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UNEP GEF Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem

Annexes I to IV of the Inception Report of the Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem (MedPartnership)

Together for the Mediterranean Sea

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Annex I. Logframe Matrix

Table I-1. Logframe Matrix for the Strategic Partnership

Results	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
Long-term Goal: To reverse the trend of water quality and biodiversity degradation in the Mediterranean.	By end of 10 years Impact: • Reduced land based pollution; • Reduced loss of bio-diversity; • Reduced eco-system degradation; • Reduced stress at water-body level. In line with MDG/WSSD Environmental targets	- MAP coordinated long-term monitoring programme; - Data from various Mediterranean monitoring programs (government, institutions etc).	- Efforts to reduce stress will outweigh projected increases of biodiversity loss and pollution in the basin.
Outcomes			
Integrated Mediterranean Seas large marine eco-system (LME) preservation & protection program implemented.	By end of 5 years: 1. National & Regional Policy, legal & institutional reforms adopted and ready for implementation in minimum of 6 countries; 2. Hotspots and sensitive areas of national priority previously identified in NAPs and SAPs with improved environmental conditions (15% of major hotspots/sensitive areas identified in TDA); 3. All client Countries involved in replication/facilitation activities; 4. Leveraged financing for multiple investments and policy measures. Strategy developed for links with private sector; 5. Long-term Barcelona Convention and MAP based framework in place and operational ensuring the sustainability of the SP beyond the life-span of the project.	- Legal, policy and institutional reforms endorsed or in the process of endorsement, monitored through the Barcelona Convention mechanisms; - Reports of SP Focal Points on Inter-ministry Committee Meetings submitted to the SC; - Reports from the Co-ordination Group and Steering Committee; Completed work-plans; - APR, HPR, PIR reports; - WB and RC projects reports; demonstration indicators verified; - Reports of the Contracting Parties to the Barcelona Convention	- Countries commit necessary resources for implementation of SAPs and NAPs, and dissemination/ replication activities;; - All stakeholders will collaborate and participate actively in the activities and demonstration projects; - Countries are committed to prioritizing SAP and NAP implementation.
Outputs			
A. Investment Fund Implemented 1. Innovative, cost-effective investments in specific country contexts promoted/implemented.	1.1 Selection criteria, sector priorities and identification/preparation mechanism established and operational; 1.2 IF Demonstration projects identified, funded, implemented, evaluated and reported;	- IF projects provide inputs to SP replication and regional workshops; - IF project reports; Bank supervision mission reports; - Bank Country Assistance Strategies, PRSPs	-
B. Regional Component Implemented 2. Increased knowledge of countries and donors on most innovative projects/ technologies that address regional priority objectives. 3. Enhanced capacity of country governments to implement	2.1 Development, training and demonstration of new tools/techniques and guidelines to address SAP priorities in all countries and widely disseminated; 2.2 Participation of countries and donors in project activities; 2.3 Communication strategy to ensure wide dissemination of project results. 3.1. National & Regional Policy, legal & institutional reforms drafted, based on needs identified in SAP MED and SAP BIO in all participating countries; 3.2. Relevant institutions in all countries strengthened;	- No of institutions adopting new tools/techniques and guidelines; - No of policy documents drafted and adopted; - APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports; - Inter-ministerial meeting reports - Workshop reports; - Thematic reports; - Publications;	- The legislative agencies of the participating countries will collaborate and participate actively in the activities related to the regulatory-legal framework; - Willingness of high-level decision makers to participate in the Project; - National and local governments continuously support the preparation

Results	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
policies and strategies that address SAP priorities. 4. Stress reduction measures monitored at water-body level. 5. Increased scientific knowledge concerning the coastal zone, pollution and biodiversity of the Mediterranean.	3.3. Participation of all relevant stakeholders in project activities and SAP/NAP implementation 4.1 Demonstrations (approx. 31) implemented and monitored for stress reduction over the period of the project (see M&E plan). 5.1 Assessments (approx. 6) undertaken related to coastal aquifers, nutrient fluxes, MPA's, by-catch and unsustainable fishing	- GIS maps.	and implementation of relevant strategies, NAPs and demo projects.
C. SP Coordination Group established & operational Replication/Information & Communication strategy for scaling up successful practices within and across countries fully developed.	5.1 20 potential Replicable Practices (RPs) identified, i 5.2 Regional replication strategies designed Information & Communication Strategy for the Strategic Partnership developed, improving access to, and sharing of, information, results and lessons learned with all key stakeholders informed of SAP and project activities, and sharing of lessons learned.	- APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports; - PRT documents and reports; - RP Assessment documents; - Info material and reports; • RP final documents. - Videos, reportages, documentaries, web-site, Clearing-house, campaign reports	• Full availability of the information related to investment/demonstration/pilot projects; • High level of commitment of the members and experts participating in the PRT; • Favorable environmental and socio-economic conditions for the correct identification of RPs; • Reliability of data and analysis. Availability to share data; • Favorable National political context; • Level of collaboration and by in by national stakeholders; - Availability of sufficient financial resources and good quality project results.
6. Resource mobilization strategy/financing mechanism developed introduced.	6.1 Establishment of a sustainable financing resource capacity/platform in the region. 6.2 Collection and diffusion of information and policy briefs on contemporary and available financial practices; 6.3 Preparation of guidelines for public sector investment and private sector participation in environmental financing and of "Tool Kits" and guidelines for establishing and implementing financial strategies; (MAP and World Bank)	- APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports; - Policy briefs prepared and disseminated; - "tool kits" and guidelines for setting up and implementing financial strategies;• - Guidelines for public sector investment planning and private sector participation; - Training of environmental finance experts/officers.	- Cooperation from Ministries of Finance;• - Cooperation from private and public sectors; - Stakeholders collaborate and participate actively in the activities.
7. SP coordination of project team(s), committees, donors and	7.1 Establishment of a Strategic Partnership Project Steering Committee (SPSC) to engage all key stakeholders involved in SAP-MED and SAP-BIO implementation;	- APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports.	- Cooperation of SP Focal Points; - Information exchange between

Results	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
governments programs.	7.2 Establishment of a Strategic Partnership Co-ordination Group (SPCG); 7.3 Identification and design of sub-projects under the Investment Fund component reflect systematic interactions within the context of the coordination mechanisms of the Regional Project component.		all relevant focal points and ministries participating in the project - Cooperation of private sector and donors in the SP
8. Monitoring & Evaluation System	8.1 Integrated M&E system established & operational based on the Project Log-frame, Annual Work Plans & Budgets and the 12 month M&E plan. 8.2 Outcomes-Goal progress assessed annually in APR, Output-Outcome progress assessed half-yearly in HPRs, and implementation progress assessed in the PIRs, external Mid-term and Final Evaluations . 8.3 Periodic/Specific Thematic Reports provided as requested	- APR, HPR, PIR reports; - Project Steering Committee Meeting reports; - Co-ordination Group Meeting Reports; - M&E.	- Partners to the SP successfully complete all activities/demonstrations as per work-plan - Coordination Group adequately monitoring all projects activities throughout implementation
9. Long term Regional Framework developed.	9.1 Long-term Barcelona Convention and MAP based public/private strategic framework in place	- Reports of MAP; - Recommendations approved by the CoP of the Barcelona Convention.	- Cooperation of private sector and donors - MAP ensures continuation of framework as part of its mandate

Table I-2 Logframe Matrix for the Regional Component of the Strategic Partnership

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
Objective: To promote and induce harmonized policy, legal and institutional reforms and fill the knowledge gap aimed at reversing marine and coastal degradation trends and living resources depletion, in accordance with priorities agreed by the countries in the SAP MED and SAP BIO and to prepare the ground for the future implementation of the ICZM Protocol.	**Key Indicators:** - Adoption and implementation of regional and national policy/legal/institutional reforms in all countries; - Regional and National institutions strengthened in all countries; - Increased scientific knowledge of the Mediterranean: Assessments (min. of 6) undertaken related to coastal aquifers, nutrient fluxes, MPA's, by-catch and fishing practices- - Participation of most relevant stakeholders in project activities and SAP/NAP implementation - Development, training and demonstration of new tools/techniques and guidelines to address SAP priorities in all countries and widely disseminated - Replication strategy designed and implemented with a minimum of 20 new replication projects identified **Key SR Indicators to include**: - 25,000 ha coastal zone managed through application of ICZM and IWRM, initiatives for additional 10.000 ha - 20,000 ha of land with appropriate aquifer and groundwater management in place - Pollution reduction of min. 50% at demonstration sites (Cd, Hg, Pb, Cr, BOD and total nitrogen) - 50% of lubricating oil and lead batteries recycled at demonstration sites - 870 tons of PCB's removed and disposed (in five countries), at the selected demonstrations sites. - Surface area covered by MPA's will be increased by 10% (from 9,732,600 to 10,705,860 hectares) Unsustainable fishing practices activities identified at priority sites (covering 30,000 ha)	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; Legal, policy and institutional reforms endorsed or in the process of endorsement, monitored through the Barcelona Convention mechanisms	- Willingness of high-level decision makers to participate in the Project; National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects
Component 1: Integrated approaches for the implementation of Saps and NAPs: ICZM, IWRM and Management of Coastal Aquifers.			
1. Regional legislation addressing ICZM, IWRM and aquifer managements as mechanisms to protect the Mediterranean from biodiversity loss and pollution from land based sources.	1.1 Regional legislation drafted and presented to the CoP for adoption: - Regional Action Plan for Coastal aquifers; - Regional Plan for eco-hydrogeological management, land degradation and protection of priority coastal wetlands; - Strategy for Water in the Mediterranean in the framework of the Union for the Mediterranean.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Legal, policy and institutional reforms endorsed or in the process of endorsement, monitored through the Barcelona Convention mechanisms.	- Willingness of high-level decision makers to participate in the Project; - National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects;
2. Regional and National institutions strengthened for ICZM and IWRM.	2.1 Sub-regional/National Plans drafted and applied in demonstration areas: - ICZM NAPs drafted through a participatory approach and adopted for minimum of 2 countries;	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Sub-regional/national plans and	- Willingness of high-level decision makers to participate in the Project; National and local governments

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
	- ICZM Plans to demonstrate ICZM approach, tools and techniques in two areas, one of them transboundary; - IWRM catalytic actions for national IWRM planning implemented for 4 countries; - IRBM plans for 2 water bodies prepared in parallel with ICZM and Coastal Aquifer. 2.2. New tools and guidelines developed and applied in demonstration areas: - COED assessments methodology and practice presented at at Regional Workshop and disseminated; - Coastal aquifer and land management approaches developed and implemented at 3 demonstration sites and eco-hydrogeology applications for management and protection of coastal wetlands; - Integrated Transboundary Water Resources Management introduced in 6 water bodies. - Integrative Methodolgical Framework developed and applied in 2 ICZM Plans 2.3 Min of 24 ICZM/IWRM related institutions strengthened. 2.4 Case study for harmonizing national institutional arrangements and legislation with ICZM Protocol. 15 juridical practitioners trained on implications of national ratification of the Protocol.	guidelines drafted and in the process of adoption; - number of newly adopted national policy documents on ICZM and IWRM in support of the implementation of SAP MED and SAP BIO; - number of national and local institutions' staff dealing with ICZM and IWRM trained on systemic inclusion of relevant issues in national policy framework for pollution reduction and biodiversity protection.	continuously support the preparation and implementation of relevant strategies, NAPs and demo projects.
3. Stress reduction measures achieved through ICZM, IWRM and management of aquifers and monitored at water-body level.	3.1 Minimum of 2 joint ICZM, IWRM and aquifer and land management demonstrations implemented, disseminated and analyzed for their replicability. 3.2 Stress Reduction: - 15,000 hectares of land directly impacted by intervention for 5 countries (coastal urban, coastal plains/agriculture, and upper watersheds, to address LBS, coastal salinization, through coastal sedimentation and siltation, flooding, wetland sedimentation); - 300 Hectares of groundwater dependant wetland under proper groundwater resources management; - 2 demonstrations resulting in 25,000 hectares of coastal zone managed through application of ICZM and IWRM. - Replication initiatives to include ICZM and IWRM for additional 10.000. ha of land and 20.00.0 ha of CZ areas	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings - Demonstration reports - Regional and national workshops reports;	Cooperation of National and local governments.
4. Sustainable financing opportunities established.	4.1 Priority intervention and investment opportunities for IWRM identified in approximately 5 shared CZs and water bodies. 4.2 Methodology for selection, implementation and sustainable	Assessment reports and funding mechanisms	Cooperation of countries and donors.

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
	financing of pilot ICZM projects and actions will be drafted and distributed.		
5. Increased scientific knowledge concerning the management of aquifers and groundwater.	5.1. Scientific assessments: - Assessment of risk and uncertainty related to Mediterranean coastal aquifers in all countries; - Coastal vulnerability mapping of aquifers in selected sites, and the production of GIS maps in 3 countries; Assessment of land degradation in the context of ICZM.	- APR, HPR, PIR reports; - Thematic reports; - Publications.	- timely mobilization of CA vulnerability mapping teams and pilot area surveys; -countries' cooperation and support in facilitating vulnerability mapping filed survey, data collection and capacity building.
Component 2. Pollution from land based sources, including Persistent Organic Pollutants: Implementation of SAP MED and related NAPs			
6. Increased capacity of basin countries to implement policies and strategies that address SAP MED and the NAPs priorities.	6.1 National legal and policy documents drafted (min. of 5) incorporating the SAP-MED priorities and in process of adoption by the countries. 6.2. Implementation initiated for a minimum of 8 NAP priorities in participating countries as a result of project activities and pilot projects, and monitored though Barcelona Convention mechanisms. 6.3. Management plans/guidelines developed and applied for the reduction of pollution from land-based sources. - ELV (and EQS) in all countries; - Guidelines for pollution reduction (phosphogypsum wastes, tannery effluents, the recycling of lubricating oil and lead batteries) in all countries; - Plans of action for permitting, compliance and inspection systems in 8 countries.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - number of newly adopted national policy documents in support of the implementation of SAP MED; - Guidelines adopted; - Training materials; reports of the workshops of national and regional experts in private and public sectors; - Plans of action endorsed for the uniform approach to permit and inspection; ELV and EQS approved by national authorities;	- The legislative agencies of the participating countries will collaborate and participate actively in the activities related to the regulatory-legal framework; - Availability of funding from industries; - Stakeholders agreement on ELV and EQS; - Agreement of national authorities on the ELV· and EQS; - Stakeholders collaborate and participate actively in the activities;
7. Increased knowledge of countries and donors on innovative technology to reduce pollution and increased scientific knowledge.	7.1. Capacity built at national level on integrated approach to industrial environmental management (TEST approach) and EST demonstration projects implemented at target enterprises. 7.2 Assessment riverine fluxes of nutrients to the Mediterranean.	Contact with target enterprises to verify ISO certification; Communication/Revisit the target enterprises to check production results and monitoring figures.	Enterprises will apply for ISO certification.
8. Stress reduction measures achieved through demonstration projects and monitored at water-body level.	8.1 Pilot projects (9) implemented, widely disseminated and analyzed for their replicability, resulting in 50% pollution reduction at the demonstration sites of: - cadmium (Cd) from phosphogypsum wastes; - mercury (Hg) from phosphogypsum wastes; - lead (Pb) from phosphogypsum wastes; - Cr from tannery effluents; - BOD from tannery effluents; - total nitrogen from tannery effluents. 50% of lubricating oil and lead batteries recycled at demonstration sites	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Thematic reports.	Cooperation of National and local governments, institutions and industry in project activities

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
	8.2 Demonstration measures and investments to reduce industrial pollution at 12 companies 8.3 Water productivity at demonstration enterprises increased by 40% 8.4 Reduction of pollution loads at the demonstration enterprises.		
9. Initiation of NAP/NIP implementation for the ESM of equipment, stocks and wastes contaminated with PCBs in national electricity companies of Mediterranean countries	9.1 Five countries with strengthened administrative capacity, including chemicals management administration within the central government; 9.2 Five countries with strengthened legislative and regulatory frameworks for the management of POPs; 9.3 Five countries with strengthened capacity for enforcement and disposal; 9.4 Demonstration projects implemented in five countries, with 870 tons of PCB's removed and disposed. 9.5 Five countries are sensitive to the Environmentally Sound Management (ESM) of PCBs. 9.6 Five countries with strengthened technical capacity for Environmentally Sound Management (ESM) of PCBs.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Thematic reports; - Disposal certificates - Workshop, training courses and awareness reports	The legislative agencies of the participating countries will collaborate and participate actively in the activities related to the regulatory-legal framework; Cooperation with NIP coordinators Target stakeholders actively participate in the awareness workshop, training courses and distribution of awareness materials
Component 3. Conservation of biological diversity: Implementation of SAP BIO and related NAPs			
10. Countries have the capacity to conserve regionally important coastal and marine biodiversity through the creation of an ecologically representative, coherent and effective MPA network in the Mediterranean region supported by a region-wide network of MPA managers.	10.1. Participation of all key regional and national stakeholders in MPA creation process (Activities 3.1.1.2, 3.1.1.3, 3.1.1.2) 10.2. Management of MPA's strengthened in 5 pilot sites, including the finalisation of 7 management plans (Activities 3.1.3.5, 3.1.3.6, 3.1.3.7, and 3.1.4.3) 10.3. Minimum of 30 agreements implemented to apply MPA management learnt tools and methods through activities agreed during the regional training workshops (Activity 3.1.3.1) 10.4 On-job trained local personnel on the many aspects of MPAs field management (Activity 3.1.3.4) 10.5. The existing MedPAN network of MPA managers is effectively expanded by including organisations/institutions from the project beneficiary countries (Activities 3.1.3.3, 3.1.3.2 and 3.1.2.7) 10.6 4 countries receive support for strengthening their long-term financial sustainability (Activity 3.1.4.2, 3.1.4.1, 3.1.4.4) 10.7. Priority areas identified and a minimum of 3 new MPAs in the process of declaration, with management plans. Surface area under	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - Thematic reports; - Workshop reports. - Reports of the training workshops	- Willingness of high-level decision makers to participate in the Project; - National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects - The integrated nature of the project (three implementing agencies) means that co-financing or delivery failure may have implications for other activities and sub-components; - co-financing or delivery failure may have implications for activities. - Sufficient information is already available to identify regional coastal and marine biodiversity representiveness and distribution. - Regional biodiversity priorities can be reconciled with national

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
	national jurisdiction covered by MPA's increased from 1 to 5% (starting from 982,600 hectares) (Activities 3.1.2.1, 3.1.2.2, 3.1.2.3, 3.1.2.4, 3.1.2.5,) 10.8. A regional communication strategy for MPAs is developed and implemented (Activity 3.1.1.4)		intentions. - Political will exists or can be developed to support SPAMIs and to enforce them through monitoring, control and surveillance (MCS). - An independent project monitoring and evaluation function can be developed that will inform project management of project activity outcomes and overall goal achievement on a timely basis. - The designation by the countries of participants to attend the training activities could be inadequate
11. Countries have the capacity to sustainably utilize coastal and high seas fisheries resources through the adoption of the ecosystem approach to fisheries management, including the application of targeted interventions to reduce bycatch and unsustainable fishing	11.1 Ecosystem approach to fisheries mainstreamed into fisheries management policies and activities: 11.1.1- EAF-related priorities identified for the four directly targeted countries, in consultation with the main fisheries institutions - -11.1.2- Fisheries Institutions in at least three of the directly targeted countries have drafted plans to integrate EAF considerations into their work - 11.1.3- Key staff of the main fisheries institutions in at least three of the directly targeted countries are able to participate in discussions on the application of EAF - 11.1.4- The main gaps/needs of the fisheries legal and management system relative to the application of EAF have been identified in the four directly targeted countries, and 4 to 5 proposals for improvement of the fisheries legal and management framework system have been drafted for at least three of the target countries 11.2 Bycatch issues: - 11.2.1 Main patterns of by-catch of iconic and vulnerable species have been identified for at least one métier in each of the two target countries, and reports are available with this information - 11.2.2- At least 50% reduction of bycatch of endangered/iconic species achieved during the demonstration tests 11.3 Fisher's participation in MPA management 11.3.1- At least 15% of all fishing trips in the selected MPA are monitored with fisher's participation using an adequate design	- Thematic reports; - Consultancy reports; Workshop reports, FAO reports Dissemination materials produced by the project Internet websites	- High-level decision makers are willing to participate in the Project; - National and local governments continuously support the preparation and implementation of relevant strategies, NAPs and demo projects - National fisheries institutions have enough staff to dedicate to the tasks of the project; - Relevant stakeholders, especially fishers, are willing to participate in the activities; - MPA managers in the selected MPA's are willing to involve fishers in the monitoring and management procedures
Component 4. Project Coordination, Replication and Communication strategies, Management and M&E[1]			
12. Effective project management of the regional component established and coordination and synergy	12.1 Project Management: - PMU, SPSC, SPCG, SPB established and functional; - Work plan adopted and implemented.	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings.	Effective communication/ collaboration with the PMU and all the implementing agencies

[1] The activities under Component 4 are aimed to provide support to both the Regional Component and Investment Fund of the Strategic Partnership

