

**Progress report by Component and Activities**  
As of March-~~November~~ 2013

| Component/Activities                                                                                                                                                                  | Budget in the Project Document                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       |                                       |
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|                                                                                                                                                                                       | GEF                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Co-finance                            | Total                                 |
| <b>Component A:</b><br>Global Partnership on Nutrient Management addressing nutrient over-enrichment of coastal zones, its causes and resulting eutrophication and dead zones in LMEs | 281,00<br>(+ 35,000<br>TA)<br>= 316,000                                                                                                                                                                                                                                                                                                                                                                                                                 | 311,000<br>(+139,500 TA)<br>= 450,500 | 592,000<br>(+174,500 TA)<br>= 766,500 |
| <b>A-1: Global partnership of stakeholders actively engaged in addressing nutrient over-enrichment in coastal waters</b>                                                              | <b>Progress as of November</b>                                                                                                                                                                                                                                                                                                                                                                                                                          |                                       |                                       |
| A-1/1: Engaging in international and regional fora to promote the GPNM and seek new members                                                                                           | Organized several events: GLOC (Jan); Rio+20 (June); CBD COP (October).                                                                                                                                                                                                                                                                                                                                                                                 |                                       |                                       |
| A-1/2: Developing a communication and outreach strategy – in combination with project partners                                                                                        | GPNM communication strategy drafted, Project one to be developed                                                                                                                                                                                                                                                                                                                                                                                        |                                       |                                       |
| A-1/3: Publishing and disseminating an advocacy manual on 'Effective Nutrient Management'                                                                                             | Foundation doc prepared. Will produce a revised version end 2013                                                                                                                                                                                                                                                                                                                                                                                        |                                       |                                       |
| A-1/4: Holding of GPNM global meetings                                                                                                                                                | Plan to hold a global meeting in June 2013 in Beijing, and another in the margin of GLOC -2 (October) and INI conference (November 2013)                                                                                                                                                                                                                                                                                                                |                                       |                                       |
| Holding of GPNM regional meetings                                                                                                                                                     | Caribbean and Asia meeting in preparation                                                                                                                                                                                                                                                                                                                                                                                                               |                                       |                                       |
| A-1/5: Engaging with other GEF LME projects e.g., BOBLME                                                                                                                              | Signed LOA with BOBLME. BOBLME is supporting Chilika pilot project (see Component D). BOBLME also agreed to support in undertaking a review of nutrient management policies and practices of South Asia in partnership with SACEP (South Asia Cooperative Environment Programme) followed by a regional workshop to develop national level nutrient management pan/strategy in selected member States of SCAEP that are also members of BOBLME project. |                                       |                                       |
| A-1/6: Developing and maintaining a separate partnership and project web based platform to present and project outcomes                                                               | Revamped GPNM web page and project info are in the GPA web site. Discussion under way with UNEP management to create a separate web site for the project                                                                                                                                                                                                                                                                                                |                                       |                                       |
| <b>A-2: Informing GEF projects, countries and stakeholders about the importance of nutrient over-enrichment and hypoxia, including economic and environmental costs</b>               |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |                                       |
| A-2/1: Global overview of nutrient over-enrichment; synthesis report                                                                                                                  | Summary circulated during the Rio+20. Full report will be ready end 2012                                                                                                                                                                                                                                                                                                                                                                                |                                       |                                       |
| <b>A-3: Ensuring access to continued guidance and support for the development of nutrient reduction strategies (this will be implemented with inputs from Component B &amp; C)</b>    |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                       |                                       |
| A-3/1: Holding of training workshops with the participation of IW Learn and GEF projects.                                                                                             | Organized a training workshop during the last GEF IW meeting, plan to hold a similar event in the 2013 during GEF IW meeting and GLOC-2.                                                                                                                                                                                                                                                                                                                |                                       |                                       |
| A-3/2: Establishment of a Community of Practice based on eXtension agricultural services,                                                                                             | Discussion in progress with ATI Philippines to develop the eXtension                                                                                                                                                                                                                                                                                                                                                                                    |                                       |                                       |



