEA	Wastewater	Treatment plants		UA
Sanya	China	1128	Other (Biodiversity)	Wastewater	Treatment plants		N
Masinloc - ICRMP	Philippines	1185	Other (IW)	Wastewater	Treatment plants		NA
Foshan	China	2135	World Bank/ IF	Wastewater	Treatment plants	Financing to Incentivize sharing of wastewater treatment infrastructure by neighboring districts; partial support for equipment; capacity building.	NA
Guangzhou	China	2135	World Bank/ IF	Wastewater	Treatment plants		NA
Ratchaburi - LWM	Thailand	2138	World Bank/ IF	Pig farm waste	Introduction of technologies	Financing to incentivize adoption of farm waste treatment technologies, capacity building and monitoring of stress reduction	Y
Guangdong - LWM	China	2138	World Bank/ IF	Pig farm waste	Introduction of technologies		Y
Hanoi - LWM	Vietnam	2138	World Bank/ IF	Pig farm waste	Introduction of technologies		Y
Baatan POPs	Philippines	2329	Other (POPs)	Persistent Pollutants	Introduction of PCB destruction technologies and practices	Financing for non-combustion technology for Polychlorinated Biphenyl destruction, and capacity building.	NA
Puerto Galera - PPPs	Philippines	2188	UNDP/PEMSEA	Wastewater	Treatment Plant	Support for development of legislation, policy and regulations	NA
Qui Nhon	Vietnam	2758	World Bank/ IF	Wastewater	Treatment Plant	Financing for piloting of new technology, and capacity building	NA
Metro Manila	Philippines	2759	World Bank/ IF	Wastewater	Treatment Plant	Financing for partial support for equipment; planning and policy development, capacity building, utilization arrangements, institutional development.	NA
Shantou	China	3309	UNEP/SCS Cluster	Aquaculture practices	Promotion of new practices	Financing for development of legislation, policy and regulations, and adoption of new practices	Y