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
between the Regional Project and the Investment Fund components of the Strategic Partnership.	12.2 Project Co-ordination: - PMU, SPSC, SPCG, SPB meetings; - All countries have established inter-ministry committees; - Identification and design of sub-projects under the Investment Fund component reflect systematic interactions within the context of the coordination mechanisms of the Regional Project component.		
13. Replication and Informatio & Communication mechanisms designed and implemented for Replicable Practices (RPs) under the MedPartnership, with results communicated and disseminated	13.1 Replication Strategy for the RC - Project Replication team established with ToRs; - Accessibility of information: data via the web-portal, meetings, workshops held; - 20 potential Replication Practices (RPs) identified. - Regional replication strategies developed, including their funding mechanisms. - - Replication Potential assessment completed with selected Replication Practices; - Replication potential catalyzed at the national level: potential RPs have a specific section with complete data sets and strategy for their replication. 13.2 Information & Communication Strategy: - Information material regarding the project activities disseminated to selected target groups; - Number of planned events; - Web-site designed, on-line and updated; Number and success of campaigns to the general pubic (including civil society interest groups).	- APR, HPR, PIR reports; - Reports from the SPCG, SPSC and inert-agency meetings; - PRT documents and reports; - - ; - RP Assessment documents; - Info material and reports; - RP final documents; - Leaflets, brochures, etc.;· - - Videos, reportages, documentaries, - web-site, - Clearing-house, - campaign reports	- Full availability of the information related to investment/demonstration/pilot projects; - High level of commitment of the members and experts participating in the PRT; - Favorable environmental and socio-economic conditions for the correct identification of RPs; - Reliability of data and analysis. Availability to share data; - Favorable National political context; - Level of collaboration and by in by national stakeholders Availability of sufficient financial resources and good quality project results.
14. Involvement of all key stakeholders in the project activities and SAP implementation process	14.1 Effective national inter-ministry coordination through the establishment of inter-ministry committees in all countries 14.2 NGO/CBO's present and participate in: stakeholder consultation meetings, advisory bodies, managing/decision making bodies of the project, and monitoring and evaluation activities. 14.3 NGO involvement plan published and all stakeholders have a copy early in project implementation	- Regional and national workshops reports; - Project progress reports, Project monitoring and evaluation reports; - Qualitative analysis on how effective NGO involvement has been - to be conducted at the end of the project; - Related references in reports of regional (Barcelona Convention, Barcelona Process, etc.), sub-regional and national processes; Media coverage.	- Level of collaboration and by in by national stakeholders; - Availability of sufficient financial resources and good quality project results; - Political willingness to cooperate and to activity participate in the project programs and initiatives; - Stakeholders collaborate and participate actively in the activities; Stakeholder Involvement Plan implemented successfully.
Project Activities:			
<u>Component 1 Integrated approaches for the implementation of the SAPS and NAPS: ICZM, IWRM and management of coastal aquifer</u> <u>Sub-Component 1.1. Management of Coastal Aquifers and Groundwater</u> 1.1.1 Assessment of risk and uncertainty related to Mediterranean coastal aquifers 1.1.1.1. Assessment of risk and uncertainty related to the Mediterranean coastal aquifer			

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
1.1.1.2. Coastal aquifer vulnerability mapping: Pilot Project in one selected country 1.1.1.3. Coastal aquifer supplement to TDA-MED: Development of a coastal TDA supplement 1.1.2 Regional actions for Costal Aquifer Management 1.1.2.1. Development of a regional Action Plan on Coastal Aquifers 1.1.2.2. Integration of groundwater management in ICZM and IWRM planning systems 1.1.2.3. Identification and planning of coastal groundwater demonstrations 1.1.2.4. Sustainable Coastal land management 1.1.2.5. Implementation of eco-hydrogeology applications for management and protection of coastal wetlands 1.1.2.6. Coastal aquifer supplement to SAP MED, SAP BIO and NAPs 1.1.3 Legal, Institutional and policy reform for Coastal Aquifer management 1.1.3.1. Policy/legal/institutional regional assessment for coastal aquifer management 1.1.3.2. Policy/legal/institutional reforms, institutional development for coastal aquifer management 1.1.4 Spatial technology application –cross cutting activity			
Sub-Component 1.2. Integrated Coastal Zone Management 1.2.1 Support activities in preparation of National ICZM Strategies and NAPs 1.2.1.1. Strengthening the role of ICZM as a policy framework for biodiversity protection (capacity building activities, regional workshop, dissemination of results) 1.2.1.2. Support to the preparation of two ICZM National Strategies and NAPs (Regional Outline, Regional Conference, draft ICZM NAPs, National conferences on ICZM NAPs, dissemination) 1.2.1.3. Harmonizing national institutional arrangements and legislation with ICZM Protocol for the Mediterranean (reg. Outline, Nat. case study, converging documents, dissemination) 1.2.1.4. Developing/strengthening of coastal legislation and integration of Groundwater Management (GWM) and WRM into ICZM 1.2.1.5. Improved integrative planning and use of ICZM methodology and tools to support the ICZM Protocol, in particular with reference to GWM, IWRM and BD protection (appication in two ICZM Plans, presentation of sectoral COED assessments, Vulnerability Assesments, and Integrative Methodological Framework; capacity building and network of experts) 1.2.2. Application of ICZM approach, tools, and techniques in demonstration areas 1.2.2.1. ICZM Plans to demonstrate ICZM approach, tools and techniques in two selected areas, out of which one transboundary area (drafting and finalizing ICZM plans, Conferences.) 1.2.2.2. Capacity building for effective implementation and sustainable financing of pilot ICZM projects Regional document, Regional Workshop, dissemination) 1.2.2.3. Co-ordination and harmonization of ICZM component with other components' activities in demo projects			
Sub-Component 1.3. Integrated Water Resources Management (IWRM) 1.3.1 Contribute to Developing the new Strategy for Water (SWM) in the Mediterranean 1.3.2 Catalyse Action and Build capacity on National IWRM Planning in 4 target countries 1.3.3 Develop Integrated Resources Basin Management (IRBM) in globally important river basin(s) and adjacent coastal area			
Component 2. Pollution from land based activities, including Persistent Organic Pollutants: implementation of SAP MED and related NAPs Sub-Component 2.1. Facilitation of policy and legislation reforms for pollution control – Industrial Pollution pilot projects (based on NAP priorities): 2.1.1 Phosphogypsum slurry management· 2.1.2 Chromium and BOD control of tanneries effluent 2.1.3 Lubricating oil recycling and regeneration 2.1.4 Lead batteries recycling 2.1.5 Assessment of the magnitude of riverine inputs of nutrients into the Mediterranean Sea 2.1.6 Setting Emission Limit Values (ELV) in industrial effluents and Environmental Quality Standards (EQS) Sub-Component 2.1. Facilitation of policy and legislation reforms for pollution control – Permit, Inspection and Compliance Systems: 2.1.7 Permit, Inspection and Compliance Systems: meeting among agencies responsible for permitting, inspections and enforcement to form plans of action for permitting, compliance and control 2.1.8 Training workshop to provide practical guidance and uniformity on inspecting on the most commonly polluting and industrial facilities of the country. 2.1.9 National final meeting for the assessment and feedback to propose solutions for the formulation of amendments to the existing legislation.			
Sub-Component 2.2. Transfer of Environmentally Sound Technology (TEST-MED) 2.2.1 Set up national focal points 2.2.2 Introduction of the TEST integrated approach			

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
2.2.3 Set-up of the information management system 2.2.4 Identification and selection of demonstration enterprises 2.2.5 Preparation of initial review at demonstration enterprises including market and financial viability and initial environmental review 2.2.6 Implementation of a Cleaner Production Assessment (CPA) 2.2.7 Introduction of EMS principles and design of EMS at demonstration enterprises 2.2.8 Introduction of Environmental Management Accounting practices and design 2.2.9 Evaluation of Phase I of the TEST Project 2.2.10 Preparation and promotion of EST projects 2.2.11 Investment promotion of identified EST project 2.2.12 Evaluation of Phase II of the TEST Project 2.2.13 Introduction of basic principles for the preparation of enterprise sustainable strategies (SES) 2.2.14 Preparation of National Publication on the application of the TEST approach; 2.2.15 Organization of seminars 2.2.16 Organization of introductory seminars on TEST approach at other enterprises in each country 2.2.17 Organization of a regional workshop to present the results of TEST Med projects 2.2.18 Starting of networking activities			
Sub-Component 2.3. Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries 2.3.1 Legislative and institutional framework for implementation of ESM of PCBs 2.3.2 Demonstration projects to improve the management programme of PCBs and facilitate the implementation of NIPs and MED-SAP Guidelines for PCBs management implemented 2.3.3 Awareness of importance of ESM of PCBs equipment 2.3.4 Technical capacity for ESM of PCBs equipment 2.3.5 National capacity to implement PCBs phase-out and disposal programs			
Component 3: Conservation of biological diversity: implementation of SAP BIO and related NAP Sub-Component 3.1. The conservation of coastal and marine diversity through development of a Mediterranean MPA Network 3.1.1 Establishment of coordination mechanism for regional MPA management 3.1.1.1 Establish and set operative two Project Coordination Units (WWF-MedPO – RAC/SPA) 3.1.1.2 Organize Inception , Midterm and Final Workshops (RAC/SPA with the support of WWF-MedPO) 3.1.1.3 Advisory Committee and SAP BIO National Correspondents meet to supervise and advise the activities (RAC/SPA) 3.1.1.4: Develop the project communication and information tools (WWF-MedPO throughout the MedPAN network) 3.1.1.5: Raise awareness of key stakeholders on MPAs values and importance (WWF-MedPO – RAC/SPA)) 3.1.2 Identification and planning new MPAs to extend the regional network and enhance its ecological representativeness 3.1.2.1 Establish priority activities needed to create MPAs in Bosnia and Herzegovina, Lebanon, Libya, Montenegro and Syria (RAC/SPA) 3.1.2.2 Identify stakeholder group and potential partnerships in Albania, Libya and Morocco (RAC/SPA) 3.1.2.3 Characterization of priority marine sites suitable to become MPAs - country coast assessment in Montenegro, Bosnia and Herzegovina and Morocco (RAC/SPA) 3.1.2.4 Inception, planning, zoning and development of three new MPAs (RAC/SPA) 3.1.2.5 Identification of local stakeholder participation mechanism for the pilot MPAs in Albania, Montenegro, Croatia and Libya (SPA/RAC) 3.1.2.6 MPA creation guidelines and teaching packages: practical methodologies to create sustainable MPAs available to managers and practitioners (SPA/RAC) 3.1.2.7: Demonstration Project - Libya: The environmental case for a national network of MPAs in Libya (WWF-MedPO) 3.1.3 Improved MPA management 3.1.3.1 Organize 3 Mediterranean MPA Regional Training Workshops for MPA managers, practitioners and relevant authorities of existing MPAs based on the around specific themes, selected among the most recurrent, highest ranked Capacity Building needs obtained from a region-wide preliminary capacity building needs assessment (WWF-MedPO) 3.1.3.2 Organize specific technical assistance and exchange/twining programmes to provide on-site assistance to new-MPAs managers, practitioners and relevant authorities (RAC/SPA) 3.1.3.3 Organize specific technical assistance and exchange/twining programmes to provide on-site assistance to to the participants of the Mediterranean MPA Regional Training Workshops to implement follow-up activities (WWF-MedPO)			

Component Outcomes	Objectively Verifiable Indicators	Means of Verification	Critical Assumptions and Risks
3.1.3.4 On-job-training for managers, practitioners and relevant authorities in identified demonstration areas, on planning, management and ecological aspects of MPAs (RAC/SPA) 3.1.3.5 Demonstration Project in Turkey: Plan and specific zoning for the management of the Kas-Kekova SPA (WWF-MedPO) 3.1.3.6 Demonstration Project in Algeria: Concerted plan for the management of the marine part of the Taza National Park in Algeria (WWF-MedPO) 3.1.3.7 Demonstration Project in Croatia: Management and M&E plans for the existing MPAs (WWF-MedPO) 3.1.4 Ensuring financial Suistainability of regional and national MPA networks 3.1.4.1: Financial analysis for the establishment of new MPAs (RAC/SPA) 3.1.4.2: Demonstration Project - Tunisia: Establishment of the management unit of the Cap Negro-Cap Serrat MPA, development of its Business Plan and identification of sustainable financial mechanism for MPAs (WWF-MedPO) 3.1.4.3: Demonstration Project: Demonstrating financial sustainability mechanisms for new MPAs in three different areas in Montenegro, Croatia and Albania (RAC/SPA)			
Sub-Component 3.2. Promote the sustainable use of fisheries resources in the Mediterranean through the application of the Ecosystem Approach to Fisheries 3.2.1 Application of the Ecosystem approach to fisheries management 3.2.1.1: Identify needs and priorities for mainstreaming the Ecosystem Approach to Fisheries into fisheries management and research 3.2.1.2 Develop capacity for the application of the Ecosystem Approach to Fisheries 3.2.1.3 Identification and proposal of improvements to the legal and management frameworks to facilitate application of the Ecosystem Approach to Fisheries 3.2.2 Addressing bycatch of regionally important species 3.2.2.1: Risk assessment to prioritise fishing-related threats to vulnerable fish and iconic vertebrate species 3.2.2.2 Develop and demonstrate solutions to bycatch mitigation for protected / endangered species of fish and invertebrates and/or for iconic vertebrate species			
Component 4. Project Coordination, Replication and Communication strategies, Management and M&E Sub-Component 4.1 Project Co-ordination, Management and M&E 4.1.1: Program Project Management 4.1.2: Strategic Partnership's Steering Committee (SPSC) 4.1.3: Strategic Partnership Coordination Group (SPCG) 4.1.4: Sustainable financing mechanism for the long term implementation of NAPs 4.1.5: Long term Sustainability of Activities Beyond the Lifetime of the SP. 4.1.6: Inter agencies meetings 4.1.7: Mid-Term Stocktaking Meeting 4.1.8: Auditing, Evaluation and Reporting 4.1.9: Country Focal Point Support Program (CFPSP) 4.1.10 NGO involvement in the Region			
Sub-Component 4.2 Information and Communication strategies 4.2.1 Coordinating the communication among partners 4.2.2 Developing and implementing the web-based Knowledge Platform4.2.3 Integrating Replication tools into the Knowledge Platform 4.2.4 Design and preparation of IC campaigns and information materials 4.2.5 Design, production and updating of news service 4.2.6 Organisation of, and participation to, selected national/international events 4.2.7 Planning of "ad hoc" audiovisual campaigns for wide media dissemination			
Sub-Component 4.3. Replication Strategy 4.3.1 Coordinating the Project Replication 4.3.2 Information collection and analysis of MedPartnership projects 4.3.3 Design and implementation of the Replication methodology 4.3.4 Design and implementation of partnership building 4.3.5 Design and implementation of dissemination mechanism 4.3.6 Organization of Replication Events 4.3.7 On-site Replication activities			

Annex II. Monitoring and Evaluation (M&E) Plan

As described in the Project Document the Strategic Partnership for the Mediterranean LME consists of the following 2 components:

- The Regional Component: Implementation of agreed actions for the protection of the environmental resources of the Mediterranean Sea and its coastal areas (outlined in the present document), and
- The Investment Fund for the Mediterranean Sea Large Marine Ecosystem Partnership (" led by the World Bank and already approved by the GEF Council in August 2006).

The M&E framework presented within this document is for the overall Strategic Partnership and for the Regional Component. Details of the M&E Plan for the Investment Fund are found in the Project Brief submitted separately by the World Bank.

1.1. Project Inception Phase

The first meeting of the SP Steering Committee (SPSC) will double as the Inception Workshop for the project and will therefore include the following participants: SP national focal points from all GEF-eligible countries, representatives of the implementing agencies (UNEP and the WB), representatives of the executing agency (UNEP/MAP), the GEF Secretariat, the co-executing agencies (FAO, UNESCO IHP, UNIDO, MEDPOL, SPA/RAC, PAP/RAC, INFO/RAC, CP-RAC, WWF, GWP-Med and MIO-ECSDE) and the EU, the Project Manager, the President of the Bureau of Contracting Parties to the Barcelona Convention, major donors (France, Italy, Spain) and one NGO representing a network of NGOs in the Mediterranean (MIO-ECSDE). The SPSC will be co-chaired by the President of the Bureau of the Barcelona Convention and the Coordinator of UNEP/MAP.

The objectives of the Inception Workshop are the following:

i. To plan the co-ordination of actions to be undertaken under the Regional Component (UNEP-MAP and co-executing agencies) and the Investment Fund (World Bank);

ii. To assist the PMU to take ownership of the project's goals and objectives and introduce all co-executing agencies for the implementation of the project;

iii. To present the roles, support services and complementary responsibilities of the co-executing agencies of the project and to present UNEP project related budgetary planning, budget reviews, and mandatory budget re-phasing;

iv. To assist the PMU to finalize preparation of the project's first annual work plan on the basis of the project's log-frame matrix and Monitoring and Evaluation (M&E) plan. This will include reviewing the log-frame and M&E plan (indicators, means of verification, assumptions), revising them if necessary, and on this basis finalize the Annual Work Plan (AWP). The resulting amendments to the work-plan and Log-frame will be adopted by the Steering Committee;

v. To review the baseline data for the M&E indicators, and indicate where additional information may be required;

vi. To discuss how the project can also propose environmental status indicators, reflecting SAP targets and agreements, in order to ensure the long-term monitoring beyond the lifespan of the project (with the support of MAP).

vii. To present the roles, support services and complementary responsibilities of UNEP-MAP, the World Bank and the co-executing agencies of the project; and

The Inception Workshop will also provide an opportunity for all parties to understand their roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms. The Terms of Reference for project staff and decision-making structures will be discussed again, as needed, in order to clarify for all, each party's responsibilities during the project's implementation phase.

This Project will have a six to nine month inception period which will include the first Steering Committee/Inception Meeting, the preparation of the report of the meeting, the finalization of the Log-frame, M&E plan, baseline data and the preparation of the AWP. Table D1 provides an indicative monitoring and evaluation work plan for the Strategic Partnership. Table D2 provides the list of indicators for the Strategic Partnership and tables D3 to D5 provide a list of appropriate indicators for the Regional Component. Baseline data has been further detailed during the inception period of the project.

1.2. Monitoring Responsibilities and Events

The Inception Workshop will present a Schedule of M&E-related meetings and reports for both the Strategic Partnership and the Regional Component. This will be developed by UNEP, UNIDO, FAO, the World Bank, the PMU and co-executing agencies.

Such a schedule will include: (i) tentative time frames for Steering Committee and Co-ordination Group Meetings and (ii) project related Monitoring and Evaluation activities.

Day to day monitoring of implementation progress will be the responsibility of the PMU based on the Project's Annual Work Plan and its indicators with the support of all responsible co-executing agencies. The PMU will inform UNEP, UNIDO, FAO and all co-executing agencies of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion. The WB will inform UNEP, UNIDO and FAO of any delays or difficulties faced during implementation of the IF component.

The PMU will fine-tune the progress and performance/impact indicators of the Project at the Inception Workshop in consultation with UNEP, UNIDO, FAO, the WB and the co-executing agencies. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at this Workshop. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the Annual Work Plan. Targets and indicators for subsequent years would be defined annually as part of the internal evaluation and planning processes undertaken by the PMU, and agreed with the Executing and Implementing Agencies.

Periodic monitoring of implementation progress will be undertaken by UNEP, UNIDO, FAO and the co-executing agencies through the provision of half-yearly reports submitted to the PMU, UNEP-MAP and UNEP.

Annual Monitoring will occur through the preparation of the APR to be reviewed by the Steering Committee (SPSC). The APR will be drafted by the PMU, based on the activity and demonstration reports by the co-executing agencies. In addition the WB will provide to UNEP, UNIDO and FAO annual Project Progress Reports.

1.3. Project Monitoring Reporting

The Project Manager in conjunction with the Project extended team (PMU staff, UNEP, UNIDO, FAO, and all co-executing agencies) will be responsible for the preparation and

submission of the following reports that form part of the monitoring process. Items (a) through (e) are mandatory and strictly related to monitoring, while (f) through (g) have a broader function and the frequency and nature is project specific to be defined throughout implementation.

(a) Inception Report (IR)

A Project Inception Report will be prepared immediately following the Inception Workshop. It will include a detailed First Year Work Plan divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the first year of the Project. The Report will also include the detailed project budget for the first full year of implementation, prepared on the basis of the Annual Work Plan, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted 12 months time-frame.

The Inception Report will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may effect project implementation, including and unforeseen or newly arisen constraints.

When finalized, the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, UNEP, UNIDO, FAO and the co-executing agencies will review the document.

(b) Half-yearly Progress Report (HPR), Annual Project Report (APR) and Project Implementation Review (PIR)

The HPR is a self-assessment report by project management to the UNEP Office and provides them with input to the reporting process as well as forming a key input for the Steering Committee. The PIR is an annual monitoring process mandated by the GEF, to be conducted by the UNEP Task Manager in consultation with UNEP-MAP. It has become an essential monitoring tool for project managers and offers the main vehicle for extracting lessons from ongoing projects. In addition, UNEP Task Manager, based on the knowledge of the project progress, will submit to UNEP Evaluation and Oversight Unit a annual project report, which is a UNEP self-evaluation tool.

An APR/PIR is prepared on an annual basis following the first 12 months of project implementation. The purpose of the APR/PIR is to reflect progress achieved in meeting the project's Annual Work Plan and assess performance of the project in contributing to intended outcomes through outputs and partnership work. The APR/PIR is discussed in the SPSC meeting so that the resultant report represents a document that has been agreed upon by all of the primary stakeholders.