**Component B:**

|                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                                            |
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| <b>Component B:</b><br>Quantitative analysis of relationship between nutrient sources and impacts to guide decision making on policy and technological options                                                                                                       | 453,682 +<br>(35,000 TA)<br>= 488,682                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 564,665 +<br>(139,000 TA)<br>= 704,165 | 1,018,347 +<br>(174,500 TA)<br>= 1,192,847 |
|                                                                                                                                                                                                                                                                      | <b>Progress as of November</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                        |                                            |
| <b>B-1: Overview of existing tools for source-impact analysis of nutrients in LMEs and their target audiences</b>                                                                                                                                                    | Undertaken literature review on river export modelling. Based on this review study produced a scientific paper and this has been submitted for publication in the Bio-geosciences.<br><br><i>“Nutrient dynamics, transfer and retention along the aquatic continuum from land to ocean: Towards integration of ecological and biogeochemical models”</i> . ( <a href="http://www.biogeosciences-discuss.net/9/8733/2012/bgd-9-8733-2012-discussion.html">http://www.biogeosciences-discuss.net/9/8733/2012/bgd-9-8733-2012-discussion.html</a> ).<br><br>Authors: Bouwman, A. F., Bierkens, M. F. P., Griffioen, J., Hefting, M. M., Middelburg, J. J., Middelkoop, H., and Slomp, C. P |                                        |                                            |
| <b>B-2: Global database development with documentation of data on nutrient loading and occurrence of harmful algal blooms, hypoxia, and effects on fish landings, fish abundance, and composition of fish populations.</b>                                           | Signing of contracts between IOC/UNESCO and other partners are in progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |                                            |
| B-2/1: Data Base: Global-NEWS data for river nutrient export<br>Adapting the global model to answer/respond to the local needs<br>DHI MIKE model                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                                            |
| B-2/2: Data base: Nutrient release from aquaculture                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                                            |
| B-2/3: Global database development with data on coastal conditions, non-land based nutrient sources, as well as coastal effects collected from existing sources.                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                                            |
| B-2/4: Synthesis report and maps on occurrences of hypoxia and harmful algal blooms based on work of Diaz and Rosenberg’s work on hypoxia, the SCOR-LOICZ work group for harmful algal blooms, and additional IOC databases, such as HAEDAT                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                                            |
| B-2/5: Synthesis report “impacts on fisheries” based on data and model output from regions where Ecopath and EcoSim models have been run to develop relationships between fishery production and potential controlling variables such as nutrient inputs and hypoxia |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                                            |
| <b>B-3: Nutrient impact modeling for global and local to regional nutrient source impact analysis</b>                                                                                                                                                                | Signing of contracts between IOC/UNESCO and other partners are in progress                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |                                            |
| B-3/1: Enhanced predictive capability of models with respect to nutrient sources, loads, and coastal impacts                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                                            |
| B-3/2: Assessment of effects of nutrient loading in coastal marine ecosystems                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                                            |
| B-3/3: Analysis and maps of past, current and future                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                                            |

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| contributions of different nutrient sources, forms and ratios in watersheds to coastal effects                                                                                                                                       |                                                                            |
| <b>B-4: Development of regional models for the Manila Bay watershed of coastal effects</b>                                                                                                                                           | Signing of contracts between IOC/UNESCO and other partners are in progress |
| B-4/1: Data assembly for the Manila Bay watershed                                                                                                                                                                                    |                                                                            |
| B-4/2: High resolution river export model for Manila Bay rivers.                                                                                                                                                                     |                                                                            |
| B-4/3: Ecosystem model for Manila Bay                                                                                                                                                                                                |                                                                            |
| B-4/4: Validation of models and development of a summary model for Manila Bay                                                                                                                                                        |                                                                            |
| <b>B-5: Contribution of component B modelling and analysis outcomes to cost effective policy tool development under component C</b>                                                                                                  | Signing of contracts between IOC/UNESCO and other partners are in progress |
| <b>B- 6: Regional and national scientists and policy experts, particularly from developing countries, trained in using nutrient source-impact modelling, including in its use to analyze a range of nutrient reduction policies.</b> | Signing of contracts between IOC/UNESCO and other partners are in progress |
| <b>B-7: Nutrient source-impact guidelines and user manuals for integrated eutrophication assessment and nutrient criteria development</b>                                                                                            | Signing of contracts between IOC/UNESCO and other partners are in progress |