*NA - Stress reduction not expected because demonstration not completed

**UA – Unable to assess if stress reduction has occurred due to conflicting data from different monitoring stations

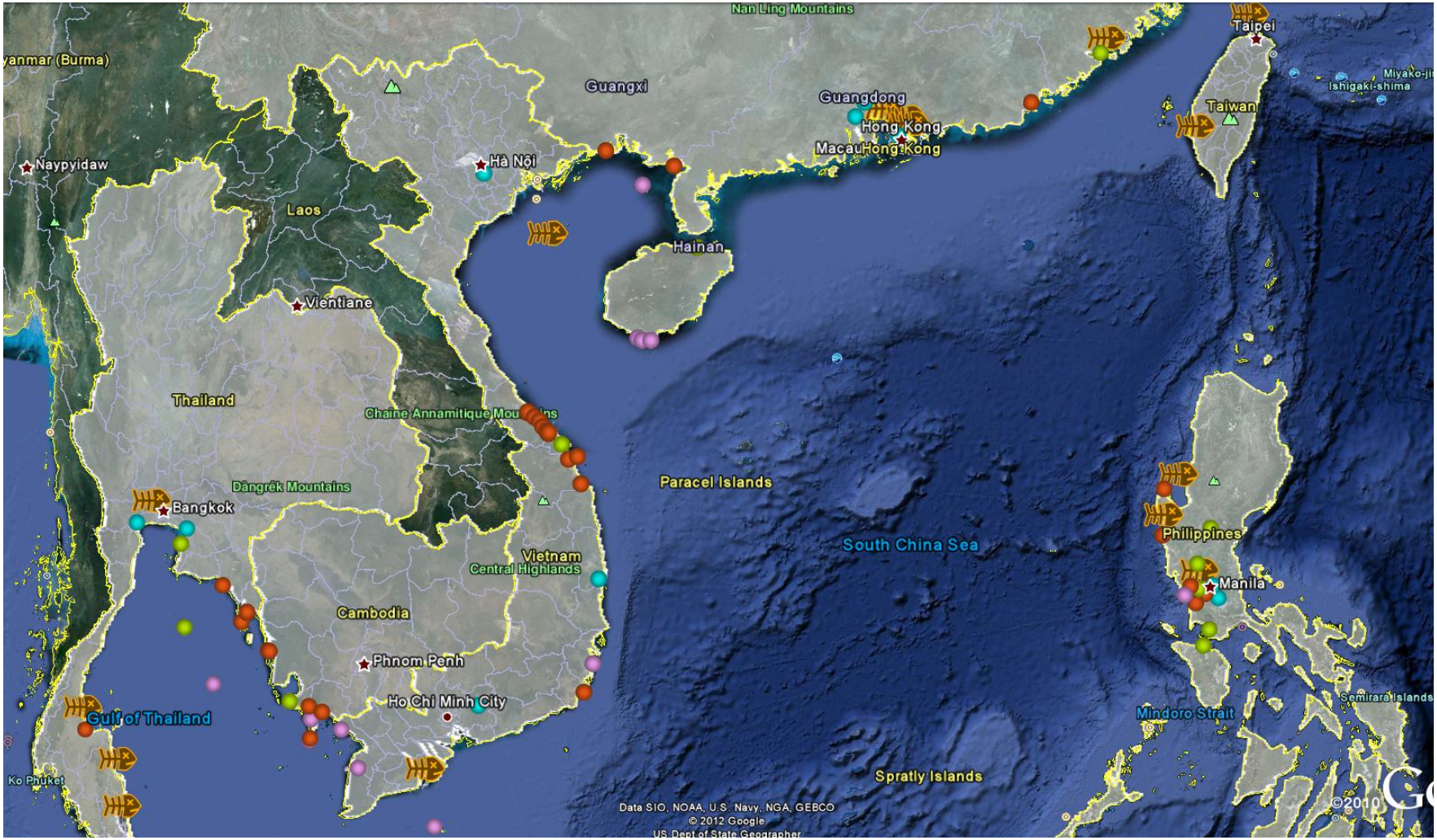

Figure 13. Locations of GEF-supported demonstration sites (circles) and sites classified as hypoxic/eutrophic (fish bones) in the South China Sea and Gulf of Thailand

Table 34. Pollution-relevant parameters measured in demonstration sites and change measured

PARAMETERS MEASURED	NO. OF SITES MEASURING PARAMETER	NO. OF SITES MEASURING POSITIVE CHANGE	UA*	NA**
Pollution Reduction				
Volume of waste treated	8	**3**	1	4
Volume of waste produced	3	**2**	0	1
Water Quality				
BOD	4	**2**	0	2
COD	4	**2**	0	2
Coliform	4	**2**	1	
DO	4	**0**	0	0
NH_3	3	**1**	1	
NO_2	1	**1**	0	0
pH	2	**0**	0	2
PO_4	4	**2**	0	1

*Unable to assess if change occurred due to lack of data.
**Not applicable due to technology not being operational as of June 2011.

Annex 8: Socioeconomic Impacts of GEF support

Table 35. Socioeconomic impacts of GEF-supported demonstrations and support to alternative livelihoods

GEF ID	Demo/activity name	Alternative livelihood supported?	Alternative livelihood sustained?	Positive socioeconomic impact	Resolved risk of negative socioeconomic impact	Existing risk of negative socioeconomic impact
885	Bolinao	Y	N	Y	N	UA
597/2700	Chonburi	N	NA	Y	N	N
1031	Con Dao	Y	Y	Y	Y	N
597/2700	Danang	N	NA	N	N	UA
2135	Foshan	N	NA	Y	N	N
2138	Guangdong - LWM	N	NA	Y	N	N

2135	Guangzhou	N	NA	Y	N	N
2138	Hanoi - LWM	N	NA	Y	N	N
4	Hon Mun	Y	Y	Y	Y	N
885	Koh Chang	Y	N	N	N	Y
885	Masinloc	Y	Y	Y	Y	N
1185	Masinloc - ICRMP	Y	NA	NA	NA	N
2759	Metro Manila	N	NA	N	Y	N
885	Phu Quoc	Y	Y	Y	Y	N
2188	Puerto Galera - PPP	N	NA	N	N	Y
2758	Qui Nhon	N	NA	N	Y	N
2138	Ratchaburi - LWM	N	NA	Y	N	N
1128	Sanya	Y	UA	UA	UA	UA
1128	Shankou-Weizhou	Y	Y	Y	Y	N
3309	Shantou	Y	UA	UA	Y	N
885	Trat	N	NA	Y	N	N
396	Xiamen	Y	Y	Y	N	UA

UA – Unable to assess due to the Evaluation Team not being able to obtain or sufficiently verify information.