The items in the APR/PIR to be provided by UNEP GEF includes the following:

- An analysis of project performance over the reporting period, including outputs produced and, where possible, information on the status of the outcome;
- The constraints experienced in the progress towards results and the reasons for these;
- The three (at most) major constraints to achievement of results;
- Annual Work Plans and related expenditure reports;
- Lessons learned;
- Clear recommendations for future orientation in addressing key problems in lack of progress.

UNEP analyses the individual APR/PIRs by focal area, theme and region for common issues/results and lessons. The Reports are also valuable for the Independent Evaluators who can utilise them to identify any changes in project structure, indicators, workplan, etc. and view a past history of delivery and assessment.

(d) Periodic Thematic Reports

As and when called for by UNEP or UNEP-MAP, the project team will prepare Specific Thematic Reports, focusing on specific issues or areas of activity. The request for a Thematic Report will be provided to the project team in written form by UNEP/UNEP-MAP and will clearly state the issue or activities that need to be reported on. These reports can be used as a form of lessons learnt exercise, specific oversight in key areas, or as troubleshooting exercises to evaluate and overcome obstacles and difficulties encountered. UNEP and UNEP-MAP are requested to minimize their requests for Thematic Reports, and when such are necessary will allow reasonable timeframes for their preparation by the project team.

(e) Project Terminal Report

During the last three months of the project the project team will prepare the Project Terminal Report. This comprehensive report will summarize all activities, achievements and outputs of the Project, lessons learnt, objectives met, or not achieved, structures and systems implemented, etc. and will be the definitive statement of the Project's activities during its lifetime. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the Project's activities.

(f) Technical Reports (project specific- optional)

Technical Reports are detailed documents covering specific areas of analysis or scientific specializations within the overall project. As part of the Inception Report, the project team will prepare a draft Reports List, detailing the technical reports that are expected to be prepared on key areas of activity during the course of the Project, and tentative due dates. Where necessary this Reports List will be revised and updated, and included in subsequent APRs. Technical Reports may also be prepared by external consultants and should be comprehensive, specialized analyses of clearly defined areas of research within the framework of the project and its sites. These technical reports will represent, as appropriate, the project's substantive contribution to specific areas, and will be used in efforts to disseminate relevant information and best practices at local, national and international levels.

(g) Project Publications (project specific- optional)

Project Publications will form a key method of crystallizing and disseminating the results and achievements of the Project. These publications may be scientific or informational texts on the activities and achievements of the Project, in the form of journal articles, multimedia publications, etc. These publications can be based on Technical Reports, depending upon the relevance, scientific worth, etc. of these Reports, or may be summaries or compilations of a series of Technical Reports and other research. The project team will determine if any of the Technical Reports merit formal publication, and will also, in consultation with UNEP, UNEP-MAP, the government and other relevant stakeholder groups, plan and produce these Publications in a consistent and recognizable format. Any publications need prior clearance from UNEP and UNEP-MAP. Project resources will need to be defined and allocated for these activities as appropriate and in a manner commensurate with the project's budget. INFO/RAC will play a key role in the publication and dissemination of publications (see Component 4.2)

2. INDEPENDENT EVALUATION

The project will be subjected to at least two independent external evaluations as follows:-

(i) Mid-term Evaluation and Mid-Term Stocktaking Meeting

An independent Mid-Term Evaluation will be undertaken at the end of the second year of implementation. The Mid-Term Evaluation will determine progress being made towards the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this review will be incorporated as recommendations for enhanced implementation during the final half of the project's term. The organization, terms of reference and timing of the mid-term evaluation will be decided after consultation between the parties to the project document. The Terms of Reference for this Mid-term evaluation will be prepared by UNEP Evaluation and Oversight Unit.

A mid-term stocktaking meeting will take place during the second or third year of the Strategic Partnership. It will be convened a few months prior to a Barcelona Convention COP. Participants will include: all Steering Committee members; representatives of the Executing Agencies, co-financing agencies and appropriate GEF focal areas; and the managers of all Investment Fund projects both ongoing and in preparation. The GEF Independent Office of Evaluation will also participate and present the independent mid-term evaluation of the project. The Regional Project and the Investment Fund will prepare and submit a consolidated progress report, describing the results achieved in the context of established indicators, and containing recommendations for any mid term project revisions. This meeting will provide an opportunity to bring project progress to the attention of the Barcelona Convention COP.

(ii) Final Evaluation

An independent Final Evaluation will take place three months prior to the end of the project, and will focus on the same issues as the mid-term evaluation. The final evaluation will also look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. The Final Evaluation should also provide recommendations for follow-up activities. The Terms of Reference for this Mid-term evaluation will be prepared by UNEP-Evaluation and Oversight Unit in line with the GEF evaluation requirements.

Audit Clause

UNEP-MAP will provide UNEP with quarterly financial reports as well as certified annual financial statements with an audit of the financial statements relating to the status of UNEP (including GEF) funds according to the established procedures to be set out in the project document. The Audit will be conducted by the legally recognized auditor, or by a commercial auditor.

Table I-1: Indicative Monitoring and Evaluation Work Plan and corresponding budget

Activity/Reporting	Time/Frequency	Responsible Partner(s)	Budget USD[2]	
			GEF	Other
Inception Workshop	Within the first two months of project start up	PMU; co-executing agencies; SP Focal Points; UNEP/MAP, UNEP, UNIDO, FAO, GEF, WB	58,000	0
Inception report	Immediately following the IW/Steering Committee	PMU and all executing/co-executing agencies[3]	4,000	0
Measurement of initial baseline and means of verification for project indicators	Start, middle and end of the project	PMU and all executing/co-executing agencies	30,000	0
Project Implementation Plan (PIP) review of work-plan, timetable and budget.	Project Commencement	PMU UNEP, UNIDO, FAO WB	0	15,000
Annual Project Report (APR) (1 Jan to 31 Dec)	Annually (February)	PMU, executing/co-executing agencies and WB	0	0
Project Implementation Review (PIR) (1 July to 31 June)	Annually (August)	UNEP, UNIDO, FAO UNEP-MAP	0	0
Half-yearly Progress Reports (HPR) including activity and demonstration reports from each partner	Half-yearly	PMU, executing/co-executing agencies and WB	0	20,000
SP Steering Committee meetings and reports	Annually	PMU, SPSC, UNEP, UNIDO, FAO and WB	213,000	35,000
SP Co-ordination Group meetings and reports	Annually	PMU, SPCG and WB	0	160,000
Inter-agency (IA) meetings and reports	Annually	PMU; executing/co-executing agencies;	0	35,000
Periodic Thematic Reports, Technical Reports and Project publications	To be determined by the PMU, SPPSP, UNEP and co-executing agencies	Executing/co-executing agencies	0	38,000
SP Focal Point reports on country activities including minutes of inter-ministry committee meetings.	Annually	SP National Focal Points	0	0
Independent Mid-term Project Evaluation	Mid-point of project implementation phase	UNEP, UNIDO, FAO	45,000	0
Mid-Term Stocktaking meeting	Mid-point of project implementation phase	PMU, SPSC, UNEP, UNIDO, FAO and WB	0	71,000
Final Independent Project Evaluation	End of project implementation	UNEP, UNIDO, FAO	45,000	0
Terminal Report	At least one month prior to project termination	PMU, Executing/co-executing agencies, WB	20,000	0
Lessons learned	Annually	PMU Executing/co-executing agencies, WB	55,000	0
Quarterly financial reports	Quarterly	UNEP-MAP	40,000	0
Audit	Annually	UNEP-MAP	40,000	0
TOTAL INDICATIVE COST Excluding project team staff time and UNEP staff and travel expenses			**550,000**	**374,000**

[2] **Excluding Project team salaries**

[3] FAO, WWF, UNESCO UNIDO, SPA/RAC, PAP/RAC, CP/RAC, GWP-MED, MIO-ECSDE, METAP, UNEP-MAP MEDPOL

The following tables (Table E-2 to Table E-5) list the principal indicators showing improvements in Process and Stress Reduction relative to Project activities and deliverables. Process and Stress Reduction tables capture the primary indicators from the Log-Frame. Table E-2 presents the principal indicators for the overall Strategic Partnership (including RC and IF). Tables E-3 to E-5 lists the indicators for the Regional Component.

These tables and their indicators will be reviewed at the Inception stage and endorsed by the SPCG. Environmental status indicators, reflecting SAP targets and agreements, will also be identified, along with specific arrangements for their long-term monitoring beyond the lifespan of the project (with the support of MAP). Following endorsement, the PMU will develop a national monitoring template for Impact Measurement which directly relates to the requirements for IW indicator monitoring and this will be adopted and implemented within the first 6 months so as to allow monitoring to proceed at the national level during or immediately after the Inception Phase. This will provide measured and verified date for the overall M&E plan which will confirm Project delivery and confirm successful achievement of IW Indicator targets in Process and Stress Reduction.

IW, BD and POPs PROCESS, STRESS REDUCTION AND ENVIRONMENTAL INDICATORS

Table I-2. Component 1. Integrated approaches for the implementation of SAPS and NAPs: ICZM, IWRM and Management of Coastal Aquifers.

Outcome	Indicator	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
Component 1: Integrated approaches for the implementation of Saps and NAPs: ICZM, IWRM and Management of Coastal Aquifers. Sub-Component 1.1. Management of Coastal Aquifers and Groundwater					
1. Regional legislation to strengthen aquifer management	Regional Action Plan on Coastal Aquifers	Regional Action Plan on Coastal Aquifers finalized with involvement of all countries and relevant stakeholders	Target: By year 5 Baseline: No regional plan exists	Adopted by CoP	UNESCO Regional
	Regional plan for eco-hydrogeological management, and land degradation mitigation and protection of priority coastal wetlands	Plan for Action for Eco-Hydro-Geological management and protection of priority coastal wetlands finalized with involvement of all countries and relevant stakeholders	Target: By year 5 Baseline: No action plan exists	Adopted by CoP	UNESCO Regional
2. Regional and National institutions strengthened for aquifer management	Tools/guidelines for Aquifer management applied including coastal aquifer and relevant land management approaches developed and implemented at demonstration sites, and eco-hydrogeology applications for management and protection of coastal wetlands.	No of institutions adopting new tools; No of trained professionals on new tools; The attendance of national high-level decision-makers at the meetings;	Target: Related institutions to adopt and apply new tools/guidelines developed for Aquifer management Baseline: Inadequate[4]	Meeting and conference reports; Demo projects progress reports; Stakeholders participation reportsand on job training documented	UNESCO All countries
3. Stress reduction measures achieved through management of aquifers and monitored at water-body level.	Aquifers and Land degradation 20,000 hectares of land directly impacted by intervention for 5 countries (coastal urban, coastal plains/agriculture, and upper watersheds, to address LBS, coastal salinization, through coastal sedimentation and siltation, flooding, wetland sedimentation)	No of Management measures implemented in demo's adequate to address issues of pollution reduction, biodiversity conservation; No of institutions strengthened/implementing new tools/techniques; Area of land under improved management	Target: Total 20,000 hectares ▪ Sub-reg 1 N. African coast, Algeria, Morocco, Tunisia (sedimentary aquifers): coastal urban, coastal plains, upper watersheds/aquifer recharge areas: 10,000 hectares ▪ Sub-reg 2 Eastern Mediterranean Coast: Lebanon, Syria (karst aquifers): 6,000 hectares ▪ Sub-reg 3 Eastern Adriatic Coast: Croatia, Montenegro: 4,000 hectares ▪ Baseline: 20,000 km2 (2,000,000 ha) = aprox. 1% of total	Project progress reports; Demonstration reports; Project monitoring and evaluation reports;	UNESCO, PAP-RAC and GWP-MED) Algeria, Morocco, Tunisia, Lebanon, Syria, Croatia and Montenegro

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Outcome	Indicator	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
	Aquifers and groundwater 300 Hectares of groundwater dependant wetland under proper groundwater resources management	Area of land under improved management; No of institutions strengthened/implementing new tools/techniques	Target: 300 Hectares of wetland by year 5	Project progress reports; Demonstration reports; Project monitoring and evaluation reports;	UNESCO (in collaboration with PAP-RAC and GWP-MED Algeria, and Montenegro
5. Increased scientific knowledge concerning the management of aquifers and groundwater.	▪ Assessment of risk and uncertainty related to Mediterranean coastal aquifers in all countries; ▪ Coastal vulnerability mapping of aquifers in selected sites, in 3 countries; ▪ TDA supplement developed for adoption	Risk assessment prepared and vulnerability mapped for coastal aquifers Risk assessment and vulnerability maps used in TDA supplement formulation	Risk and vulnerability assessed and mapped Baseline: Risk assessment and vulnerability mapping not available	Assessment reports and maps prepared and available	UNESCO Inventory regional and vulnerability mapping in Tunisia and Croatia
Sub-Component 1.2. Integrated Coastal Zone Management					
1. Regional legislation addressing ICZM, as mechanisms to protect the Mediterranean from biodiversity loss and pollution from land based sources.	National legal and policy documents drafted and in process of adoption for ICZM in 2 selected countries with specific focus on the protection of the Mediterranean Sea Basin from bio-diversity loss and pollution from land-based sources	No of national legal and policy documents drafted and adopted No of national and local institutions' staff dealing with ICZM and IWRM trained on systemic inclusion of relevant issues in national policy framework for pollution reduction and biodiversity protection; No of newly adopted national policy documents on ICZM and IWRM in support of the implementation of SAP MED and SAP BIO;	Target: by year 5: ▪ at least 1 beneficiary country prepared a comprehensive analysis of impacts of ratification of ICZM Protocol on national legislation ▪ at least 3 beneficiary countries initiated the ratification process ▪ at least 2 beneficiary countries ratified the Protocol. ▪ Regional Workshop to present the case study and other converging initiatives, ▪ 12 national responsible from beneficiary countries and at least 15 national ones from host country attending RW. ▪ Reference documents and WR disseminated to responsible in all CPs and to the NGOs official partners of MAP Baseline: no beneficiary country so far meeting targets, 2 GEF non-eligible countries ratified the Protocol so far	▪ Legal and policy documents, ▪ HPR reports ▪ narional case study ▪ Workshop report and reference document, including List of participants ▪ Official info on ratification process ▪ Mailing list for disse-minated documents	PAP-RAC GWP-MED UNESCO Regional actions: all countries National actions: Albania, Algeria, Croatia, Montenegro, Lebanon not included in ICZM action

Outcome	Indicator	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
	Case study for harmonising national institutional arrangements and legislation with ICZM Protocol. at least 12 juridical practitioners trained on implications of national ratification of the Protocol	No of key stakeholders informed of ICZM protocol	Target by year 5: - 1 Regional Workshop - 1 Regional document, 1 national case study, converging reference documents -12 Responsible national managers involved and at least 12 juridical practitioners trained - Regional documents, case study and reference documents and outputs disseminated to responsible in beneficiary countries and to the NGOs official partners of MAP Baseline: None	Workshop report - Regional document - Case study Converging documents List of involved Stakeholders - Mailing list for disse-minated documents	PAP/RAC All countries
2. Regional and National institutions strengthened for ICZM and IWRM.	ICZM Strategies and NAPs drafted through a participatory approach and sub-mitted for adoption for minimum of 2 countries	The attendance of national high-level decision makers to the consultation meetings, workshop and conference on ICZM Strategy; Number of national ICZM Strategies submitted for adoption to the Governments; Number of National Action Plans (NAPs) prepared for implementation; Number of ICZM Plans prepared in selected demonstration sites; ICZM demonstration projects implemented and results analyzed for their replication; Stakeholders involvement in demonstration areas	Target: By year 5 - two National ICZM Strategies and NAPs prepared and in the process of endorsement by governments - at least two Investment portfolios presented as NAP outputs - one Regional Conference to train national responsible of beneficiary countries -Regional Outline for preparation of ICZM NS and NAPs - at least 40 national responsible from beneficiary countries trained - 2 National conferences organized - Reference documents and WR disseminated to responsible in all CPs and to the NGOs official partners of MAP Baseline: Inadequate NAPs for most countries or no ICZM Strategies and NAPs at all[5]	Meeting and conference reports; Demo projects progress reports; Stakeholders Interactive participatory plan (IPP); Training courses materials and reports; Outline for national ICZM Strategies and NAPs; - Lists of involved stakeholders - Mailing list for disse-minated documents	PAP/RAC All countries as beneficiaries of the regional action NAPs for Albania and Algeria

[5] Full baseline analysis is given in Annex I

Outcome	Indicator	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
	ICZM Plans finalized for two areas and submitted for endorsement	Final ICZM plans for two selected areas; Joint meetings and harmonization meetings organized; Two national workshops prepared and organized; workshop reference document prepared and disseminated.	Target: By year 5 - 2 ICZM Plans in fragile, endangered areas of global and national importance, in particular WR and BD related - at least 1 MPA identified, and formalities for adoption on-going - at least 2 Investment portfolios presented as outputs of respective Plans - 3 respective National Conferences implemented - Plans submitted for endorsement - at least a total of 12 national institutions and 30 experts, also 6 key NGOs involved, - Plan Outlines and Operational programmes, reference documents and outputs disseminated to responsible in beneficiary countries and to the NGOs official partners of MAP Baseline: Inadequate[6]s	Meeting reports; progress reports; - ICZM Plan for a transboundary demo area of high environ-mental sensitivity; - ICZM Plan for a wetland-marine area of high biodiversity value - 2 Investment Port-folios - official info on submission for endor-sement - Lists of involved Stakeholder - Mailing list for disse-minated documents	PAP/RAC 2 selected areas - Montenegro and Albania : Skadar (Alb.: Shkodra) lake - Bojana (Buna) river and estuary) -Algeria(Reghaia wetlands and lake, coastal and marine area, Agueli island)
	Tools/guidelines for ICZM, applied including COED, Vulnerability Assessments and Integrative methodological framewor, applied in ICZM Plans and presented at regional workshop	No of institutions adopting new tools; No of trained professionals on new tools; The attendance of national high-level decision-makers at the meetings; COED prepared in number of countries; CCA prepared in one of countries; ICZM approaches, tools and techniques demonstrated in selected countries;	Target: Minimum of 24 ICZM related institutions to adopt and apply new tools/guidelines developed for ICZM, IWRM and Aquifer management Baseline: Inadequate[7]	Meeting and conference reports; Demo projects progress reports; Stakeholders Interactive participatory plan (IPP); Training courses materials and reports; COED, VA assessments;and IMF mrthodologypresen-ted and applied	GWP-MED, UNESCO and PAP/RAC All countries

[6] Full baseline analysis is given in Annex I
[7]

Outcome	Indicator	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
3. Stress reduction measures achieved through ICZM, monitored at water-body level.	ICZM (IWRM) 3 demonstrations resulting in 45,000 hectares of coastal zone managed through application of ICZM and IWRM	Area of land under improved management; No of institutions strengthened/implementing new tools/techniques	Target: Boojan/Buna TR (Alb./Mne) - 150 km2, - - Reghaia Algeria) - 100 km2 Baseline: 1.1 million km2 (110,000,000 hectares) = 0.04%	Project progress reports; Demonstration reports; Project monitoring and evaluation reports;	PAP-RAC, Montenegro, Albania Algeria
4. Sustainable financing opportunities established.	Methodology for selection, implementation and sustainable financing of pilot ICZM Plans, projects and NAPs drafted and distributed	A compendium containing lists of funding regulations, programmes and financial institutions in the region relevant to environmental and ICZM projects widely disseminated	Target: By year 5 - Methodology and guidelines , compendium prepared - 1 regional workshop implemented - at least 12 national responsible from all countries attending - at least 15 national responsible / experts from host country attending the Reg. Workshop - Methodology and guidelines adopted and disseminated to responsible in beneficiary countries and to the NGOs official partners of MAP, for use and replication Baseline: Majority of ICZM projects fail due to lack of sustainable financing	Target for y 5: - Methodology, guide-lines, Compendium RW Report and reference documents List of involved Stakeholders - Mailing list for disse-minated documents	PAP-RAC All countries - RW - Egypt
Sub-Component 1.3. Integrated Water Resources Management (IWRM)					
1. Regional strategic planning addressing IWRM as mechanism to protect the Mediterranean from biodiversity loss and pollution from land based sources.	Strategy for Water in the Mediterranean technically facilitated and agreed by UfM countries and environmental considerations dully reflected	Strategy for Water in the Mediterranean formulated through participatory consultation with governments and stakeholders Regional High-Level Conference organized Strategy adopted and provides framework for concrete follow up action	Target: By year 3 Baseline: No common IWRM plan or guidelines for Mediterranean. Will be based on MSSD and other key strategic documents on water in the Mediterranean and will be elaborated in the framework of the Union for the Mediterranean	Strategy for Water in the Mediterranean, , Proceedings of Regional Conference Dissemination material	GWP-MED Regional
2. Regional and National institutions strengthened for IWRM.	Strategic planning for IWRM advanced, institutional framework for IWRM strengthened and tools for financing strategies on water provided at national level in 4 countries	No of catalyzing multi-stakeholder workshops; No of training courses No of national IWRM planning activities implemented	Target: By year 5 Baseline: Only a very few countries have completed their national IWRM plans or their very close to and even attempt to gradually move in the implementation phase. Many countries are in the process of revising their water strategies and developing their national IWRM plans while a smaller group of countries are still in the very initial phase of preparation	Activity reports, Meeting reports; Training/Capacity building material; IWRM Roadmaps or related documents-	GWP-MED 4 countries