| <b>Component C</b>                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                   |                                           |                                        |
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| <b>Component C: Establishment of scientific, technological and policy options to improve coastal water quality policies in LMEs and national strategy development</b>                                                                                                                                                                               | 294,500 +<br>(35,000 TA)<br>= 329,500                                                                                                                                                                                                                                                                                                                             | 302,000 +<br>(139,500<br>TA)<br>= 441,500 | 596,500 +<br>(174,500 TA)<br>= 771,000 |
|                                                                                                                                                                                                                                                                                                                                                     | <b>Progress as of November</b>                                                                                                                                                                                                                                                                                                                                    |                                           |                                        |
| <b>C-1: Global inventory of nutrient reduction best practices</b>                                                                                                                                                                                                                                                                                   | A preliminary report has been prepared. Initial inventory complete of 290 practices from 55 countries including “hot spot” geographies; summary of current inventory outcomes complete                                                                                                                                                                            |                                           |                                        |
| <b>C-2: Case studies of what works</b>                                                                                                                                                                                                                                                                                                              | <b>In progress</b><br>Initial 3 project/best practice case studies completed with outreach and meetings with key international organizations including the International Plant Nutrition Institute, the American Society of Agronomists, the Natural Resources Conservation Service to provide additional inventory of best management practices and case studies |                                           |                                        |
| <b>C-3: Overview and synthesis of policy, technological, options etc. To be undertaken in conjunction with sub-project C1 and C2 above to maximize cost effectiveness.</b><br><br><b>(C1-3: Geographic distribution, source category including detergent and types of interventions) around 25-30. Detailed study design to be shared with PSC)</b> | A draft outline produced<br><br>Initial synthesis of early “hot spot” inventory completed, including linkages to cost-benefit analysis<br><br>A draft toolbox designed and now being discussed with relevant partners and agencies for further development                                                                                                        |                                           |                                        |
| <b>C- 4: Replication and scaling up through training workshops (Only in demo site + others interested) Chuck to write a concept note for discussion with other component leaders on the expectations before starting the activity</b>                                                                                                               | Completed initial training module and held training of 20 to 25 GEF project managers during the IWC 7. Revised training module based on synthesis of “hot spot” geography best practices.                                                                                                                                                                         |                                           |                                        |
| <b>C-5&amp;6: Consolidated Policy Tool Box and integration of Policy Tool Box with Component B source-impact modelling Toolbox for policy makers and practitioners</b>                                                                                                                                                                              | Had first meeting of experts from Component B and C                                                                                                                                                                                                                                                                                                               |                                           |                                        |
| <b>C-7: Engagement and capacity building training of at least 30 experts from key countries on the use/application of the Policy Tool Box, including in relation to the source-impact analysis (linked with B-6) 1st quarter of year 3</b>                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                   |                                           |                                        |

| COMPONENT D                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                              |                                     |
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| <b>COMPONENT D</b>                                                                                                                                                                               | 295,000 +<br>(35,000 TA)<br>= 330,000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 412,500<br>+<br>(139,500 TA)<br>=<br>552,000 | 717,500 + (174,500 TA)<br>= 882,000 |
| <b>Development of nutrient reduction strategies through the application of nutrient source-impact modelling and analysis and best practice measures and options in the Manila Bay watershed.</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                              |                                     |
| <b>D- 1:Strengthening the decision support system for Manila Bay watershed through improved nutrient data and information</b>                                                                    | <p>Based on the “Assessment of the Manila Bay Area Integrated Information Management System” (<i>annex 1 of PEMSEA progress report</i>) a two-stage integration workshop was conducted on August 22-24 and September 25-27, 2012 at the PEMSEA Office to establish an integrated IIMS database for the Manila Bay watershed, including the 3 DENR SMOs (Regions 3, 4a and NCR) and two ICM sites (Bataan and Cavite) in the area. The objectives for the two-stage integration workshops are as follows.</p> <p><b>Workshop 1 (August 22-24):</b> To conduct the integration workshop for the Manila Bay IIMS, particularly focusing on</p> <ul style="list-style-type: none"> <li>- Assigning unique record numbers (geocode) for each table of the IIMS, and</li> <li>- Reclassifying the records based on the new values of the dropdown menus.</li> <li>- Develop a work plan and agree on the timetable for the integration of the databases of the 3 SMOs and 2 provinces in addition to the old Manila Bay database.</li> </ul> <p><b>Workshop 2 (September 25-27)</b> objective was to establish an integrated Manila Bay IIMS databases, with server located at the PRF, particularly focusing on:</p> <ul style="list-style-type: none"> <li>- Importing of renumbered and adjusted records into the IIMS server;</li> <li>- Resolving any issues on redundancy; and</li> <li>- Action plan on the maintenance and updating of the IIMS databases in the Manila Bay area regions</li> </ul> <p><i>For details</i> see Report on the Workshops on the Integration of the Manila Bay Area IIMS Database (<a href="#">Annex 2 of PEMSEA progress report</a>)</p> |                                              |                                     |