Annex 9: Broader Adoption of GEF-supported Initiatives

Table 36. Sites with cases of broader adoption

Demo/ activity name	Country	GEF ID	Replication	Scaling-up	Main-streaming	Extent and nature of broader adoption	Funding Stream
Batangas	Philippines	396/597 /2700	X	X	X	ICM approach mainstreamed through local ordinances and national policy for sustainable development (Executive Order 533). ICM replicated in Balayan Bay and then in Tayabas Bay; ICM also replicated in Guimaras province and initiated in Macajalar Bay. Actions have begun to scale up to include whole Batangas province, including upland areas	UNDP/PEMSEA

Demo/ activity name	Country	GEF ID	Replication	Scaling-up	Main-streaming	Extent and nature of broader adoption	Funding Stream
Bolinao	Philippines	885	X			Co-management in 3 municipalities in same province, following the example set by Bolinao Municipality	UNEP/SCS
Chonburi	Thailand	597/ 2700	X	X	X	Scaling-up and replication is taking place among the 22 coastal Local Government Units (LGU). A network of local government units planned to provide technical support 77 additional inland LGUs to implement ICM, with the objective to cover entire province, but sources of funding and technical support for the expansion remain uncertain. Municipal governments have mainstreamed a 3-year implementation plan for the Chonburi coastal strategy into their respective investment plans, but no specific information obtained on what types of investments will be allocated budgets in relation to ICM.	UNDP/PEMSEA
Con Dao	Vietnam	1031	X			Replication of marine turtle conservation in 1 national park (Nui Chua)	Others (Biodiversity)
Danang	Vietnam	597/ 2700	X	X	X	Replication has started in three provinces through attendance in workshops and training. Mainstreaming of GEF support in ICM, as well as support provided by NOAA and SIDA, has taken place through a 2009 Government Decree on integrated management of resources and environmental protection. Steps to scale up have taken place through a National Program on ICM for North Central Region and Central Coastal Provinces to be expanded to 14 provinces. The government has been slow in providing the needed funding to support scaling-up.	UNDP/PEMSEA
Guangdong - LWM	China	2138	X	X		Initially through exposure visits, replication in other counties and scaling-up plan to cover entire Guangdong province	World Bank/IF
Hanoi - LWM	Vietnam	2138			X	Development of the first regulation on environmental protection and animal husbandry for the country in 2009	World Bank/IF
Hepu	China	885		X	X	National survey conducted of all seagrass beds; coverage of park expanded to include more seagrass beds	UNEP/SCS
Hon Mun	Vietnam	4	X		X	Lessons learned provided inputs to national MPA system of Vietnam and across Nha Trang Bay; user fee system and mooring buoys replicated in Cu Lao Cham and Phu Quoc; Mainstreaming took place through regulations at the level of the bay and drawing on the Hon Mun experience for the establishment of MPAs elsewhere in the country.	Others (Biodiversity)
Manila Bay	Philippines	597	X	X	X	Mainstreaming in 4 provinces and 3 national administrative through replication at municipal and provincial levels and scaling-up to include non-coastal areas, mostly at initial stages of adoption	UNDP/PEMSEA

Demo/ activity name	Country	GEF ID	Replication	Scaling-up	Main-streaming	Extent and nature of broader adoption	Funding Stream
Masinloc	Philippines	885	X			Creation of MPAs in 8 municipalities	UNEP/SCS
Masinloc ICRMP	Philippines	1185			X	Development of management plans and municipal budgets allocated for implementation in 68 municipalities in 6 provinces	Others (Biodiversity)
Phu Quoc	Vietnam	885	X	X	X	Study tour to Phu Quoc by 2 municipalities in other countries (Cambodia and Philippines) with GEF support. Experiences from Phu Quoc contributed to practices adopted across Vietnam's MPA system.	UNEP/SCS
Puerto Galera - PPPs	Philippines	2188			X	Municipal ordinance passed adopting PPP processes, although infrastructure investment itself not completed	UNDP/PEMSEA
Ratchaburi - LWM	Thailand	2138	X			Replication by 2 CDM-based projects, which made the technology available to other farm owners	World Bank/IF
Sanya	China	1128		X	X	Changes in the legal and regulatory framework at the municipal level, and subsequently, regulations on coral reef conservation revised at the provincial scale	Others (Biodiversity)
Shankou-Weizhou	China	1128	X		X	Approach of planting mangroves in abandoned shrimp farms adopted by the Fangchenggang mangrove center. Government approval of Beibu Gulf Zone Development Plan where many of the biodiversity conservation concepts tested as part of the project are mainstreamed.	Others (Biodiversity)
Shantou	China	3309	X			Local government departments in 2 provinces reported to have adopted the silvo-aquaculture approach being promoted by the project (total 10 ha area of silvo-aquaculture)	UNEP/SCS
Trat	Thailand	885		X		Network of tambols through inclusion of 4 new ones, and a proposal for 2 more to be financed by other donors	UNEP/SCS
Xiamen	China	396/597 /2700	X	X	X	ICM mainstreamed through local ordinances and the national Sea Use Management Law; Replicated in 10 municipalities; Scaled up to include Xinglin Bay, Yuandang Lagoon, West Sea (including Maluan Bay), Jiulong River Basin; published the Jiulong River-Xiamen Bay Ecosystem Management Strategic Action Plan	UNDP/PEMSEA