Outcome	Indicator	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
	Strategic vision for collaboration among countries developed and IRBM plans for 2 shared water bodies prepared in parallel with ICZM and Coastal Aquifer	No of catalyzing multi-stakeholder workshops; No of training courses 2 IRBM plans	Target: IRBM plan for 2 water bodies (aprox. 350 km2) finalized by year 5 Baseline: Few adequate IRMB plans.	Activity reports, Meeting reports; IRBM plans; Project reports; Dissemination material	GWP-MED, Montenegro/Albania and Lebanon/Syria
	- Tools/guidelines for IWRM applied including ICARM approach, Integrated Transboundary Water Resources Management i - Integrated Transboundary Water Resources Management introduced in 6 water bodies.ntroduced in 6 water bodies.	No of institutions adopting new tools; No of trained professionals on new tools; The attendance of national high-level decision-makers at the meetings;	Target: Minimum of 24 ICZM/IWRM related institutions to adopt and apply new tools/guidelines developed for ICZM, IWRM and Aquifer management Baseline: Inadequate[8]	Meeting and conference reports; Demo projects progress reports; Stakeholders Interactive participatory plan (IPP); Training courses materials and reports; 2 sectoral COED assessments;	GWP-MED, All countries
3. Stress reduction measures achieved through ICZM, IWRM and management of aquifers and monitored at water-body level.	ICZM/IWRM 3 demonstrations resulting in 45,000 hectares of coastal zone managed through application of ICZM and IWRM	Area of land under improved management; No of institutions strengthened/implementing new tools/techniques	Target: Boka Kotorska Bay (Montenegro) - 150 km2, - Litani River (Lebanon) - 200 km2 - Reghaia - 100 km2 Baseline: 1.1 million km2 (110,000,000 hectares) = 0.04%	Project progress reports; Demonstration reports; Project monitoring and evaluation reports;	PAP-RAC, GWP-MED Montenegro Lebanon

[8] Detailed baseline data in Annex I

Table I-3. Component 2. Pollution from land based activities, including POPs: implementation of SAP MED and related NAPs

Outcome	Indicators	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
Sub-Component 2.1. Facilitation of policy and legislation reforms for pollution control – Industrial Pollution pilot projects (based on NAP priorities):					
6. Increased capacity of basin countries to implement policies and strategies that address SAP MED and the NAPs priorities.	6.1 National legal and policy documents drafted (min. of 5) incorporating the SAP-MED priorities and in process of adoption by the countries. 6.2. Implementation initiated for a minimum of 8 NAP priorities in participating countries as a result of project activities and pilot projects, and monitored though Barcelona Convention mechanisms.	Number of review reports Number of new or revised policy documents	Target: 10 national policy documents drafted and in the process of adoption by year 5. Baseline: No national policy documents exist regarding these issues, which instead fall under the general national environmental law. Regarding lub-oil and lead batteries, they fall under the Basel Convention which all countries have ratified, but again there are no specific laws	Review reports on existing legal instruments New/revised legal and policy documents drafted and in the process of adoption.	MEDPOL Lebanon, Tunisia, Turkey, Syria, Albania, Egypt and Libya
	Tools/guidelines for pollution reduction from land-based sources tools applied: ▪ ELV (and EQS), ▪ guidelines for pollution reduction (phosphogypsum wastes, tannery effluents, the recycling of lubricating oil and lead batteries) ▪ plans of action for permitting, compliance and inspection systems in eight countries.	No of institutions adopting new tools/techniques/guidelines; No of trained professionals; No of workshops and attendance	Target: By year 5 Baseline: Tools/guidelines introduced to countries that do not have appropriate tools/guidelines to assist in meeting SAP-MED targets	Pilot projects reports; Guidelines adopted; Training materials; reports of the workshops of national and regional experts in private and public sectors; Plans of action endorsed for the uniform approach to permit and inspection; ELV and EQS approved by national authorities;	MEDPOL, WHO-MED All countries
7. Increased knowledge of countries and donors on innovative technology to reduce pollution and increased scientific knowledge.	Assessment riverine fluxes of nutrients to the Mediterranean.				
8. Stress reduction measures achieved through demonstration projects and monitored at water-body level.	Min. of 1,03 tones of cadmium (Cd) from phosphogypsum wastes avoided in Lebanon	Quantity of phosphogypsum slurry released into the sea	Target: 50% reduction according to SAP in demonstration site Baseline: 2,06 tons/y of Cd.	+Industry register +National register +MAP reporting system	MEDPOL Salaata, North Lebanon

Outcome	Indicators	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
	Min. of 90,75 tones of mercury (Hg) from phosphogypsum wastes avoided in Lebanon	Quantity of phosphogypsum slurry released into the sea	Target: 50% reduction according to SAP in demonstration site Baseline: 181,5 tons/y of mercury	+Industry register +National register +MAP reporting system	MEDPOL Sfax, Tunisia
	Min. of 0,93 tones of lead (Pb) from phosphogypsum wastes avoided in Lebanon	Quantity of phosphogypsum slurry released into the sea	Target: 50% reduction according to SAP in demonstration site Baseline: 1,85 tons/y of lead	+Industry register +National register +MAP reporting system	MEDPOL Sfax, Tunisia
	Min. of 76,5 tones of Cr from tannery effluents avoided in Turkey	Loads of Cr released	Target: 50% reduction according to SAP in demonstration site Baseline: 153 tons/y	+Industry register +National register +MAP reporting system	MEDPOL Buyuk Menderes, Izmir , Turkey
	Min. of 1755 tones of BOD from tannery effluents avoided in Turkey	Loads of BOD released	Target: 50% reduction according to SAP in demonstration site Baseline:3510 tons/y	+Industry register +National register +MAP reporting system	MEDPOL Buyuk Menderes, Izmir , Turkey
	Min. of 525 tones of total nitrogen from tannery effluents avoided in Turkey	Loads of total nitrogen released	Target: 50% reduction according to SAP in demonstration site Baseline;1050 tons/y	+Industry register +National register +MAP reporting system	MEDPOL Buyuk Menderes, Izmir , Turkey
	Min. of 80.000 tones of lubricating oil recycled in Algeria	Quantity of Luboil collected	Target: 50% reduction or 80000 tons/y collected Baseline: 160.000 tons/y	+ national register +Number of new collection companies	MEDPOL Algeria. National level
	Min. of 150 tones of lead batteries recycled in Syria	Number of tons of batteries recycled	Target: 50% recycled Baseline: 300 tons/y	+ national register +Number of new collection companies	MEDPOL Syria, Tartous and Lattakia Governorates
Sub-Component 2.2. Transfer of Environmentally Sound Technology (TEST-MED) – Implemented and executed by UNIDO					

Outcome	Indicators	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
7. Increased knowledge of countries and donors on innovative technology to reduce pollution and increased scientific knowledge.	Capacity built at national level on integrated approach to industrial environmental management (TEST approach) and EST demonstration projects implemented at target enterprises.	▪ No of demonstrations enterprises in 3 countries that have successfully completed TEST; ▪ No of practitioners expert in TEST; ▪ No person trained in TEST ▪ man/days of training implemented by the project ▪ No of enterprises implemented EMS in line with ISO14001 standard ▪ No of awareness and dissemination events/activities targeting industries and key institutional stakeholders	Target: By year 5 ▪ 9[9] companies ▪ 20 persons ▪ 70 persons ▪ 500 man/days ▪ 5[10] companies ▪ 10 events Baseline: Few industries use Environmentally Sound Technology (EST); Capacity exists but it is not coordinated; Lack of awareness industry on the benefits of EST; National legislation regarding ESTs, BETs, and BATs is scarce	Activity and workshop reports; Training material; Dissemination of results at and of project; Contact with target enterprises; Communication/Re visit the target enterprises to check production results and monitoring figures	UNIDO 3 countries (Tunisia, Morocco, Egypt)
8. Stress reduction measures achieved through demonstration projects and monitored at water-body level.	Demonstration measures and investments to reduce industrial pollution at 12 companies	Number of Cleaner production measures implemented by the demonstration companies Number of identified EST bankable projects requiring high investments	60% of total identified measures requiring no or moderate investments EST solutions identified for three quarters of demonstration companies (9 companies) Baseline: 0	Activity Reports, data provided by companies & national financial institutions	UNIDO
	Water productivity at demonstration enterprises increased by 40%	Water consumption per unit of production	Target: Reduction of 40% at least in 50% of demonstration companies (6 companies) by year 5 Baseline: To be identified upon selection of demonstration companies	Data provided by the companies and wastewater discharge flows compared to production volumes	UNIDO
	Reduction of pollution loads at the demonstration enterprises.	BOD, COD, heavy metals and Toxic compounds (e.g. Cr, AoX, etc..) depending on the industry, at the industry discharging point	Target: Aprox. 30% reduction of pollution loads in at least 50% of the demonstration companies (6 companies) by year 5, Baseline: To be identified upon selection of demonstration companies	Data provided by the companies and national environmental agencies	UNIDO
Sub-Component 2.3. Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies					

[9] 80% of demonstration companies in the three countries (4 companies per country) corresponding to approx. 9 companies
[10] 40% of demonstration companies (4 companies per country) corresponding to approx. 5 companies

Outcome	Indicators	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
9. Initiation of NAP/NIP implementation for the ESM of equipment, stocks and wastes contaminated with PCBs in national electricity companies of Mediterranean countries	Five countries with strengthened legislative and regulatory frameworks for the management of POPs;	No of revised legal, regulatory and administrative instruments No of documents/guidelines on ESM standards for PCB equipment	Target: Revised legal, regulatory and administrative instruments drafted and in the process of adoption by year 5 Baseline: All countries have ratified the Stockholm Convention. However, specific legal and institution arrangements for PCB management, handling, monitoring, phase out and disposal are inadequate or lacking	Review reports on existing legal instruments New/revised legal and policy documents drafted and in the process of adoption.	MEDPOL CP/RAC Albania, Egypt, Lebanon, Libya, Syria
	870 tones of PCB's removed and disposed in 5 countries	Tons and cost per ton (per compound);	Target: 870 tons of PCBs at a cost of 3.220 US$ per ton Baseline: To be assessed fully during inception period Lebanon: 42 tons (100%) Albania: 209 tons (13%) Egypt: 209tons Libya: 209tons Syria: 209tons (9%)	+ Number of authorizations	MEDPOL CP/RAC Lebanon: national level Albania:Vlora Egypt: Mediterranean coast Libya: to be defined Syria: Coastal area
	POPs phased-out from use	Tons and cost per ton (per compound);	Target: To be identified during inception phase Baseline: To be assessed during inception phase		MEDPOL CP/RAC Albania, Egypt, Lebanon, Libya, Syria

Outcome	Indicators	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
	Improvement of awareness on the Environmentally Sound Management (ESM) of PCBs	Number of videos distributed Number of websites developed Number of website hits Number and distribution of brochures	Target: Provide an independent multilingual PCBs public awareness website, as part of the current Ministry of Environment website, or expand and improve an existing PCB website in the target countries. Develop and disseminate a PCB awareness video Develop and disseminate of about 2,000 PCB brochures per target country Baseline: There is a lack of awareness of PCBs risks in target countries. Easy access to PCBs information is lacking. Lebanon has a website on POPs in English only: www.moe.gov.lb/pops/, but weak on PCBs and not in Arabic. No other official PCB websites of target countries are known to exist. Some target countries have developed brochures on POPs only. No PCB awareness videos in Arabic are known to exist.	Project Reports	CPRAC Albania, Egypt, Lebanon, Libya, Syria
	Improvement of the technical capacity for the Environmentally Sound Management (ESM) of PCBs	Number of trained people	Target: Train at least 175 people on PCB awareness and on the Environmentally Sound Management (ESM) of PCBs per target country. Develop five (5) PCB awareness workshops in target countries (one in each country) Develop fifteen (15) PCB training courses in target countries (three in each country). Baseline: PCB awareness and technical capacity for the ESM of PCBs of most PCB stakeholders is lacking in target countries.	Workshop, training courses and awareness reports	CPRAC Albania, Egypt, Lebanon, Libya, Syria

Table I-4. Component 3: Conservation of biological diversity: implementation of SAP BIO

Outcome	Indicators/Activity	Parameters measured	Target and Baseline[11]	Means of Verification	Lead agency and location
Sub-Component 3.1. The conservation of coastal and marine diversity through development of a Mediterranean MPA Network					
10. Countries have the capacity to conserve regionally important coastal and marine biodiversity through the creation of an ecologically representative, coherent and effective MPA network in the Mediterranean region supported by a region-wide network of MPA managers.	Participation of all key regional and national stakeholders in MPA creation process (Activities 3.1.1.2, 3.1.1.3, 3.1.1.2)	- No of regional representatives in five SAP BIO advisory Committee meetings; -No of parties representatives in three SAPBIO national correspondent meetings; - No of national stakeholder involvement plans developed and adopted (Albania, Libya and Morocco)	Target: - 12 regional representatives for each of the five meetings - 22 parties representatives in three SAPBIO national correspondent meetings; - Three national stakeholder involvement plans developed and adopted (Albania, Libya and Morocco) Baseline: No coordinated mechanism for participation of all key regional and national stakeholders in MPA creation process except for fisheries restricted areas (GFCM)	Meeting reports; National stakeholder engagement plans;	SPA/RAC Regional
	Management of MPA's strengthened in 5 pilot sites, including the finalisation of 7 management plans (Activities 3.1.3.5, 3.1.3.6, 3.1.3.7, and 3.1.4.3)	- Number of management plans developed (Croatia, Turkey, Algeria) - Identification of important areas for conservation in Libya (jointly with RAC/SPA) - Management unit established in Cap Negro-Cap Serrat (Tunisia)	Target: - At least 7 MPA management plans developed by 2012 - Important areas for conservation identified in Libya (jointly with RAC/SPA) - Management unit established in Cap Negro-Cap Serrat (Tunisia) Baseline: - Demonstration MPAs do not have a management plan (Croatia, Turkey, Algeria). - No management unit in Cap Negro-Cap Serrat (Tunisia) - No important areas for conservation identified in Libya	HPR and activity reports Management plans	WWF-MedPO (with inputs from SPA/RAC) Turkey, Tunisia, Libya, Algeria and Croatia
	Minimum of 30 agreements implemented to apply MPA management learnt tools and methods through activities agreed during the regional training workshops (Activity 3.1.3.1)	- Number of capacity building activities - Number of MPAs managers and practitioners attending regional training workshops - Number of implementation agreements signed - Number of implementation agreements implemented	Target: A minimum of 30 agreements implemented to apply learnt tools and methods through activities agreed during the regional training workshops Baseline: No implementation agreements available	HPR and activity reports Signed implementation agreements	WWF- MedPO (with inputs from SPA/RAC) Regional

[11] More detailed baseline data is also available in Annexes F, H, I, M and N

Outcome	Indicators/Activity	Parameters measured	Target and Baseline[11]	Means of Verification	Lead agency and location
	On-job trained local personnel on the many aspects of MPAs field management (Activity 3.1.3.4)	Number of local personnel from management agencies and/or institutes trained in three demonstration MPAs	At least 9 specialists from at least three MPAs formed / specialists not existing in Albania, low specialisation opportunities in Croatia and Montenegro	Training certificates delivered by RAC/SPA. Technical reports on the field tasks fulfilled	RAC/SPA At least Albania, Montenegro, Croatia
	The existing MedPAN network of MPA managers is effectively expanded by including organisations/institutions from the project beneficiary countries (Activities 3.1.3.3, 3.1.3.2 and 3.1.2.7)	- Number of organisations in the project's countries joining the MedPAN association as members or partners (WWF-MedPo) - Number of region-wide exchanges among MPA managers, practitioners and relevant authorities throughout the project (visit of experts, twining programmes) (WWF-MedPo and SPA/RAC) -No of tools and guidelines for the creation of MPAs (SPA/RAC)	Target: - At least 1 organisation in each country of the project join the MedPAN association as a member or a partner. - 30 region-wide exchanges among MPA managers, practitioners and relevant authorities throughout the project - 6 tools and guidelines for the creation of MPAs translated into French and Arabic and dessiminated Baseline: - Founding members of the MedPAN association included 3 organisations from 3 different beneficiary countries - None	- Signed membership or partnership forms - HPR and activity reports	SPA-RAC and WWF-MeDPO Regional
	4 countries receive support for strengthening their long-term financial sustainability (Activity 3.1.4.2, 3.1.4.1, 3.1.4.4)	- Financial mechanisms investigated at the regional scale and developed for at least 3 MPAs (RAC/SPA) - Sustainable financial mechanisms identified for Cap Negro-Cap Serrat MPA (Tunisia) (WWF-MedPO) -No of staff trained on recurrent funding mechanisms for MPAs	Target: - Regional assessment of financial mechanisms - 3 MPA business plans for three sites in Montenegro, Croatia, Albania by 2013 (SPA/RAC); - Nine staff trained on recurrent funding mechanisms for MPA in Montenegro, Croatia, Albania by 2012 (SPA/RAC); - By year 2012, sustainable financial mechanisms identified for Cap Negro-Cap Serrat, Tunisia (WWF-MedPO) Baseline: - No sustainable financial mechanisms available for Cap Negro-Cap Serrat (Tunisia)	HPR and activity reports	SPA-RAC and WWF-MedPO Montenegro, Croatia, Albania (SPA/RAC) Tunisia (WWF-MedPO)

Outcome	Indicators/Activity	Parameters measured	Target and Baseline[11]	Means of Verification	Lead agency and location
	Priority areas identified and a minimum of 3 new MPAs in the process of declaration, with management plans Surface area under national jurisdiction covered by MPA's increased from 1 to 5% (starting from 982,600 hectares) (Activities 3.1.2.1, 3.1.2.2, 3.1.2.3, 3.1.2.4, 3.1.2.5,)	▪ Priority areas identified, listed and assessed for the creation of a National MPA network ▪ Number of national diagnostic reports for MPA creation (B&H, Lebanon, Libya, Montenegro and Syria) ▪ Number of new MPAs in the process of declaration, ▪ Number of management plans ▪ Percentage of increase of surface area under protection ▪ No of technical reports and complimentary GIS mapping ▪ Stakeholder participation plans for new MPAs	Target: - Priority areas identified, listed and assessed for the creation of a National MPA network in B&H, Morocco and Montenegro - Min of 7 draft diagnostic reports and 5 final diagnostic reports (B&H, Lebanon, Libya, Montenegro and Syria); - 1-5% increase in surface area of MPAs - Minimum of 3 new MPAs in the process of declaration, with management plans (Montenegro, Croatia, Albania); - 9 technical reports and mapping dossiers (ecological and fisheries issues within the MPAs) (Montenegro, Croatia, Albania) -3 Stakeholder involvement plans for the 3 new MPA's agreed by the parties (Albania, Libya and Morocco) Baseline: 982,600 hectares of MPAs	Technical and activity reports	SPA-RAC, (contribution of WWF-MedPO) Montenegro, Croatia, Albania, B&H, Morocco, Lebanon, Libya, Syria
	A regional communication strategy for MPAs is developed and implemented (Activity 3.1.1.4)	Number of hits on the websites Number of recipients of the newsletters Number of communication tools developed	Baseline: no communication strategy Target: - At least 3000 hits/month on the MedPAN website - Newsletter sent to at least 100 managers, practitioners and relevant authorities in the beneficiary countries - At least 4 different types of communication tools developed	One sample of each communication tool Website hits report Newsletters recipients list	WWF-MedPO (contribution of SPA/RAC) Regional
Sub-Component 3.2. Sustainable use of fisheries resources through ecosystem-based management approaches					
11. Countries have the capacity to sustainably utilize coastal and high seas fisheries resources through the application of the Ecosystem Approach to Fisheries including the application of targeted interventions to reduce bycatch and unsustainable fishing	11.1.1- EAF-related priorities identified for the four directly targeted countries, in consultation with the main fisheries institutions	Number of countries where priorities for the application of EAF have been identified;	Target: EAF-related priorities identified for the four directly targeted countries, in consultation with the main fisheries institutions; Baseline: The priorities for the application of EAF have not been systematically defined in any of the directly targeted countries	Workshop reports; National policy documents; FAO reports	FAO Tunisia, Turkey, Croatia, Montenegro
	11.1.2- Fisheries Institutions in at least three of the directly targeted countries have drafted plans to integrate EAF considerations into their work	Number of fisheries organizations that have drafted plans for the integration of EAF concerns in their work;	Target: Fisheries Institutions in at least three of the directly targeted countries have drafted plans to integrate EAF considerations into their work; Baseline: None of the directly targeted countries has EAF explicitly included in the workplans of their national Fisheries Institutions	Workshop reports; National policy documents; FAO reports	FAO Tunisia, Turkey, Croatia, Montenegro