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|                                                                                                                                                                                                                                                    | <p><u>IIMS Module 2 Training (February 20-22, 2013) the objective is to train the IIMS teams of the DENR Site Management Offices, Region 3.4A and NCR in the province of Bataan on IIMS query system.</u></p> <p><u>For details see Report on the Training, Annex 1 of PEMSEA Progress Report 2.</u></p> <p><u>On the preparation of the State of the Coast (SOC) Report for Manila Bay, a series of inception workshop were conducted for the provinces of Pampanga (November 29, 2012), Bulacan (December 3, 2013) and Bataan (January 25, 2013). The inception workshops aimed to : 1) provide an overview of the ICM framework and process and update the members of the TWG on ICM on the progress made on the development of ICM program in Bulacan; 2) discuss the benefits of SOC in determining baseline conditions and priorities that can be addressed in the ICM program; 3) discuss the processes of establishing the reporting system and development of SOC baseline report; 4) clarify the roles and responsibilities of the SOC Task Team, and 5) show how the SOC reporting is linked to subsequent activities of the ICM program.</u></p> <p><u>For details see Reports on the Inception Workshops, Annexes 2,3,4 of PEMSEA Progress Report No. 2.</u></p> |
| <p><b>D – 2: Building the Foundations and Agreement with government agencies and stakeholders on nutrient reduction strategies to be implemented in the Manila Bay watershed, including their integration into regional water quality aims</b></p> | <p>Discussion with various government agencies is in progress. Principle agreements have been reached with the following</p> <ul style="list-style-type: none"> <li>- Department of Environment and Natural Resources, including the Manila Bay Coordinating Office, Environmental Management Bureau</li> <li>- Laguna Lake Development Authority</li> <li>- Pasig River Rehabilitation Commission</li> <li>- Department of Agriculture, including the Bureau of Fisheries and Aquatic Resources, Fertilizer and Pesticides Authority, Bureau of Animal Industry, Bureau of Soils and Water Management, Agricultural Training Institute, National meat Inspection Service</li> <li>- Metro Manila Waterworks and Sewerage System, including Manila Water Company, Inc. and Maynilad Water Services Inc.</li> <li>- University of the Philippines – Marine Science Institute</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                        |