Annex 10: Impact Monitoring & Reporting

A. GEF Support for Environmental Monitoring and Reporting Activities

Table 37. GEF support for baseline and monitoring data collection (including training) in UNDP/PEMSEA and UNEP/SCS sites in the SCS

DEMONSTRATION SITE	GEF GRANT FOR BASELINE & MONITORING-RELATED ACTIVITIES (US$ k)
Batangas Bay	15.65
Danang	34.18
Manila Bay	100
Sihanoukville	38
Xiamen	15
Total for UNDP/PEMSEA sites	**202.83**
Bolinao	10.68
Fangchenggang	127
Hepu	81.4
Kampot	18.82
Koh Chang	34.5
Masinloc	5.66
Peam Krasop	20.48
Phu Quoc	80.92
Trat	9.5
Total for UNEP/SCS sites	**388.96**

Source: PEMSEA (for UNDP/PEMSEA sites) and demonstration site proposals (for UNEP/SCS sites)

Table 38. GEF support for the Integrated Information Management System (IIMS) and number of participants trained in the SCS

DEMONSTRATION SITE	2000-2002 (establishment)	2003-2004 (query system & linkage)	2005-2007 (web-based IIMS)	2008-2012	GEF SUPPORT (training, equipment, etc.) US$ k
Batangas Bay, PHILIPPINES	0	UA		UA	>2.5
Chonburi, THAILAND	11	16			>18
Danang, VIETNAM	UA	7	UA	21 (2 trainings)	>22.8
DENR + RBCO + NTF (national scaling-up), PHILIPPINES	0	0	0	UA (at least 3 trainings)	>2
Manila Bay (inc. Bataan and Cavite provinces), PHILIPPINES	15	UA	UA	UA (3 trainings)	>26.2
Sihanoukville, CAMBODIA	6	1*	8**		> 8.5
7 coastal provinces + VASI (national scaling-up), VIETNAM	0	0	0	22 (inc. SOC)	>26
TOTAL NO. OF PARTICIPANTS	***32***	***> 24***	***> 8***	***> 43***	**>106**

*6-month internship of one staff; **trained by intern; UA indicates that a training was conducted, but it is unknown how many people were trained; '?' means that no record of a training at the site was found, but other sources report that IIMS is operational at these sites; blanks indicate that no information was found on whether training was conducted or not. Source: Project Implementation Reports

Table 39. GEF support for GIS or database establishment in sites supported through the UNEP/SCS stream

DEMONSTRATION SITE	GEF SUPPORT (US$ k)
Bolinao	2.2
Fangchenggang	105
Hepu	0
Masinloc	0
Kampot	1
Koh Chang	7.5
Phu Quoc	2
Peam Krasop	0
Trat	3.38
TOTAL GEF SUPPORT	**121.08**
Source: Demonstration site proposals	

Table 40. GEF support for the State of the Coast (SOC) reporting system at ICM sites in the SCS as of May 2012

ICM Site	Training (US$ k)	Other technical support (US$ k)	Publication (US$ k)	Total GEF support (US$ k)
Batangas Bay	?	3	5	***> 8***
Chonburi	?	6	3	***> 9***
Danang	8	12	3	***23***
Sihanoukville	4	6.75	4.5	***15.25***
Xiamen	3.25	6	3	***12.25***
Total GEF support (US$ k)	***> 15.25***	***33.75***	***18.5***	**> 67.5**

Source: PEMSEA

B. Cases of Data Collection in Demonstration Sites

Table 41. Availability of baseline and monitoring data, and mandated monitoring bodies present at site