Outcome	Indicators/Activity	Parameters measured	Target and Baseline[11]	Means of Verification	Lead agency and location
	11.1.3- Key staff of the main fisheries institutions in at least three of the directly targeted countries are able to participate in discussions on the application of EAF	Number of countries where key staff of fisheries institutions is trained on the concepts of EAF and procedures for its application;	Target: Key staff of the main fisheries institutions in at least three of the directly targeted countries are able to participate in discussions on the application of EAF; Baseline: Staff of fisheries institutions have no or little training on the EAF and its application;	Workshop reports; National policy documents; FAO reports	FAO Tunisia, Turkey, Croatia, Montenegro
	11.1.4- The main gaps/needs of the fisheries legal and management system relative to the application of EAF have been identified in the four directly targeted countries, and 4 to 5 proposals for improvement of the fisheries legal and management framework system have been drafted for at least three of the target countries	Number of legislative and management frameworks analysed and number of proposals for improvement drafted	Target: The main gaps/needs of the fisheries legal and management system relative to the application of EAF have been identified in the four directly targeted countries, and 4 to 5 proposals for improvement of the fisheries legal and management framework system have been drafted for at least three of the target countries Baseline: There is no systematic knowledge available on the adequacy of the fisheries legal and management systems for the application of EAF	Project reports; National policy documents; FAO reports	FAO Tunisia, Turkey, Croatia, Montenegro
	11.2.1- Main patterns of by-catch of iconic and vulnerable species have been identified for at least one métier in each of the two target countries, and reports are available with this information	Number of metiers for which the patterns of bycatch of iconic and vulnerable species have been identified and described	Target: Main patterns of by-catch of iconic and vulnerable species have been identified for at least one métier in each of the two target countries, and reports are available with this information Baseline: Main patterns of by-catch of iconic and vulnerable species largely unknown, not allowing the definition of a strategy to reduce it, if necessary	Project report; FAO reports; Countries' reports;	FAO Morocco, Tunisia
	11.2.2- At least 50% reduction of bycatch of endangered/iconic species achieved during the demonstration tests	Relative reduction of bycatch of endangered and iconic species achieved for the target metier in the demonstration project	Target: At least 50% reduction of bycatch of endangered/iconic species achieved during the demonstration test. Baseline: Fishing methods currently used in the directly targeted countries do not take account of possible methods to reduce bycatch of endangered or iconic species	Demonstration reports; FAO reports	FAO Tunisia
	11.3.1- At least 15% of all fishing trips in the selected MPA are monitored with fisher's participation using an adequate design	Proportion of all fishing trips in the selected MPA that are monitored with fisher's participation using an adequate design	Target: At least 15% of all fishing trips in the selected MPA are monitored with fisher's participation using an adequate design Baseline: There is no specific procedure to monitor the fishing activity with fisher's participation in the MPA's of the areas to be investigated	Project reports; FAO reports MPA management reports	FAO Morocco or Tunisia

Table I-5. Component 4. Project Coordination, Replication and Communication strategies, Management and M&E

Outcome	Indicators/Activity	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
Sub-Component 4.1 Project Co-ordination, Management and M&E					
12. Effective project management of the regional component established and coordination and synergy between the Regional Project and the Investment Fund components of the Strategic Partnership.	Establishment of a Strategic Partnership Project Steering Committee (SPPSC) to engage all key stakeholders involved in SAP-MED and SAP-BIO implementation	SPPSC established and functional	Target: Within the first three months of project implementation	Progress reports (HPR) Steering Committee Meeting Reports SP Focal Point reports	UNEP-MAP Regional
	Establishment of a Strategic Partnership Coordination Group	SPCG established and functional	Target: Within the first three months of project implementation	Progress reports (HPR) Steering Committee Meeting Reports	UNEP-MAP Regional
	Establishment of a Project Management Unit for the Regional Component of the Strategic Partnership	PMU established and functional	Target: Within the first month of project implementation	Inception report, HPR reports	UNEP-MAP Regional
	Financial Networking mechanism established linking international and regional financial institutions for NAP implementation and environmental investments	Partnerships established between Public and private sector for SAP and NAP implementation; Guidelines for Public sector investment planning and private sector participation prepared with Cooperation from private and public sectors	Target: Within the first 2 years Baseline: No current regional financing mechanism for SAP-MED and SAP-BIO implementation	Meeting reports; Adoption by MAP of the guidelines; HPR and activity reports	MEDPOL Regional
	Financial Strategies for sustainable financing of SAP-MED developed	Policy briefs; Toolkits	Target: By year 2 Baseline: No financial strategies defined for SAP-MED implementation except for within countries sectoral national plans	Policy briefs; “tool kits” and guidelines; Guidelines; Training documentation; Proposals implementing SAP priorities with funding mechanisms finalized	MEDPOL All participating countries

Outcome	Indicators/Activity	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
	Long-term Barcelona Convention and MAP based public/private framework in place and operational meeting BC defined objectives for sustained LME management.	No of stakeholders informed of projects outcomes No of partnerships established No of environmental initiatives developed with private sector	Target: Strategic framework established within MAP before year 5 Baseline: There is currently no co-ordinated framework to ensure region wide collaboration of private/public sector	Reports of MAP Recommendations approved by the CoP of the Barcelona Convention	MAP and MEDPOL Regional
	Effective national inter-ministry coordination.	All countries have established inter-ministry committees	Target: Within the first 5 months	HPR Project Steering Committee Meeting Reports Focal Point reports	UNEP-MAP All participating countries
14. Involvement of all key stakeholders in the project activities and SAP implementation process	Full stakeholder involvement in the preparation and implementation of all demonstrations	No of stakeholders participating in project demonstration design and implementation Results disseminated to all relevant stakeholders	Target: By year 5 Baseline: Stakeholder participation not always sufficient in past projects due to inadequate planning	Review reports Project documentation showing the extent of stakeholder participation in project committees and activities	MIO-ECSDE, UNEP-MAP (and all co-executing agencies) All participating countries
	GEF SGP projects address the environmental concerns of the SAP MED and SAP BIO	No of GEF SGP aligned with SAP and NAP priorities No of documented case studies from SPG projects identifying lessons	Target: By year 5 Baseline: GEF SGP has not included SAP priorities as part of their criteria in the past	GEF SGP Monitoring and evaluation Project reports Case study reports	MIO-ECSDE Morocco, Tunisia, Egypt, Palestinian Authority, Lebanon, Syria, Turkey and Albania
Sub-Component 4.2 Information and Communication strategies					
13. Replication and Information & Communication mechanisms designed and implemented for Replicable Practices (RPs) under the					
	Identification of Potential Replicable Practices Regional replication strategies designed including their funding mechanisms.	No of Replicable practices identified No of regional strategies developed	20 Priority Replicable Practices identified Regional replication strategies designed and implemented by year 5	APR, HPR, PIR reports SPSC, SPCG Meeting reports PRT documents and reports; PRP Assessment documents; PRP final documents.	INFO-RAC

Outcome	Indicators/Activity	Parameters measured	Target and Baseline	Means of Verification	Lead agency and location
MedPartnership, with results communicated and disseminated	Information & Communication Strategy for the Strategic Partnership developed. Improving access to, and sharing of, information, results and lessons learned with all key stakeholders informed of the project activities.	No of relevant stakeholders and national/international organizations informed of MedPartnership project activities and results. No of access to MedPartnership.org	Relevant stakeholders informed of project activities by year 3. Lessons learned disseminated to all national/international organizations by year 5	Leaflets, brochures, etc. Event reports Web site Videos, Reportages, Documentaries, Clearing-house Campaign reports	INFO-RAC

Annex III. Country participation in activities and demonstration/pilot projects

Table III-1 Country participation in activities

Component/Sub-Component/Activity	Participating Country(ies) and Sites
Component 1: Integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management of coastal aquifer	
Sub-component 1.1: Management of Coastal Aquifers and groundwater	
1.1.1: Assessment of risk and uncertainty related to Mediterranean coastal aquifers	
- 1.1.1.1. Assessment of risk and uncertainty related to Mediterranean coastal aquifers	Overall region assessment, plus case study in Morocco (Nador Lagoon)
- 1.1.1.2. Coastal aquifer vulnerability mapping	Tunisia (Ghar El Melh), Croatia
- 1.1.1.3. Coastal aquifer supplement to TDA-MED	All countries
1.1.2: Regional Actions for Coastal Aquifer Management	
- 1.1.2.1. Development of a Regional Action Plan on Coastal Aquifers	All countries
- 1.1.2.2. Integration of groundwater management in ICZM and IWRM planning systems	Montenegro: Boyana Bay Algeria: Reghaia
- 1.1.2.3. Identification and planning of coastal groundwater demonstrations	Preliminary: Tunisia, Croatia and one country in NE (Syria or Turkey)
- 1.1.2.4. Sustainable Coastal Land Management	Tunisia (Oasis of Gabez)
- 1.1.2.5. Implementation of eco-hydrogeology applications for management and protection of coastal wetlands	Preliminary: Tunisia, Croatia
- 1.1.2.6. Coastal aquifer supplements to SAP MED, SAP BIO and NAPs	All countries
1.1.3: Legislative, institutional and policy reforms for Coastal Aquifer Management.	
- 1.1.3.1. Policy/legal/institutional regional assessment for coastal aquifer management	Regional Status assessment; All countries Detailed assessment (preliminary): Lebanon, Morocco, Tunisia
- 1.1.3.2. Policy/legal/institutional reform, institutional development for coastal aquifer management	Detailed review (preliminary): Lebanon, Morocco, Tunisia
1.1.4: Spatial application – Cross cutting activity	to be defined
Sub-component 1.2: Integrated Coastal Zone Management	
1.2.1. Support activities in preparation of National ICZM Strategies and National Action Plans	
- 1.2.1.1. Strengthening the role of ICZM as a policy framework for biodiversity protection at the regional level	All countries, Turkey as host country for Regional Workshop
- 1.2.1.2. Support to preparation of ICZM NAPs	Albania, Algeria Morocco as host country for Regional Workshop
- 1.2.1.3. Harmonising national institutional arrangements and legislation with ICZM Protocol for the Mediterranean	All countries and one case study in Croatia, also Croatia as host country for Regional Workshop
- 1.2.1.4. Developing/strengthening of coastal legislation, *and integration of Groundwater/aquifer Management and Water Resource Management into ICZM*	All countries, attending Final PAP/METAP ICZM Regional Workshop, in Split Croatia, hosted by PAP All countries, (Croatia as host country for Reg. Workshop on legislation jointly with 1.2.1.3.) Algeria, Albania, Montenegro (IMF WG meetings)
- 1.2.1.5. Improved integrative planning and use of ICZM methodologies and tools to support ICZM Protocol, in particular with reference to IGWM, and IWRM, integration into ICZM, BD protection and impacts of climate change.	All countries, attending Final PAP/METAP ICZM Regional Workshop, in Split Croatia, hosted by PAP, jointly with 1.2.1.4.

Component/Sub-Component/Activity	Participating Country(ies) and Sites
1.2.2. Application of ICZM approach, tools and techniques in demonstration areas	
- 1.2.2.1. ICZM Plans to demonstrate ICZM approach, tools and techniques in selected areas	- Albania/Montenegro (Buna/Bojana river basin and the coastal area) - Algeria (the Reghaia wetlands, lake and coastal area, Agueli island)
- 1.2.2.2. Capacity building for effective implementation and sustainable financing of pilot ICZM projects	- All countries as beneficiaries, - Egypt as host country for Regional Workshop
- 1.2.2.3. Co-ordination and harmonisation of ICZM component with other components' activities in demo projects	- All countries for regional activities, - Albania,Montenegro, Algeria, as countries involved in demo ICZM Plans
Sub-component 1.3: Integrated Water Resource Management	
1.3.1. Contribute to develop the UfM Strategy for Water in the Mediterranean	All countries
1.3.3. Catalyze Action and Build Capacity on National IWRM Planning	Lebanon, Palestine, Egypt and Tunisia
1.3.3. Develop IRBM and dialogue in globally important river basin(s) and adjacent coastal area	Montenegro/Albania: Buna river as part of the extended Drin river system (Albania, Montenergro, Bosnia Herzegovina and Kosovo) Lebanon (the Orontes river watershed)
Component 2: Pollution from land based activities, including Peristen Organic Pollutants: Implementation of SAP-MED	
Sub-Component: 2.1. Facilitation of policy and legislative reforms for SAP MED	
2.1.1. Pilot project on the management of phosphogypsum wastes from phosphate fertilizer production	Lebanon, Tunisia and Syria
2.1.2. Pilot project on chromium, nutrients and BOD control in tanneries	Albania, Algeria, Egypt and Turkey
2.1.3. Pilot project on recycling and regeneration of used lubricating oils	Albania, Algeria, Croatia, Egypt, Lebanon, Morocco, Montenegro, Syria and Palestinian Authority
2.1.4. Pilot project on recycling of lead batteries	Albania, Algeria, Croatia, Egypt, Libya, Lebanon, Morocco, Montenegro, Syria, Tunisia, Turkey and Palestinian Authority
2.1.5. Assessment of the magnitude of riverine inputs of nutrients into the Mediterranean sea	All countries
2.1.6. Project on setting Emission Limit Values (ELV) in industrial effluents and Environmental Quality Standards (EQS)	All countries
2.1.7. to 2.1.9. Permit, Inspection and Compliance Systems	Albania, Bosnia-Herzegovina, Croatia, Lebanon, Morocco, Montenegro, Syria and Turkey
Sub-Component 2.2. Transfer of Environmentally Sound Technology	
Start-up of the project and capacity building Introduction of the TEST integrated approach at the demonstration enterprises Dissemination of the results of the project	Tunisia, Morocco, Egypt
Sub-Component 2.3. Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries	
2.3.1.Legislative and institutional framework for implementation of ESM of PCBs	Albania, Egypt, Lebanon, Libya, Syria
2.3.2 Demonstration projects to improve the management programme of PCBs and facilitate the implementation of NIPs and MED-SAP	Albania, Egypt, Lebanon, Libya, Syria
2.3.3 Awareness of importance of ESM of PCBs equipment	Albania, Egypt, Lebanon, Libya, Syria (and possibly Croatia)
2.3.4 Technical capacity for ESM of PCBs equipment	Albania, Egypt, Lebanon, Libya, Syria (and possibly Croatia)
2.4.5 National capacity to implement PCBs phase-out and disposal programmes	Albania, Egypt, Lebanon, Libya, Syria

Component/Sub-Component/Activity	Participating Country(ies) and Sites
Component 3. Conservation of biological diversity: Implementation of SAP BIO and related NAPs	
Sub-component 3.1: Conservation of Coastal and Marine Diversity through the Development of a Mediterranean MPA Network	
3.1.1. Establishment of coordination mechanism for regional MPA management	All countries
3.1.2. Identification and planning of new MPAs to extend the regional network and enhance its ecological representiveness.	All countries
3.1.2.1 Establish priority activities needed to create MPAs (RAC/SPA)	B&H, Lebanon, Libya, Montenegro and Syria
3.1.2.2 Identify stakeholder group & potential partnerships (RAC/SPA)	Albania, Libya and Morocco
3.1.2.3 Characterization of priority marine sites suitable to become MPAs (country coast assessment (RAC/SPA)	Montenegro and B&H, Morocco
3.1.2.4 Inception, planning, zoning and development of three new MPAs (RAC/SPA)	Montenegro (Island katici, Platamuni and Old Ulcinj, Kotor bay- Bojana transboundary estuary -Lake Skadar area), Croatia (Vis Island),Albania (Karaburuni)
3.1.2.5 Identification of local stakeholder participation mechanism for the pilot MPAs of target countries (RAC/SPA)	Albania, Montenegro, Croatia, Libya
3.1.2.6 MPA creation guidelines and teaching packages: practical methodologies to create sustainable MPAs available to managers and practitioners (SPA/RAC)	All countries
3.1.2.7: Demonstration Project - Libya: The environmental case for a national network of MPAs in Libya (WWF-MedPO)	Libya
3.1.3. Improved management of marine protected areas:	
3.1.3.1. Organize 3 Mediterranean MPA Regional Training Workshops for MPA managers, practitioners and relevant authorities of existing MPAs based on the around specific themes, selected among the most recurrent, highest ranked CB needs obtained from a region-wide preliminary capacity building needs assessment (WWF-MedPO)	All countries
3.1.3.2 Organize specific technical assistance and exchange/twining programmes to provide on-site assistance to new-MPAs managers, practitioners and relevant authorities (RAC/SPA)	At minimum: Albania, Croatia, Syria and Montenegro with other countries running MPAs
3.1.3.3 Organize specific technical assistance and exchange/twining programmes to provide on-site assistance to MPAs managers, practitioners and relevant authorities (WWF-MedPO)	All countries
3.1.3.4 On-job-training for managers, practitioners and relevant authorities in identified demonstration areas, on planning, management and ecological aspects of MPAs (RAC/SPA)	Albania, Croatia, and Montenegro
3.1.3.5 Demonstration Project Turkey	Turkey (Kas-Kekova SPA)
3.1.3.6 Demonstration Project Algeria	Algeria (Taza National Park)
3.1.3.7 Demonstration Project - Croatia: Management and M&E plans for the existing MPAs (WWF-MedPO)	Croatia (Lastovo, Mijiet, Telascica, Brijuni, Kornati)
3.1.4 Ensuring financial Sustainability of regional and national MPA networks	
3.1.4.1: Financial analysis for the establishment of new MPAs (RAC/SPA)	All countries
3.1.4.2: Demonstration Project - Tunisia: Establishment of the management unit of the Cap Nègro-Cap Serrat MPA, development of its Business Plan and identification of sustainable financial mechanism for MPAs (WWF-MedPO)	Tunisia (Cap Nègro – Cap Serrat MPA)
3.1.4.3: Demonstration Project on financial sustainability mechanisms for at least three new MPAs in different areas (RAC/SPA)	Montenegro, Croatia, Albania
Sub-component 3.2: Promote the sustainable use of fisheries resources through the application of ecosystem-based management approaches	
3.2.1 Application of the Ecosystem approach to fisheries management	

Component/Sub-Component/Activity	Participating Country(ies) and Sites
3.2.1.1: Identify needs and priorities for mainstreaming the Ecosystem Approach to Fisheries into fisheries management and research	Tunisia, Turkey, Croatia, Montenegro
3.2.1.2 Develop capacity for the application of the Ecosystem Approach to Fisheries	Tunisia, Turkey, Croatia, Montenegro
3.2.1.3 Identification and proposal of improvements to the legal and management frameworks to facilitate application of the Ecosystem Approach to Fisheries	Tunisia, Turkey, Croatia, Montenegro
3.2.2 Addressing bycatch of regionally important species	
3.2.2.1: Risk assessment to prioritise fishing-related threats to vulnerable fish and iconic vertebrate species	Morocco, Tunisia
3.2.2.2 Develop and demonstrate solutions to bycatch mitigation for protected / endangered species of fish and invertebrates and/or for iconic vertebrate species	Tunisia
3.2.3: Supporting fisher's participation in monitoring and management of coastal MPA's	
3.2.3.1. Participation of the fishing communities on the monitoring of fishing activities.	Morocco or Tunisia
3.2.3.2. Diffusion of the scientific results	Morocco or Tunisia
3.2.3.3. Consultation mechanism for the elaboration and implementation of management measures	Morocco or Tunisia
Component 4: Project Co-ordination, Replication and Communication Strategies, Management and M&E	
Sub-Component 4.1 Project Co-ordination, Management and M&E	All countries
Sub-Component 4.2 Information and Communication strategies	All countries
Sub-Component 4.3. Replication Strategy	All countries

Table III-2 Country participation in demonstrations

Pilot/Demonstration	Pilot/Demonstration Project Sites	No of Demon.
Component 1: Promotion of integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management of coastal aquifer.		
Sub- component 1.1: Management of Coastal Aquifers and groundwater Activity 1.1.2: Regional Actions for Coastal Aquifer Management ***Sub- component 1.2: Integrated Coastal Zone Management*** Activity 1.2.2. Application of ICZM approach, tools and techniques in demonstration areas ***Sub- component 1.3: Integrated Water Resource Management*** Activity 3.3.1. Support for IWRM Planning at the National and Local Levels	- Montenegro: Boka Kotorska Bay;[12] - Montenegro/Albania: Buna river;[13] -Albania/Montenegro Buna (Bojana) river and estuary, Algeria: the Reghaia wetlands, lake and coastal area, Agueli island [14] - Algeria: the Reghaia wetlands, lake and coastal area, Agueli island [15] - Lebanon: The Lithani (Qasmieh) river watershed[16]	4/5
Component 2: Pollution from land based activities, including Persistent Organic Pollutants: implementation of SAP MED and related NAPs		
Sub-Component: 2.1. Facilitation of policy and legislative reforms for SAP MED		
2.1.1. Pilot project on the management of phosphogypsum wastes from phosphate fertilizer production	Lebanon	1
2.1.2. Pilot project on chromium, nutrients and BOD control in tanneries	Turkey	1

[12] To be implemented by UNESCO, PAP/RAC and contribution of GWP-Med
[13] To be implemented by GWP-Med and contribution of PAP/RAC
[14] To be implemented by UNESCO, PAP/RAC and contribution of GWP-Med
[15] To be implemented by UNESCO, PAP/RAC and contribution of GWP-Med
[16] To be implemented by GWP-Med

2.1.3. Pilot project on recycling and regeneration of used lubricating oils	Algeria	1
2.1.4. Pilot project on recycling of lead batteries	Syria	1
Sub-Component 2.2. Transfer of Environmentally Sound Technology		
Start-up of the project and capacity building Introduction of the TEST integrated approach at the demonstration enterprises Dissemination of the results of the project	Tunisia, Morocco, Egypt[17]	12
Sub-Component 2.3. Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries		
Demonstration projects to improve the management programme of PCBs and facilitate the implementation of NIPs and MED-SAP	Albania, Egypt, Libya and Syria	5
Component 3. Conservation of biological diversity: Implementation of SAP BIO and related NAPs		
Sub-component 3.1: Conservation of Coastal and Marine Diversity through the Development of a Mediterranean MPA Network		
3.1.2 Identification and planning new MPAs toi extend the regiobal network and enhance its ecological rapresentativeness		
3.1.2.7: Demonstration Project - Libya: The environmental case for a national network of MPAs in Libya (WWF-MedPO)	Libya	
3.1.3. Improved management of marine protected areas:		
3.1.3.5 Demonstration Project Turkey	Turkey (Kas-Kekova SPA)	1
3.1.3.6 Demonstration Project Algeria	Algeria (Taza National Park)	1
3.1.3.7 Demonstration Project - Croatia: Management and M&E plans for the existing MPAs (WWF-MedPO)	Croatia (Lastovo, Mijiet, Telascica, Brijuni, Kornati)	1
3.1.4 Ensuring financial Sustainability of regional and national MPA networks		
3.1.4.2: Demonstration Project - Tunisia: Establishment of the management unit of the Cap Nègro-Cap Serrat MPA, development of its Business Plan and identification of sustainable financial mechanism for MPAs (WWF-MedPO)	Tunisia (Cap Nègro – Cap Serrat MPA)	1
3.1.4.4: Demonstration Project on financial sustainability mechanisms for at least three new MPAs in different areas (RAC/SPA)	Montenegro, Croatia, Albania	3
Sub-component 3.2: Promote the sustainable use of fisheries resources through the application of ecosystem-based management approaches		
3.2.2.2 Develop and demonstrate solutions to bycatch mitigation for protected / endangered species of fish and invertebrates and/or for iconic vertebrate species	Tunisia	1
3.2.3: Supporting fisher's participation in monitoring and management of coastal MPA's	Morocco or Tunisia	1
TOTAL OF PILOT/DEMONSTRATION PROJECTS		**35**

[17] Under the assumption that 4 demonstration enterprises will be selected per country This is the minimum number of demonstration, but it is expected that the total number of demonstration companies will be higher. The exact number will be confirmed by mid 2010.