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|                                                                                                                                                           | <p>Also participated in a meeting convened by the World Bank (13 August 2012) to review, assess the different on-going and proposed modelling projects in the Manila Bay Area. The meeting was organised to identify areas of duplication or complementation among the different projects in order to maximize or share resources.</p> <p><b><u>Held discussions with the Manila Bay Coordinating Office on linkages of their 2013 work program, particularly in the Updating of the Manila Bay Area Environmental Atlas with the formulation of the nutrient reduction strategies and other related programs and activities.</u></b></p> <p><b><u>Discussed with the Agriculture Training Institute (ATI) to undertake a documentation and compilation of the various good practices/lessons learned in nutrient management in the agricultural sector in the Manila Bay watershed, covering chemical fertilizers, animal wastes and aquaculture. Awaiting ATI proposed work plan for this activity.</u></b></p> <p><b><u>Prepared a concept paper on Updating the Manila bay Area Atlas and Manila Bay Risk Assessment.</u></b></p> |
| <p><b>D-2/1: Building the foundations for the nutrient reduction strategies: application of first version source-impact models and best practices</b></p> | <p>In efforts to understand the dynamics of hypoxia and eutrophication in Manila Bay through “Hydrodynamic and Watershed Modelling in support of Component B of the project following activities have been carried out (for details see Annex 4 of PEMSEA progress report).</p> <ul style="list-style-type: none"> <li>- A bay-wide survey of Manila Bay was completed 28-29 August 2012 onboard the BFAR MCS 3008 vessel headed by Capt. Roy Dela Costa of BFAR with staff from the Philippine Coast Guard. A total of 31 stations were surveyed and water samples collected at 3-4 depths per station.</li> <li>- Laboratory analysis and research work completed on ‘dissolved organic carbon analysis.</li> <li>- Attendance in the Asia Oceania Geosciences Society (AOGS) and American Geophysical Union (AGU) Western Pacific Geophysics Meeting 13-17 August 2012 in Singapore.</li> </ul> <p><b><u>Nutrient analysis of the results of laboratory work on the August 21012 samples was prepared and report indicated the following:</u></b></p>                                                                              |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p><u>- Surface inorganic nitrogen (nitrate + nitrite) was found to be high near the coast of Cavite and Bataan with values ranging from 4 – 8 µM. At the bottom, inorganic nitrogen was highest off Bataan with values ranging from 12.5 – 15 µM but values for the southern part of the bay were mostly high as well, ranging from 6 – 10 µM, which is beyond the ASEAN criterion for nitrate+nitrite of 8 µM.</u></p> <p><u>- Surface phosphate was also highest off Bataan and Cavite ranging from 3 – 4 µM exceeding the threshold of 1.45 µM. Most of the surface phosphate values ranged from 1.5 – 2 µM. At the bottom, phosphate values were again highest off Bataan and Cavite at 2.5 – 3 µM.</u></p> <p><u>For details see Annex 5 of PEMSEA Progress Report 2.</u></p> |
| <p><b>D-2/2: Development and application of the final source-impact models for Manila Bay in developing nutrient reduction strategies</b></p> <p>Data gathering will focus into two major rivers <u>Laguna de Bay-Pasig River</u> and <u>Pampanga River</u> in cooperation with DENR. This will be in the light of IIMS presented plus needs of the Modellers</p> <p>Year 2 strategy development with support from ETH Zurich specially to address socio economic issues</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>D-2/3: Presentation and adoption of final nutrient reduction strategies integrated with broader water quality objectives for region</b></p>                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>D- 3: Development and application of an ecosystem health report card on nutrients in Chilika Lake and Laguna de Bay</b></p>                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p><b>D-3/1: Development and application of an ecosystem health report card on nutrients in Chilika Lake</b></p>                                                                                                                                                                                                                                                                                                                                                             | <p>Expert group consultation held and agreed on the design and indicators of the ecosystems health that to be reflected in the Report Card.</p> <p>Government of Odisha endorsed the proposed Report Card system</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p><b>D-3/2:Application of an ecosystem health report card on nutrients in Laguna de Bay</b></p>                                                                                                                                                                                                                                                                                                                                                                             | <p>The Laguna de Bay acting CEO attended the Chilika workshop and agreed to replicate the Report Card system in Laguna de Bay. Laguna de Bay CEO also attended the side vent during the CBD COP in Hyderabad organised by our project partners i.e., NCSCM Ministry of Environment and Forest, Govt. of India and CDA.</p> <p>After the first set of results from Chilika, plan to hold a meeting in Laguna de Bay early 2013</p>                                                                                                                                                                                                                                                                                                                                                   |

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**Comment [A1]:** Anjan and Adrian, should'nt this be Pampanga as agreed during the inception workshop.

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| <b>D-4: Consolidation of lessons learned for replication, holding of workshop for dissemination and up-scaling.</b> |  |

| <b>Component E</b>                                     |         |         |         |
|--------------------------------------------------------|---------|---------|---------|
| <b>Component E: Monitoring and Evaluation</b>          | 100,000 | 60,000  | 160,000 |
| <b>E-1: Monitoring of progress by PCU</b>              |         |         |         |
| <b>E-2: Evaluation of performance and achievements</b> |         |         |         |
| <b>Component F</b>                                     |         |         |         |
| <b>Component F: Project Management and Oversight</b>   | 154,000 | 190,000 | 344,000 |
| <b>F-1: Project management through PCU</b>             |         |         |         |
| <b>F-2: Project guidance through PSC</b>               |         |         |         |
| <b>F-3: Overall project supervision by UNEP</b>        |         |         |         |