Demo/activity name	GEF ID	Pollution Baseline	Pollution Monitored	Habitat Baseline	Habitat Monitored	Fisheries Baseline	Fisheries Monitored	Functional or potential monitoring body	Type of monitoring body
Bataan POPs	2329	X	NA	NA	NA	NA	Under Implementation	Y	Govt
Batangas Bay	396/597/2700	0	X	X	X	0	X	Y	Govt
Bolinao	885	NA	NA	X	X	X	X	Y	Govt
Chonburi	597/2700	X	Data collected but unclear if done regularly	X	X	X	X	Y	Govt
Con Dao	1031	0	0	X	X	0	0	Y	Govt
Danang	597/2700	X	Monitoring but data unavailable	X	Monitoring but data unavailable	0	0	Y	Govt
Fangchenggang	885	NA	NA	X	Monitoring but data unavailable	NA	NA	Y	On-site monitoring center
Foshan	2135	UA	Under implementation	NA	NA	NA	NA	Y	Govt
Guangdong - LWM	2138	X	UA	NA	NA	NA	NA	UA	Govt research institute
Guangzhou	2135	UA	Under implementation	NA	NA	NA	NA	Y	Govt
Hanoi - LWM	2138	X	UA	NA	NA	NA	NA	UA	Govt
Hepu	885	NA	NA	X	Data collected but unavailable and unclear if done regularly	0	0	Y	On-site monitoring center
Hon Mun	4	NA	NA	X	X	0	0	Y	Govt research institute
Koh Chang	885	NA	NA	X	Monitoring but data unavailable	X	Monitoring but data unavailable	Y	Govt and university
Manila Bay	597 / 2700	X	X	X	Data collected but unclear if done regularly	X	X	Y	Govt
Masinloc	885	NA	NA	X	X	X	X	Y	Govt and university
Masinloc - ICRMP	1185	0	Under implementation	X	Under implementation	X	Under implementation	Y	Govt
Metro Manila	2759	X	Under implementation	NA	NA	NA	NA	Y	Govt
Phu Quoc	885	NA	NA	X	X	0	0	Y	Govt research institute
Puerto Galera - PPPs -	2188	0	NA	NA	NA	NA	NA	NA	NA
Qui Nhon	2758	UA	Under implementation	NA	NA	NA	NA	Y	Govt
Ratchaburi - LWM	2138	X	UA	NA	NA	NA	NA	UA	Govt
Sanya	1128	0	Monitoring but data	X	Monitoring but	NA	NA	Y	Govt

Demo/activity name	GEF ID	Pollution Baseline	Pollution Monitored	Habitat Baseline	Habitat Monitored	Fisheries Baseline	Fisheries Monitored	Functional or potential monitoring body	Type of monitoring body
			unavailable		data unavailable				
Shankou-Weizhou	1128	0	Monitoring but data unavailable	X	Monitoring but data unavailable	NA	NA	Y	On-site monitoring center
Shantou	3309	UA	X	0	X	0	Completed	UA	University
Trat	885	NA	NA	X	Monitoring but data unavailable	X	Monitoring but data unavailable	Y	Govt and university
Xiamen	396/597/2700	X	X	X	X	X	X	Y	Govt agencies, research institute and university

NA – no data expected because concern not targeted UA – unable to assess if data being collected for monitoring purposes or only for project compliance

Annex 11: Stakeholders Interviewed

Table 42. Sectors of Stakeholders Interviewed for the Evaluation by Country and at the Regional Level

SECTOR	CAMBODIA	CHINA	PHILIPPINES	THAILAND	VIETNAM	REGIONAL	TOTAL
Academe/ research	0	16	2	5	13	4	***40***
Bilateral donor	0	0	0	0	0	3	***3***
Community	1	10	2	25	34	0	***72***
Local government*	5	6	8	18	63	0	***100***
National government	7	21	6	17	17	3	***71***
Non-profit	0	1	0	0	3	0	***4***
Private sector	0	5	1	4	9	0	***19***
Project Mgt & IAs	4	7	3	6	14	24	***58***
Regional body	0	0	0	0	0	6	***6***
TOTAL	***17***	***66***	***22***	***75***	***153***	***40***	**373**

*includes 9 persons from protected area management group

Annex 12: Timeline of Evaluation

Table 43. Key activities of the evaluation

Date	Activity
October 2009	Upstream consultations on the evaluation questions and the candidate water bodies for evaluation
December 2009	Selection of candidate water catchments
March 2010	Selection of Technical Advisory Group (TAG) Circulation of Concept Paper among the TAG and IW Task Force Scoping visit to region
August 2010	Circulation of Draft Approach Paper to Reference Group and GEF Agencies and posting on the internet
September 2010	First Reference Group Meeting*
October 2010 to January 2011	Portfolio analysis Development of theories of change
December 2010	Approval of Approach Paper

April to October 2011	Data collection Field verification
June 2011 to May 2012	Drafting of case studies Additional desk reviews Data synthesis and analysis
September 2011	Second Reference Group Meeting*
July to September 2012	Writing of report
September 2012	Circulation of draft report to TAG, Reference Group and GEF Agencies Inter-agency meeting
October 2012	Response to comments Revision and finalization of report

*See GEF Evaluation office website for meeting reports and list of Reference Group members.

Global Environment Facility
Evaluation Office
1818 H Street, NW
Washington, DC 20433
USA

www.gefeo.org