Annex IV. Description of Component activities, including demonstrations and relevant supporting information[18]

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[18] Annex F of the original project document

Component 1: Integrated approaches for the implementation of the SAPs and NAPs: ICZM, IWRM and management of coastal aquifers

Sub-Component 1.1: Management of Coastal Aquifers and Groundwater
(GEF 1,770,000 $, Co-financing 4,973,000 $)

Implementing Agency

UNESCO/HP, United Nations Educational, Scientific and Cultural Organization/Hydrological Programme

Background/Context/Rationale

In the Southern, Eastern and Adriatic Mediterranean basins the surface watercourses are limited and the coastal aquifers dominate the discharges and contributions to the Mediterranean sub-basin water balance and related water transport of Land Base Source (LBS) contaminants into the marine and coastal waters. In this process the coastal aquifers control seawater intrusion and coastal salinization and support coastal fresh- and brackish water ecosystems and habitats for a rich biodiversity. The relatively high importance of coastal groundwater exchange with the coastal and marine water bodies is due to the semi-arid and arid climate in the southern and eastern sections, and on the other hand to the hydro-geological conditions and the predominance of karst aquifer systems along the entire Mediterranean coast (Figure 2). As a result a major share of the freshwater inflows into the Mediterranean Sea are in the form of invisible groundwater discharges from large and dominantly non-renewable regional aquifer systems in the south, and from karst and local coastal aquifers, vulnerable to contamination and LBS transport into the coastal waters.

Land degradation, as a major concern along the Mediterranean coast, represents a principal source of LBS pollution of the coastal and marine waters. Coastal land degradation and pollution loads transported and deposited as coastal sedimentation represents a growing threat to coastal and marine biodiversity. Land conservation therefore, especially in upper watersheds in the coastal foothills, offer important opportunities to reduce LBS and silting up of coastal wetlands, and at the same time to address the principal problem of coastal water shortage and drying up and loss of humid zones. The land linkage in integrated coastal land and water management approach could produce important synergies in support of sustainable ICZM. International environmental management, as provided under the Rio Conventions, CBD, CCC, CCD and other global instruments, recognizes the needs and provides for opportunities to work towards a common focus and develop synergies between the conventions in concrete projects at the national and local level where joint land and groundwater management, as the key feature of the coastal aquifer sub-component, represents significant opportunities to synergies between the Conventions (Figure 1). The close linkage between coastal aquifers and lands with their uses and land and groundwater land tenures forms the base for legal and economic natural resource and environmental governance in the transboundary Mediterranean coastal zone and LME. The approach under the sub-component, for the implementation of regional plans of action is focused on the reduction of increasing pollution and biodiversity loss from degradation of coastal land and water resources. This entails the supplement of the TDA-MED with groundwater and land related issues, and the introduction of sustainable coastal natural resources management, focused on land and groundwater resources management for synergies under SAP-MED and SAP-BIO.

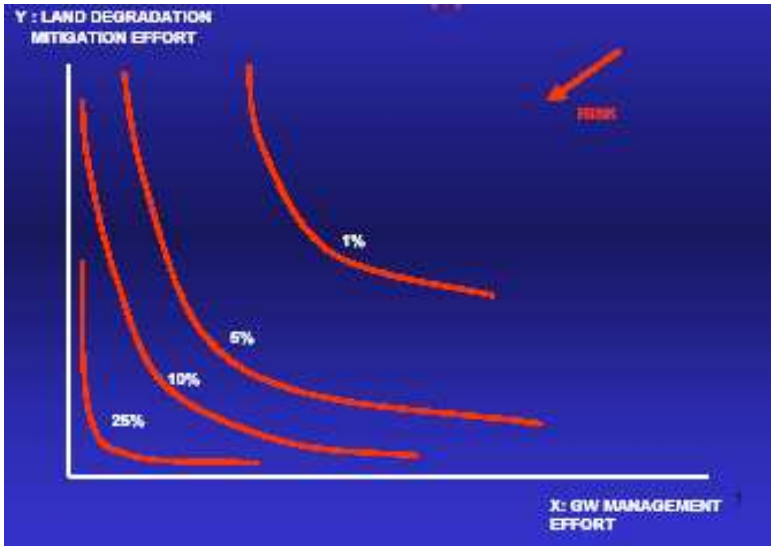

Figure 1: Joint land and groundwater management; synergies for reduced risk

The coastal aquifer systems constitute the hydrological interface between the marine and the terrestrial eco-systems with important environmental and social functions that are critical to sustainable coastal zone development and reduced coastal aquifer and land degradation. In the densely populated, rapidly developing and increasingly urbanized Mediterranean coastal zone, the coastal aquifers support land uses and protection of productive land as well as the ecological functions of groundwater dependent coastal wetlands including major lagoons and, with large subsurface storage volumes, represent a generally available and secure water supply. Water shortage, on immediate and longer term represents the common major concern along the Mediterranean coast, and with over-use and pollution the coastal aquifers are increasingly threatened by depletion and degradation driven from growing water demands, and impacts of climatic change and coastal drought. The adverse consequences include land degradation as soil degradation with coastal salinization and loss of land productivity and coastal wetlands and biodiversity. The need is for improved water demand management with appropriate water and land resource enhancement and rehabilitation with managed aquifer recharge and water re-use. There is the requirement to revert current trends of coastal land degradation, with soil erosion, salinization and sedimentation that contribute a substantial share of the growing flows of LBS contaminants transported into the sea. Seawater pollution represents one of the MPPI's and transboundary issues in the TDA-Med, and is addressed in the GPA and the LBS Protocol. Re-use of large and rapidly increasing volumes of urban wastewater, currently being discharged into the sea, represents a significant additional source to address the priority concern of coastal water shortage, and in the light of the current poor records and the limited prospects for large investments in wastewater management an alternative supplementary efficient approach with environmental and productivity benefits to reduce LBS pollution. In this perspective the rational of the sub-component is built on synergies from integrated approaches with the objective of sustainable coastal land and groundwater management utilization and protection, coastal land rehabilitation and waste water re-use towards zero-discharge waste discharges from point and diffuse LBS and mitigating coastal water shortage is a principal strategy under the development objectives for sustainable ICZM.

The coastal aquifers support large numbers with many listed coastal wetlands as habitats for coastal and marine biodiversity that include fresh and brackish water humid zones and coastal lagoons with listed habitats and threatened transboundary sites related to Mediterranean coastal and marine biodiversity that include internationally important landing sites for migrating birds. With depletion and degradation of the coastal aquifers and land degradation and sedimentation, groundwater dependent wetlands are drying up or degraded by salinization and sedimentation from accelerated land degradation changing sea and

freshwater exchange in brackish wetlands and lagoons with consequent degradation and loss of coastal wetland ecosystems and biodiversity, wealth and well-being of coastal populations, and decline in increasingly demanded ecological services including climate and flood regulation and coastal water pollution reduction and denitrification. The trend for sustainable wetland protection is towards cross sectoral and eco-system approaches, focused on action land and aquifer system management that consider the trade-offs between different and current and future ecosystem services. The sustainability and the resilience of coastal groundwater and land systems are facing new challenges from climatic and global change, as demonstrated by the high sensitivity even to moderate rise in the sea level.

Immediate opportunities and benefits include important synergies between joint groundwater and land management especially along the southern and eastern coasts through water watershed management, and land conservation in the foothills to secure recharge of coastal aquifers, critical to the coastal oasis as sustainable humid zones for contemporary development, settlement and biodiversity in the arid southern coast, control sedimentation and prevent seawater intrusion and coastal zone salinization. The land degradation and the coastal sedimentation have a variety of adverse impacts on the coastal ecosystems including habitats and ecological functions affecting fisheries reproduction, and water retention and purification including nutrient cycling. The threats from the impacts of land degradation include coastal wetlands, where different categories and specific wetlands are referred to in the reference wetlands mentioned in the chapter *Supplementary Information A*; Hydrological management of coastal wetlands. Among the threatened coastal and marine habitats include, in addition to the above coastal oasis generally present, and significantly transboundary sea grass bottoms, and also coral reefs that are highly vulnerable to sedimentation as the result of coastal land degradation and sedimentation. Other examples are coastal wetlands and brackish ponds and coastal lagoons that are being affected by coastal land degradation. Further options to address and reduce land related threats from non-sustainable practices, including irrigation and mono-culture in coastal agriculture, include coastal soil erosion control, identification and measures to prevent and reduce the flow of nutrient into the marine waters and growing coastal discharges of land-based source POPs and PCBs with pesticides and other agro-chemicals, especially in the coastal zones located in karstic areas with high vulnerability for pollution and contamination transport. An ultimate and cross-cutting option is to strengthen the capacity in agricultural land use planning. The above threats and options for action underline the importance to identify and address important OP-15, including coastal sedimentation, salinization, reduced purification and nutrient cycling, and loss of coastal wetlands, together with land productivity for rural and urban development, as well as OP-14 linkages with contamination transportation agents as sedimentation, infiltration and storm runoff. In particular there is need to support and strengthen the capacity on land management activities and to value conservation, sustainability and productivity benefits and to review joint coastal groundwater and land management and governance as common pool resources.

The activity on sustainable coastal management brings the focused and policy intervention on improved land management and sustainable land use options for land and water resources. The issues, with dry land degradation or desertification and degradation and salinization in the water scarce in the southern Mediterranean semi-arid coastal zones aid, and coastal land and water salinization driving accelerated coastal desertification are reflected in the SRAPs and to less extent the NAPs adopted by in the Mediterranean coastal sub-regions (e.g. Union of Magreb States (UMA) and a majority of the individual Mediterranean coastal states. The SRAPs offer the opportunity for coordination and synergy under the UNCCD process. For policy and investment intervention and demonstrations of sustainable land management, the focus is on coastal agriculture in particular coastal irrigation and catch cropping and aquaculture for nutrient cycling

The coastal ground waters and land resources are critical to coastal zone and coastal basin development. The aquifer resources cut across coastal zone development and, in sections

with coastal rivers, river basin systems and ICZM and IWRM planning systems with opportunity to introduce application of groundwater parameters and enabling provisions under selected cases of joint ICZM and IWRM planning for synergies from collaboration with the project partners, IWRM (GWP-MED) and ICZM (PAP-RAC) under the project.

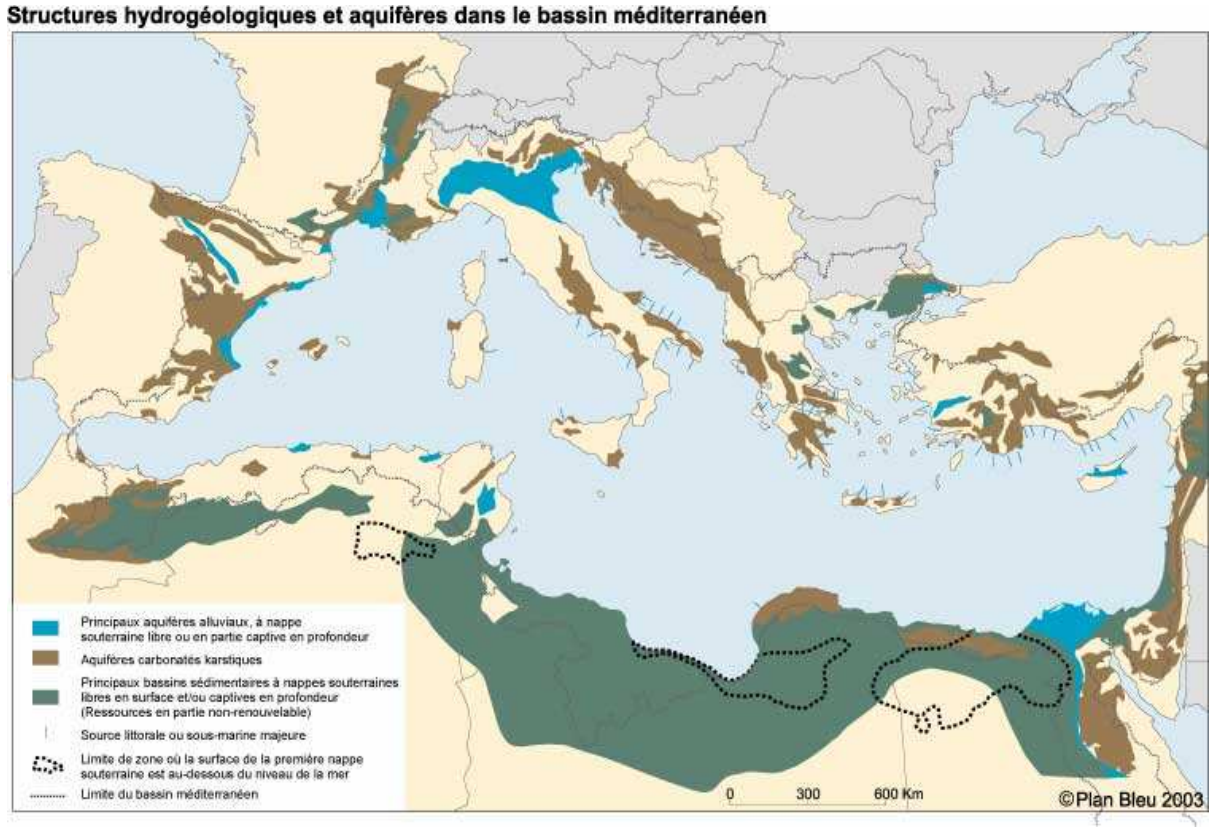

Fig. 2 Hydro-geological structures and aquifers in the Mediterranean basin

Description of activities, including demonstration and pilot projects

Within the **general objective to supplement and support the achievement of the targets established by SAP MED and SAP BIO**, the immediate objectives of the sub-category are to establish:

- Improved knowledge on the status of coastal aquifers and coastal land systems and their vulnerability and related risk,
- Scope, priorities and guidelines for regional action for integrated coastal aquifer and land management, for reduced LBS pollution and eutrophication, enhanced coastal water security and mitigation of coastal land degradation and salinization, for conservation of coastal ecosystems and biodiversity
- Legal, institutional and policy reforms for coastal aquifer and related coastal land management.

The activities under the sub-category are organized under three technical assistance components. The sub-category activities will be implemented over a total period of 3.5 years, coinciding with the the regional component project, including consolidation, dissemination and follow up of the sub-category outcomes. The activities under the technical assistance components, including the governance with the legal/policy/institutional activity are supplemented with capacity and awareness building support targeted towards action and implementation.

Collaboration with the project partners

The activities under the aquifer subcategory, will be coordinated with related activities executed by other project partners, with legal, institutional and policy reforms exploring linkages with the regional protocols and policy instruments under the Barcelona Convention, coordinated with and feeding into related activities, in particular the ICZM and the IWRM components in collaboration with PAP/RAC and GWP-MED.

The activity on implementation of eco-hydrogeology applications for management and protection of coastal wetlands will be coordinated with the Ramsar Secretariat and SPA/RAC on identification of coastal wetlands priorities and synergies for SAP-BIO implementation based on recent methodology and experience from the GWD coastal wetlands and in cooperation with the Geologival Survey in Spain.

The collaboration with the project partners will be focused on joint capacity building programs, development of common planning parameters and enabling provisions and institutional arrangements, and reflected in the scope and locations of groundwater demonstrations.

The project activities, 1.1.2.4 *Sustainable coastal land management,* and 1.1.2.5 *Eco-hydrogeology applications for management and protection of coastal wetlands,* are closely linked to coastal aquifer resources and both directed towards introduction and integration of cross-sectoral and ecosystem approaches, building on established methodology for SLM and biodiversity preservation to address two of the main concerns in the TDA-MED, as LBS coastal water pollution and eutrophication, and degradation and loss of groundwater dependent coastal wetlands and ecosystems, from coastal land degradation and sedimentation. Such integrated methodology will have global application in support of sustainable ICZM and biodiversity preservation for replication and enhanced implementation beyond the Mediterranean basin, under the above projects, and in other coastal and SIDS systems.

The land management activity, under OP-15 is introduced as a supplement under the TDA-MED to establish and draw upon the linkages under the OP-15 on policy, and legal and institutions including under the UNCCD and ICZM, with a priority attention to coastal land use, especially irrigated agriculture and the environmental and sustainability threats to the Mediterranean LME caused by non-sustainable land management and use practices. The immediate objective is to address negative impacts of coastal groundwater and land degradation to secure functions and integrity of coastal and also marine ecosystems through sustainable land management practices. This activity is focused on integrated water and land resources in coastal oasis systems along the southern Mediterranean coast.

1.1.1 Assessment of coastal aquifer risk and uncertainty and mapping of their vulnerability

(GEF 625,000 $, Co-financing 1,500,000 $)

The activity supports upfront assessment and dissemination of the main Mediterranean coastal aquifer systems and knowledge mapping of the information base for identification of related risk and uncertainty. Coastal aquifer risk and uncertainty are assessed based on commonly accepted and emerging concepts on regional risk and environmental security in the coastal zone, including aquifer vulnerability mapping, identification of seepage and submarine discharges into coastal and marine waters, land degradation and sedimentation with related transportation of LBS contaminants, land and water salinization, coastal wetlands and sustainable socio-economic development and human well being. The component provides the vulnerability mapping of a coastal aquifer representative of each main category of coastal aquifers, in a selected pilot country in the sub-regions. The component supports the preparation of four case studies of coastal aquifer systems, in the southern coast of karst and alluvial coastal aquifers in the eastern Adriatic coast. Drawing upon the risks and

uncertainty assessment and the vulnerability mapping, a coastal aquifer supplement to the TDA-MED.

1.1.1.1 Assessment of risk and uncertainty related to Mediterranean coastal aquifers
(GEF 125,000 $, Co-financing 200,000 $)

The activity (consultant study; national and regional workshops) includes two steps: the preparation an updated inventory assessment of the coastal aquifer resources in the Mediterranean (see the paragraph *Additional Information*) and the identification and concepts with assessment of main risks and uncertainties, related to coastal aquifer and land systems and wetlands and to ICZM with related transboundary issues (see the paragraph *Additional Information*).

The assessment will establish the significance of related social, economic and environmental attributes, objectives and goals related to coastal aquifer risk (e.g. saline intrusion and coastal zone salinization, coastal aquifer pollution and groundwater transport and discharges into coastal and marine waters of LBS contamination, loss of coastal ecosystems and wetlands etc.) and assess the causes with socio-economic drivers and pressures.

The assessment and adoption process includes:

(a) Review of the identified risk at national level and in the perspective of national attributes; based on the studies and compilations of national consultants in the (13) Mediterranean countries
(b) Trade-off of country and alternative attributes; and
(c) Reconciliation of risks and uncertainties and aggregation of country information and diverting attributes into a regional consensus towards a common assessment, including the approach and framework on shared the risk and uncertainty.

1.1.1.2 Coastal aquifer vulnerability mapping: pilot project in one selected country
(GEF 400,000 $, Co-financing 400,000 $)

The coastal aquifers in the Mediterranean are subject to intensive exploitation in support of social and economic growth of the increasingly urbanized, densely populated and economically important coastal zone. This has resulted in increased groundwater and consequent land salinization, from salt-water intrusion in the coastal aquifers with loss of water and land resources with adverse environmental, social and economic impacts. The eastern coast of the Adriatic Sea and also the Levantine sub-basin are characterized by the karst hydrogeology with high infiltration and vulnerability, limited surface runoff, and high submarine groundwater discharges from karstic aquifers and springs. In these systems, anthropogenic contamination of groundwater resources can result in harmful impacts on the quality of the coastal environment and in transfer and seepage discharge of LBS contaminants into the coastal waters and the sea. In the perspective of these threats, Italian research teams have developed coordinated national programs to introduce and apply state-of-the-art technologies and tools to land management, definition of relationships and the interface between freshwater and seawater, the dynamics of salt water intrusion, with assessment and mapping of the vulnerability of the coastal aquifers.

The vulnerability mapping activity, focused on defining the management efforts for quality protection in the coastal aquifers, is based on assessed and mapped coastal aquifer vulnerability. The activity draws upon the unique Italian experience and applied methodology for coastal area management based on inventory, identification and mapping of aquifer vulnerability. A team of specialists from Italian universities, with selected case studies, will develop GIS based aquifer vulnerability maps as tools to invent and monitor the sources and the risks of LBS contamination of the coastal aquifers based on the selected coastal aquifer

in Tunisia. The actvity is supported by the case and research study of the Nador Lagoon in Morocco that is coordinated with the Nador Lagoon Sub-Project under the GEF-World Bank Mediterranean LME Investment Fund.

The objective of the activity is to transfer the above technology and knowledge to responsible institutions and establish sustainable and capacity to for autonomous prevention of aquifer pollution risks and degradation of the coastal and the marine environment, in the in countries Adriatic and the Southern Mediterranean basins. In this sense the vulnerability mapping and case studies of selected karst coastal aquifers will be executed by national expertise in Croatia.

The activity, involves coordinated pilot projects in Tunisia, with the following outputs as relevant:

- Field assessment of coastal aquifers and the LBS pollution risks from groundwater flows to the sea;
- Development of local awareness on sea water intrusion;
- Preparation of computerized maps for selected areas of contamination sources, with classification of the vulnerability for sea water intrusion and contamination of the coastal ground waters;
- Establishment of a computerized management information system for management of the aquifers in the coastal zone, including GIS systems, for risk prevention based on databases and vulnerability maps.

1.1.1.3 Coastal aquifer supplement to TDA-MED: development of a coastal TDA supplement (GEF 105,000 $, Co-financing 300,000 $)

The activity (national consultancy and one regional workshop) includes two steps based on the outcome of the risk and uncertainty assessment study and the vulnerability mapping, a coastal TDA supplement to the substantial sections under major environmental concerns, legal and Institutional analysis and environmental quality objectives, compiled and reconciled from the national reports is developed and adopted in a regional workshop as a supplement to the TDA-MED.

1.1.2 Regional Action for Coastal Aquifer Management
(GEF 775,000 $, Co-financing 2,423,000 $)

The component aims at formulation and the development and initiated implementation in support of the objectives under TDA-MED, SAP-MED and SAP BIO, of a regional plan for regional and national actions of coastal groundwater and land management. The plan will identify priority issues and steps to identify, manage and protect coastal aquifers and related land systems with reference to the geographic, hydro-geological and environmental conditions of coastal ground waters, sustainable land management, including socio-economic issues and policy and strategies on groundwater and land management. The component will then define integrated actions, including managed recharge and re-use for zero-disposal of waste into the marine water body, and land management and eco-hydrogeology applications for management and protection of coastal wetlands to control groundwater salinization and pollution (see the paragraph *Additional Information*) and coastal degradation (see the paragraph *Additional Information*), and consequent LBS transport through groundwater discharges and sedimentation into coastal and marine waters.

Groundwater storage and flows, and transport and discharges of LBS coastal pollution are critical to waters security and sustainable coastal zone and coastal basin development cutting across the ICZM and IWRM planning systems. Groundwater with land parameters for joint ICZM and IWRM planning at field level, at two selected demonstration sites will be

developed and applied in collaboration with the Sub-component 1.2 (ICZM/PAP-RAC) and Sub-component 1.3 (IWRM/GWP) under the project.

The approaches under the plan with up-to-date appropriate technology for regional action will be demonstrated in replicable coastal groundwater demonstrations at two sites . One of these will be located in the eastern Adriatic coast (Boyana Bay, Montenegro), and will focus on the development and application of groundwater modelling tools in the framework of and to support Integrated Coastal Zone Planning and Management. The second demonstration site will be located in North African coast (Reghaia Lake and coastal wetlands, Algeria) with integrated systems for managed aquifer recharge, agricultural waste water re-use and sustainable land management to mitigate coastal sedimentation and related coastal pollution land where priority options and opportunities (see the paragraph *Additional Information*), will be reviewed and selected for regional effectiveness and replicability and planned for implementation. The actions identified under the regional action plan will be added to and integrated as supplements under the SAP MED, the SAP BIO and the NAPs.

1.1.2.1 Development of a Regional Action Plan on Coastal Aquifers
(GEF 100,000 $, Co-financing 200,000 $)

The regional action plan on coastal aquifer and land management will organized as a common regional Mediterranean plan, with sub-regional plans for, (a) the Southern and Central basins, (b) the Levantine and Aegean Sea basins, and (c) the Eastern coast of the Adriatic Sea basin. The plan will define the actions to address aggregated coastal aquifer risk and uncertainty from adverse impacts as, (a) aquifer depletion, sea water intrusion and coastal zone salinization; (b) LBS aquifer pollution and contaminant transportation into coastal and marine water bodies, (c) coastal land degradation and desertification. The action plan will provide an integrated instrument towards the project objectives balancing social, economic and environmental attributes within the framework of actual, prospective future impacts on the coastal aquifers, in consideration of socio-economic drivers and pressures in particular agricultural water demands and use of agro-chemicals, trends of coastal urbanization, industrial development and growth in sea side tourism with the resulting groundwater overuse and pollution. The process of the plan development will include following steps:

(a) Preparation of draft sub-basin action plans by (3) sub-regional consultants, and including 3 sub-regional workshops ;
(b) Reconciliation into a common regional action plan by an international consultant in a regional Mediterranean workshop.

The activity will build on country participation mainly through the national IHP Committees, and the G-WADI network.

1.1.2.2 Integration of groundwater management in ICZM and IWRM planning systems
(GEF 100,000 $, Co-financing 200,000 $)

Groundwater flows and storage, and transport and discharges LBS coastal pollution are critical to coastal zone and coastal basin development and make part of ICZM and IWRM planning systems. Groundwater parameters for joint ICZM and IWRM planning at field level developed and applied in collaboration with IWRM and ICZM. The demonstrations will expose integrated management approaches and the synergies with environmental, social and productivity benefits and include a common Aquifer, IWRM and ICZM management demonstration jointly with GWP-MED and PAP/RAC in a selected river basin and coastal zones.
The activity, supported by an international consultant include workshops at two integrated coastal groundwater demonstration sites: Bojana Bay in Montenegro and Reghaia Lake, in Algeria.

1.1.2.3 Identification and planning of coastal groundwater demonstrations
(GEF 200,000 $, Co-financing 200,000 $)

The activity will review and identify replicable priorities and opportunities for the coastal aquifer and land demonstrations including appropriate integrated management approaches for multi-environmental and social benefits, and identify three (3) representative sites, for replicable integrated groundwater demonstrations of methodology to address coastal pollution (see the paragraph *Additional Information*), and other threats and issues related to the coastal aquifer and land degradation, to demonstrate integrated approaches of zero-waste discharges into coastal waters, measures to address depletion and degradation and salinization of coastal aquifer salinization and eco-hydro-geological management and protection of coastal eco-systems and groundwater dependent wetlands. The activity is described further in Supplementary Information B (Table 1).

The three integrated demonstrations (see the paragraph *Additional Information)*, will be planned for representative coastal areas in the three sub-regions (1) the North African coast (Tunisia), (2) the Eastern Adriatic coast (Croatia and Montenegro); and (3) the Eastern Levantine coast (Lebanon or Egypt). In the light of the social diversities between the sub-regions, and the differences in karstic and sedimentary aquifer systems, the activity will be directed towards planning and pre-design, including capacity building and training programs and exchange and replication mechanisms.

1.1.2.4 Sustainable coastal land management
(GEF 0 $, Co-financing 1,333,000 $)

To ensure a sustainable coastal natural resource base with water and land management the activity on sustainable coastal land management is focused on land management objectives, with assessment of impacts of land degradation and related threats from non-sustainable agricultural and other coastal land use on the coastal and marine ecosystems priority issues, as loss of habitats and biodiversity as well as land and water productivity. In the semi-arid coastal sections the activity aims at coordinate and establish linkages between the SAP-MED and SAP-BIO and the Sub- regional Action Programme (SRAPs), notably for the Magreb and the Western Asia sub-regions, under the CCD process.

The SRAPs are directed towards two thematic network areas on (a) sustainable water resources management; and (b) sustainable management of the vegetation cover, with the control of deforestation, overgrazing, and non-sustainable agricultural land uses, as monoculture for food crop production. The SRAPS address the transboundary coastal ecosystems, especially the coastal plains.

One focus area is sustaining the water resources and hydrogeological conditions and control sedimentation of wetlands including groundwater recharge and flood control. This is essential to sustain a wide range environmental and production services of wetlands and reduce nutrient discharges and eutrophication. This includes nutrient recycling and conversion; filtering and trapping with efficient opportunities related to irrigation and waste water re-use and managed aquifer recharge. The activity will be coordinated with parallel activities under the component, especially eco-hydrogeology and planning of integrated demonstrations for synergies and pressure-reduction benefits in coastal dry lands, wetlands and fresh- and brackish water and marine ecosystems.

The activity provides for a comprehensive integrated coastal aquifers and land management study in the Gabes Coastal aquifers in the southern coast of Tunisia, including:
assessments of groundwater resources, socio-economic development with related groundwater needs; the oases ecosystems and relationship with groundwater; tools for

integrated management of groundwater resources and related ecosystems. For a more detailed decription of the activity please refer to Annex

1.1.2.5 Implementation of eco-hydrogeology applications for management and protection of coastal wetlands
(GEF 200,000 $, Co-financing 240,000 $)

The activity supports the introduction and implementation of up-to-date technology for hydro-geological management and protection of listed and other coastal wetlands along the Mediterranean coast, as a strategic integrated option for action for conservation of the coastal aquifers and sensitive groundwater dependent ecosystems and habitats for coastal and marine biodiversity, provided for under the Ramsar Convention (i.e. in the Valencia Declaration 2002), in SAP BIO and in national conservation policies. The activity, executed in cooperation with the Spanish Geological Survey (IGME), builds on the experience from the recent comprehensive assessment, classification and management intervention for protection and restoration of (13) coastal wetlands in Spain. The activity involves four steps:

a. Hydro-geological pre-assessment of the Mediterranean coastal wetlands for groundwater dependence, with identification of current and potential threats, and the scope for hydrological management intervention;

b. Develop methodology and guidelines for hydro-geological management of coastal wetlands; with wetland typology and classification for genetic origin, morphology, as i.e. bays, deltas or coastal plains and fluvial activity and functions; assessment of hydro-geological conditions including associations with and recharge from nearby aquifers and the degree of interdependence with underlying and associated ground waters; related hydro-chemical characteristics and possible contamination threats;

c. Plan application of the methodology in representative selected priority Mediterranean coastal wetlands;

d. Develop a plan for action for eco-hydro-geological management and protection of priority coastal wetlands as supplement to SAP BIO (in coordination with SPA/RAC).

1.1.2.6 Coastal aquifer supplement to SAP MED, SAP BIO and NAPs
(GEF 175,000 $, Co-financing 250,000 $)

The activity, that includes synthesis and review study, sub-regional and regional workshops, will consolidate the results of the Activities 1.1.2.1 – 1.1.2.5 and develop the coastal groundwater and land management supplements to SAP MED, SAP BIO and NAPs.

1.1.3. Legal, institutional and policy reform for Coastal Aquifer Management (GEF 370,000 $, Co-financing 400,000 $)

The activity supports a regional review and assessment of the existing policy frameworks with legal and institutional mechanisms at regional and domestic level for the implementation of coastal aquifer management and development. Policy gaps and requirements for policy, legal and institutional reform for coastal aquifer management will be identified, assessed and considered for provisions under the regional MED protocols (ICZM, LBS and Biodiversity protocols), or as an independent protocol on coastal groundwater and land management, and in the policy instruments and supplementary provisions to SAP MED, SAP BIO and NAPs (developed under Activity 1.1.2.6). The approach includes (a) review and assessment of the existing policy, legal and institutional frameworks for groundwater management in the participating countries (domestic level; bilateral/regional); b) based on these results, development and recommendations of policy, legal and institutional reforms on coastal aquifer management.

This component is planned to be supported by a FAO Technical Cooperation Project (TCP), built and conducted at the request of three among the participating countries. It is expected that the TCP will focus on pilot projects in these countries to be conducted at their request for developing a mechanism for coastal aquifer governance cooperation.

1.1.3.1 Policy/legal/institutional regional assessment for coastal aquifer management
(GEF 170,000 $, Co-financing 200,000 $)

The activity includes assessment of existing water resources and environmental policy with legal and institutional frames regarding coastal aquifer and groundwater and related environmental management, and the capacity and current gaps to addressing related risk and uncertainties. (a) At the domestic level in the project countries, and (b) in related international instruments, regional protocols under the Barcelona Convention and in the regional strategic policy instruments. It involves the two sequential but partly parallel steps:

a. Assessment of existing legal and institutional frames regarding groundwater management in the 13 Mediterranean countries (Albania, Algeria, Bosnia and Herzegovina, Croatia, Egypt, Lebanon, Libya, Morocco, Montenegro, Syria, Tunisia, Turkey and The Palestinian Authority), related protocols (ICZM, LBS and Biodiversity) under the Barcelona Convention and strategic policy instruments (SAP-MED, SAP-BIO). Attention will be given to coordination and integration of the ICZM and IWRM frameworks at regional and domestic level.
   At the national level
   - Review of current national water policy, including socio-economic and development factors with agricultural and urban use;
   - Assessment and review of current existing water laws (with GW provisions in such laws), specific regulations on GW management, environmental laws and regulations, and extract and analyse the principles and specific provisions regarding GW, and regarding coastal aquifers if any, according to a common thematic scheme to be elaborated and adopted for the analysis of the domestic provisions in the project countries;
   - Assessment of the institutions in charge of GW management and GW related environmental management of their functions and responsibilities;

   At the regional/bilateral level
   - Assessment of international regional and bilateral agreements/MOU/conventions that include management/protection provisions on groundwater and GW and GWD systems (etc)
   - Analysis of the specific provisions on GW, and on coastal aquifers if any;
   - Assessment of regional and bilateral institutions.

b. Building on the result from step a, assessment of the requirements and the provisions regarding the coastal aquifers in international instruments, the Barcelona Convention, and related protocols and regional policy instruments. Identify and conclude on issues, gaps and required action for legal and policy reform at regional and national level.

1.1.3.2 Policy/legal/institutional reform, institutional development for coastal aquifer management
(GEF 200,000 $, Co-financing 200,000 $)

The activity, which includes national meetings and regional workshop, provides for development and implementation of policy and legal and institutional reform with establishment of regional and sub-regional consultation mechanisms for harmonized action on coastal aquifer management.

1.1.4 Spatial technology applications - cross cutting activity
(GEF 0 $, Co-financing 450,000 $)

Spatial observation technology is a recognized strategy, taking on an expanded role and becoming a powerful tool for the implementation and monitoring of international environmental management under global and regional environmental conventions. In relation to groundwater management and monitoring ESA and UNESCO under the TIGER programme is developing applied spatial observation and data collection methodology for selected pilot areas in the North Western Sahara and the Iullemeden aquifer system. The advantages and cost-effectiveness of spatial remote sensing and radar observation methodology in groundwater and coastal zone management is the capacity to cover large, remote land, and sea, areas for benchmark surveys with enhanced data baselines and employ series of satellite imageries for continuous monitoring and real-time observations for short term interventions. This provides the opportunity to establish models and correlations for local and regional aquifer systems and the interaction between terrestrial freshwater systems and the sea. Possible spatial observations in the coastal zone include a wide range from coastal groundwater uses, aquifer recharge, depletion and salinisation, impacts in the coastal zone and ecosystems of climatic change to coastal and submarine groundwater discharges and resulting land based coastal water pollution and eutrophication.

With this capacities the activity 1.1.4 Spatial technology applications is cross-cutting and supports the parallel activities and provides for cost-effective monitoring under Sub-component 1.1, and also of other aspects of ICZM addressed under the regional project.
The activity will be developed through spatial technology expertise, and series of satellite and other imageries of the project areas.

Expected Results

The outcomes expected under the Sub-category are:

1.1.1. Improved knowledge on the status of coastal aquifers, their vulnerabilities and related risks.

Risks and uncertainties on coastal aquifers, with linkages and impacts from and on coastal land, and LBS pollution transportation to coastal and marine waters assessed and accepted.
Vulnerability of coastal aquifers implemented in selected countries and for representative and applicable hydrogeological conditions and aquifer systems along the Mediterranean coast, Coastal aquifer supplement to the TDA-MED developed and adopted.

1.1.2. Regional Actions for Coastal Aquifer Management;

- Regional action plan on coastal aquifer management developed and agreed, including,
- Integrating coastal groundwater under ICZM and IWRM demonstrations;
- Identification and programs for groundwater demonstration projects,
- Sustainable coastal land management introduced and used as strategy for LBS pollution reduction, land and water resources productivity enhancement, mitigation of coastal salinization and conservation of coastal and marine ecosystems wetlands, within the scope of ICZM.
- Introduction of sustainable coastal natural, land and water, resources management with:
  - *Strengthened capacity for improved sustainable land management planning,*
  - *Strengthened policy, regulatory, and economic incentive framework for adoption of sustainable practices for preservation of the structure and functional integrity of ecosystems, and improved productivity of land, and*

- Established linkages and coordinated action with global, regional and national action plans under UNCCD.
- Hydrogeological management approaches of coastal wetlands introduced. Classification and methodology for hydrogeological management of coastal wetlands tested in selected wetlands, and adopted for region-wide implementation,
- Coastal aquifer options for action introduced and adopted as supplements under SAP MED and SAP BIO and NAPs;

1.1.3. Legal, institutional and policy reforms for Coastal Aquifer Management.

- Policy/legal/institutional mechanisms for coastal aquifer management at regional and domestic level assessed for gaps and strengthening.
- Consultation mechanism for integrated coastal aquifer management, addressing land development and related threats to Mediterranean LME ecosystems, including coastal, marine biodiversity and habitats, sustainable land and water productivity and protection, developed and adopted at technical regional and domestic level.
- Establish linkages and operational provisions with other environmental instruments including CCD, CBD, and CCC.

1.1.4 Spatial technology applications

- To support the parallel activities and provide for cost-effective monitoring under Sub-component 1.1, and also of other aspects of ICZM addressed under the regional project.

Risk and Sustainability

Project risks under the Sub-Component 1.1 and its implementation are related to political and policy, socio-economic and institutional factors, with governance capacity and coordination and integration constraints. The main risk is limited inclusiveness and country participation in the implementation of the developed methodologies and approaches. Other risks relate to limited awareness and recognition of groundwater as a critical natural resource, and attitudes and limited attention and capacity to manage and protect groundwater resources resulting in uncontrolled extractions driven by growing water demands, and degradation from salinization and quality degradation from surface and human-induced pollution. Other risk is related to obstacles to integrated cross-sectoral and eco-system approaches due to sector-based attitudes and interests in established water and land using sectors and urban water and sanitation industries, such as agriculture and traditional and vested interest in water supplies and waste water disposal. The risks are further impaired from social constraints and reluctance to adjust domestic agricultural water use and food security policy. However with changing national attitudes and policies and inter-regional initiatives including the European Neighbourhood Policy, groundwater resources management and environmental protection are come at the focus as priority strategy for sustainable regional and national development in particular in the economically important and fast growing coastal zones, and coastal aquifer management has become a mainstream issue expected to attract political attention and the commitment. In conclusion the political and policy, institutional, and integration risks at regional and domestic level can be expected to be balanced by the motivation and government commitment to the critical issues of water resource security and coastal zone development.

Other risks, as well as institutional challenges under the project is the integration of a groundwater as a fresh water resource administrated under water resources administrations, under regional or zone based development institutions responsible for the coastal development and coastal water bodies. The issue is addressed under the activities under sub-category and coastal aquifers are reflected in the draft *MAP draft Protocol on the integrated management of Mediterranean coastal zones* and the sectoral integration is also under the Inter-ministerial Coordination Function provided under the regional project to strengthen coordination of the implementation of SAP MED and SAP BIO at country level.

The risk of limited coordination between regional and country and replication of methodologies and approaches is addressed through three homogeneous and manageable 4-country sub-regional groups.

The sustainability of the project outcome is secured through awareness and capacity building programmes under the sub-category and the opportunities to link up and integrate the coastal aquifer activities, in relation to immediate common and transboundary issues that include coastal water shortage, land degradation and desertification and sea water pollution to the programs in parallel water resources, regional development and inter-regional trade programs and ecological conservation initiatives in the Mediterranean. A vision of zero-waste-discharge based on integrated groundwater and land management and efficient re-use of growing flows of waste water from coastal urban areas would represent a common driver for reduced common risk in the Mediterranean coastal zone.

Linkages with other programmes and initiatives

Parallel GEF coastal groundwater projects

The coastal aquifer subcategory is linked to three currently ongoing or pending coastal groundwater projects, introducing groundwater into coastal zone development in LME, and SIDS systems:

- GEF/IW-UNEP: *Joint Management of Coastal Aquifer System of the Gulf of Guinea,* within the Guinea Current LME, for equitable management and use of the coastal aquifers system for sustainable development and protection of biodiversity and natural resources in the terrestrial and marine sections of the coastal zone.

- GEF/IW-UNEP: *Management of Risks to Sustainability of Coastal Aquifers in the Caribbean SIDS,* to develop methodologies and capacity to manage the risks to coastal aquifer systems in support of sustainable SIDS development.

- GEF/IW-UNDP: *Integration of Groundwater Issues into the TDA and SAP Action Programme for the Caspian Sea,* to supplement the Caspian Environment Program (CEP) in an updated SAP for, (a) integrated coastal groundwater management strategies into SAP (b) pilot response mitigation strategies frames, (c) demonstration of groundwater management strategies agreed under the TDA/SAP, and development of groundwater-related protocols to the Caspian Convention.

Further groundwater related activities that have commenced since the approval of the project document and that have linkages and synergies with the Strategic Partnership Sub-component on coastal aquifers and groundwater are described in the Inception Report, Chapter 3. EMERGING ISSUES AND NEW INITIATIVES IN THE MEDITERRANEAN.

Stakeholder involvement

Together with the regular contacts and coordination mechanisms under MED/MAP, and the entire regional project, the sub-category, in particular, will involve the participation of the following groups of stakeholders:

- The governments of the (12) project countries, with the water resources-irrigation, environmental and agricultural ministries/ authorities at national level,
- City- municipal and coastal development authorities,
- Groundwater users, including irrigation/water users associations, municipalities, industries and tourism development groups, in public and private sectors,
- Sub-category implementation partners: IGRAC, IGME, INWEB, Technical University of Turin with Italian University Team of Hydrogeologists.
- UNESCO, and UNESCO –ISARM and UNESCO/IHP partners: FAO, IAEA, ECE, ESCWA, ESA,
- International institutions and environmental convention secretariats and networks (e.g. Ramsar Secretariats, MED-WEB)
- International and regional water resources /groundwater professional organizations, associations and networks; IHP international and regional networks/National IHP committees; IAH; national water resources professional associations
- Regional and sub-regional institutions and UN Economic Commissions (ECE, ESCWA, ECA)
- Regional and national scientific and research centres, (e.g. CEDARE, OSS, ACSAD),
- UNESCO centres, and UNESCO Chairs, National Universities academic institutions,
- EU regional cooperative partnership initiatives and water programs (e.g. ENP, EUWI, Petersburg and Athens process etc.), with cooperating Mediterranean and European Governments (i.e. Greece, Germany)
- Multi- and bilateral donors, and international and regional development banks

Table: Analysis of Stakeholders

Stakeholder Groups	Problems/needs	Expectations	Drawbacks	Potentials	Consequences for sub-category
National Governments groundwater, agricultural, environmental officials and experts	Limited public resources, focused on immediate, social-economic water demands necessities and equity; top-down non-integrated /coordinated, project and budget-driven, national policy attributes and development programs (e.g. national food security) . In appropriate incentives and uncontrolled groundwater development Limited inter-country consultation and	Coordinated and integrated action. Improved data collection and management. Access to modern, appropriate affordable technology (e.g. for re-use and managed aquifer recharge)	Firm Sectoral positions and barriers. Limited resources, incentives and motivation.	Devoted and well educated human capacity Policy and structural adjustment and adaptation in the MEDA and Balkan countries driven by Europe and ENP	Involvement, enabling capacity and support of national officials and expertise. Priority to: introduction and demonstration of modern, appropriate and affordable technology. Strengthen and regional exchange and harmonization of water resources/ groundwater governance

Stakeholder Groups	Problems/needs	Expectations	Drawbacks	Potentials	Consequences for sub-category
	exchange at sectoral and professional level.				mechanism
Groundwater users: Farmers, Municipalities, Industries, Sea side Tourism entities	The groundwater use sectors in the coastal zone including the environmental uses, are exhausting and depleting the coastal water resources. As a result and without effective governance and control and monitoring, extraction of coastal groundwater's is rapidly growing, with over-use and consequent rapid depletion, salinization, surface based groundwater pollution. The immediate and long term problem is the gaps in the regional cooperation to jointly address these threats common to the Mediterranean coastal economies. .	Efficient low risk drought secure water supply and production Water supply and sanitation for socio-economic development	Rural related poverty; capital scarcity; Unbalanced water production and water costs/prices with inadequate water pricing. Traditional sewage treatment un affordable with the consequent of rapid development of city-urban water supplies without sanitation.	Increased managed aquifer recharge and re-use driven by: water scarcity, aquifer degradation and salinization, increasingly limited availability and high water values and costs to agriculture, large city water supplies, constraining coastal urban and tourism development;	
Regional, Sub regional representatives	Limited regional cooperation in the MEDA and the Balkan Countries	Establishment of regional-sub-regional water and environmental cooperation sectors	Low level of regional/sub-regional policy and governance interventions	Expanding regional and sub-regional cooperation and functions in the MEDA and the Balkan	The envisaged consultation mechanisms need to be based on common regional functions and assigned to and hosted by regional and

Stakeholder Groups	Problems/needs	Expectations	Drawbacks	Potentials	Consequences for sub-category
					sub-regional institutions

Supplementary information

A. **Hydro-geological management of coastal wetlands**
B. **Demonstrations of integrated coastal aquifer and land management approaches**
C. **Description of Demonstration areas**

A. HYDROLOGICAL MANAGEMENT OF GROUNDWATER DEPENDENT COASTAL WETLANDS

1.- Introduction.

The Mediterranean Basin is rich in groundwater dependent ecosystems (GDE) with coastal and terrestrial wetlands, of high ecological and socio-economic values. The wetlands, many of which are protected areas, support habitats for rich and varied biodiversity and a wide range of ecological functions. The GDE include coastal wetlands that range from onshore marshlands including a number of landing sites for migrating birds, to brackish coastal marches, lagoons, and coastal sea grass bottoms, and marine areas with submarine groundwater discharges that are related to marine fisheries. The specific categories include coastal karst aquifers include highly specific and vulnerable GD ecosystems and some threatened coastal wetlands represent UNESCO historic sites (e.g. the Ichkul national park, Tunisia, linked to the sea with as Roman canal systems). Many of these wetlands are however drying up, becoming salinised, and polluted are becoming increasingly groundwater dependent and eutrophisized with consequent decline in the hydrogeological functioning, and loss in ecological values. The main impacts that affect to these coastal ecosystems are: intensive groundwater exploitation, waste water spilling, chanalizations, and urban areas. As a consequence of these impacts, many of these wetlands have been modified and its current behavior have severely changed versus its no-perturbed behavior under natural conditions. In order to manage these wetlands properly, it is needed to design an action strategy that allow to get with success to the best option for the wetland conservation.

This action strategy is defined by a series of steps: To define the genetic classification of the wetland as an essential base of work. This implies to define the geological sites and geological characterization of the wetland as a basis to know the hydrological component of input and output waters that define the hydrological budget of the system. This quantitative component has a relevant importance in the current and future conservation strategy of the system. The analyses may be completed with geochemical characterization of surface waters and groundwater's involved in the wetland functioning. The following step would be to define the water uses in the area in order to define the pressures and impacts that affect directly the quality and quantity of water that should fed the system.

2. Genetical characterisation.

The hydrogeological component of the coastal wetland is essential in order to define the quantitative volumes involved in the wetland conservation. The quality of waters involved in the system will affect also the ecological conditions of the ecosystem. Both aspects may be studied through a methodology applied by the Geological Survey of Spain (IGME) to the

Spanish Ramsar sites (IGME, 2003). The elements considered in this characterization are shown in figure 1. This figure shows the following aspects:

a) Geological characterisation of the wetland according to its geographical location.
b) Groundwater-fed coastal wetland character. This aspect is determined according to the permanence of water into the wetland and its hydrogeological functioning.
c) Hydrochemical characterisation of wetland water. This aspects defined the salinity of the waters involved into the wetland functioning. The water salinity will be a condition for the flora and fauna living in and surrounding the wetland. This characterisation is done according to five ranges: fresh water, few mineralised (< 750 mg/l), fresh water relatively mineralised (750-1,500 mg/l), brackish water (1,500-3,000 mg/l), saline water (3,000-35,000 mg/l) and hypersaline water (>35,000 mg/l).

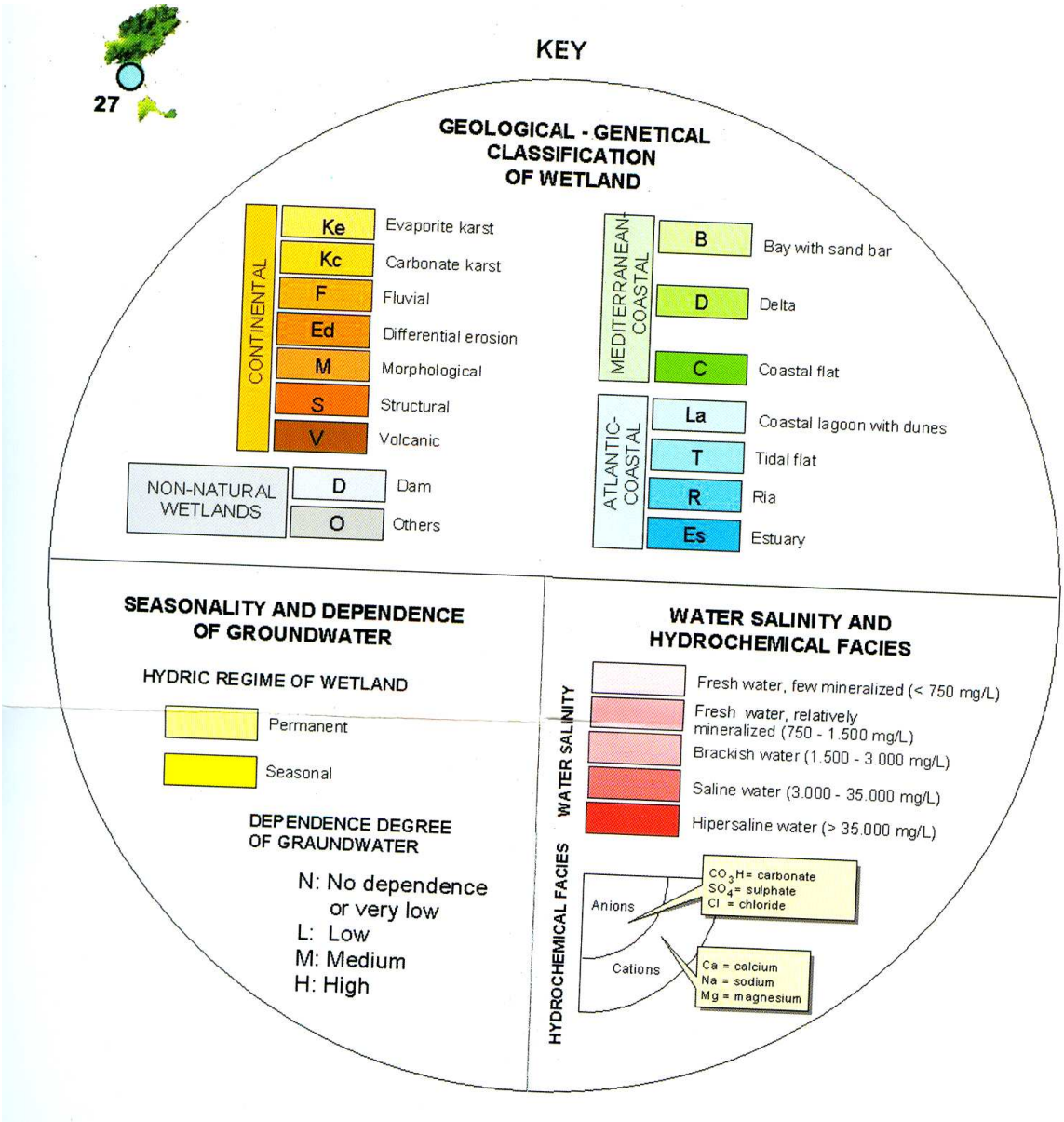

Figure 1.- Geological- genetical classification of wetlands (IGME, 2003).

3.- Hydrogeological management of coastal wetlands.

Once the hydrogeological characterization has been done, the best way to manage the wetland is to define the current status of the wetland and possible scenarios of management through hydrogeological simulation. The results obtained will allow to choose priority scenarios with more successful for wetland conservation according to the current pressures and impacts affecting the system and future threats.

The following are examples of action for implementation and possible pilot studies and demonstrations. These depend on and relate to the actual issues and conditions as illustrated from the following from the investigations and management interventions on the coastal wetlands in Spain:

- **typical on-the-ground management interventions,**

- Rehabilitation of coastal wetlands that have been drained (tidal marshes in the Cadiz Bay, Spain).
- Removal of tourist or industrial constructions: Salt marsh of Guardias Viejas, Almería).
- Silting of wetland-beds in wetlands that have been reclaimed into irrigation areas:
- Minerals extraction: Padul wetland (Granada, Spain).
- Alteration of hydrological regime as consequence of intensive groundwater pumping for irrigation: Fuente de Piedra (Málaga, Spain).

- **possible pilot coastal wetlands (representative for different wetland categories, such as protected listed areas/wetlands with high ecological/economic/amenity (e.g. Parc National IchKeul, Tunisia) and conservation values:**

-
- Albufera de Valencia (Valencia, Spain). It is a Ramsar site wetland. High ecological value and cultural and historical associated values to the region history. It is a groundwater-fed wetland with high dependence of groundwater discharges.
- Cabo de Gata-Níjar (Spain): Biosphere Reserve (MaB Programme/UNESCO) and Ramsar site. It is a low groundwater-fed wetland with magnesium chloride waters.
- Salinas de Santa Pola: Ramsar Site. It is a low groundwater-fed wetland with sodium chloride waters.
- Salinas de la Mata-Torrevieja. Ramsar site. It is a low groundwater-fed wetland with sodium-magnesium chloride waters.
- Marjal de Pego-Oliva: Ramsar site. It is a high groundwater-fed wetland with sodium chloride waters.
- Aiguamolls del Emporda: Ramsar site. It is a high groundwater-fed wetland with sodium chloride waters.
- Prat de Cabanes-Torreblanca: Ramsar site. It is a high groundwater-fed wetland with sodium chloride waters.
- Ebro Delta: Ramsar site. It is a high groundwater-fed wetland with sodium chloride-sulphuried waters. High ecological value and also cultural, scientific and economic value.
- Albufera de Adra. Ramsar site. It is a high groundwater-fed wetland with sodium chloride waters.

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VULNERABILITY MAPPING ACTIVITY[19] ASSOCIATED TO HYDROGEOLOGICAL CHARACTERIZATION OF COASTAL WETLANDS.

The vulnerability mapping is frequently referred to vulnerability to pollution. This concept is ordinary defined as susceptibility of an aquifer (its groundwater) to be polluted by human activities. Some techniques associated to Geographical Information Systems have been developed (Adams and Foster, 1992; Robins *et al.*, 1994; Vrba and Zaporozec, 1994; Hötzl, 1996; Maxe and Johansson, 1998). Also different methods to do vulnerability mapping have been proposed: DRASTIC (Aller *et al*., 1987), GOD (Foster, 1987); AVI (Van Stempvoort *et al.*, 1992), SINTACS (Civita, 1994), ISIS (Civita and De Ragibus, 1995), SEEPAGE (Navulur and Engel, 1997); REKA (Malik and Svasta, 1999).

[19] Vulnerability mapping for the eco-hydrogelogical objectives under the coastal wetlands activity will be closely coordinated with and draw upon the result of the coastal aquifer vulnerability mapping activity, I/2.

These methods have been applied mainly in detritic aquifers. The cartography mapping to pollution in karstic aquifers is less developed due to the heterogeneity of these kind of aquifers and its hydrogeological complexity.

The main methods applied in vulnerability mapping to pollution may be classified according to three basic categories (Vrba and Zaporozec, 1994): methods of simulation, statistical methods and index and overlapping. The last one, implies a qualitative determination of vulnerability and consist of applying some criteria previously defined for each kind of vulnerability according to hydrogeological characteristics.

Main methods of vulnerability mapping.-

1/ DRASTIC Method. (Aller *et al.*, 1987). It has been applied mainly in USA, although also in other places as Spain. It uses seven parameters: depth water, net recharge, media aquifer, soil media, topography, impact of the vadose zone media, hydraulic conductivity of the aquifer. Each parameter has several intervals, some such as D and T with a high range of variation, meanwhile the weighing factors vary between 1 and 5. This method differs five classes of vulnerability: very low, low, media, high and very high.

2/ SINTACS Method. (Civita, 1994). This methods considers seven parameters: depth pf piezometric level, efficient infiltration, effect of autodepuration of non saturated zone, type of layer, hydrogeological characteristics of the aquifer, hydraulic conductivity of the aquifer, slope of topographic surface.
This method is basically an adaptation of DRASTIC Method developed in order to be applied to Mediterranean aquifers, with modifications made in all those aspects referred to punctuation and weighting factors. This method establishes six kinds of vulnerability, the same of DRASTIC plus the class of extreme vulnerability, that complicate the possible use of the resulting map.

3/ GOD Method. (Foster, 1987). This method use three variable to assess vulnerability: Groundwater occurrence, overall aquifer class and depth to groundwater. The index obtained may varied between 0 and 1 and five classes of vulnerability are established.

4/ AVI Method. (Van Stempvoort *et al.*, 1992). Its name responses to the initials: Aquifer Vulnerability Index. This method uses just two variable establishing a numerical relation between them. The used parameters are: width of the sedimentary layer and hydraulic conductivity. Whereas the other cited methods define ranges, this method calculate the vulnerability index through a mathematical expression.

5/ EPIK Method. (Doerfliger, 1996). It was developed to be applied to karstic aquifers. It uses four parameters: epikarst, protection cover, infiltration condition and karst network development. The final index EPIK, named protection factor is obtained through a mathematical expression. The punctuation of each parameter varies between 1 and 4, meanwhile the weighting factors vary between 1 and 3. Four vulnerability classes are established pending on the protection factor.

6/ COP Method. (Vías *et al.*, 2002, 2006). This meted uses three parameters: Overlying layers, flow Concentration and Precipitation. The 0 factor depends on the natural capacity of protection that the aquifer has to pollution, due to the soil and lithology of non saturated zone. The factor C depends on the surface conditions that control water flows towards zones of rapid infiltration. The index COP is obtained through the product of these three parameters: C*O*P
The values obtained vary between o and 10. The values close to 0 means minimum protection (or maximum vulnerability) and values close to 10 mean maxima protection (or minimum vulnerability) of the aquifer to pollution.

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B. Demonstrations of integrated coastal aquifer and land management approaches

Table 1. Demonstrations of integrated coastal aquifer and land management approaches

OBJECTIVES	BASELINE	DEMO ACTIVITIES Planning / capacity building of:	CROSS- BENEFITS related to: (1) Reduced LBS	(2) CWR	(3) SCML	(4) Wetlands, ecosystem
(1) Reduced LBS Bacteriological, BOD, nutrients, salt	Individual national sectoral investments in WWT– Limited implementation low efficiency, loss of CFWR	Alternative re-use, zero-waste discharge systems;: Optimal (minimum) WWT systems / processes for reuse GW recharge, wetland support etc. Water quality standards Assess sea water quality and coastal eutrophication benefits Identification of replication potential and coastal sites	Working towards zero-waste discharge. Introduce reuse directed WWT technology for zero-discharge, affordability with effective implementation of LBS reduction. Capacity on technology and cross-sectoral system management.	Additional supply and enhancement of CFWR to meet regional increasing demands. Additional source for GW recharge for annual and long term flow regulation, salinization control	Additional water source for land conservation and productive land use, afforestation and coastal riparian nutrient control and catch cropping	Support wetlands with permanent re-use supplies: Control of contamination and eutrophication
(2) CWR	Domestic GW management and development	MAR, control salinization and sea water intrusion, Irrigation and other reuse systems, drought security, CC adaptation	Control GW transported LBS from coastal agriculture,	Enhanced CWR to address critical coastal water shortage and meet increasing demands	MAR and GW management to address coastal land degradation and salinization	Conservation of humidity and water quality in GDE
(3) SCML	Coastal erosion and salinization and inappropriate land use resulting in land and water resources loss of productive natural resources, LBS pollution	Watershed (foot hill) management, GW recharge, land rehabilitation/ renovation, sedimentation, salinization contamination and nutrition discharge control, Irrigation reuse - soil nutrition systems management	Appropriate land use and conservation for riparian control of sedimentation and related LBS pollution	Additional supplies; water harvesting and coastal aquifer recharge, MAR in coastal foothills, irrigation areas etc	Sustainable coastal land management; including upper watershed, and coastal plains for urban and agricultural uses	Reduced coastal wetland sedimentation and salinization; sustainable land management and use for wetland conservation.
(4) Wetlands, ecosystems	Continued loss with reclamation, depletion, drying up and contamination of wetlands; loss of ecosystems, GW recharge zones;	Classification, GW management, nutrient absorption ; on-the-ground management intervention/action	Wetland capacity to reduce sediment, nutrient and other LBS pollutant flows to the sea	Conservation of groundwater recharge areas and landscape greening for improved micro-climate	Reduced erosion, and salinization, and desertification and sand dune intrusion by retention of humid zones	Sustainable management of coastal GWD wetlands and ecosystems,; conservation of coastal and marine biodiversity; protected areas

CFWR: Coastal fresh water resources; SCML: Sustainable Coastal land management; WWT; wastewater treatment;
MAR: Managed Aquifer recharge; GDE: groundwater dependent ecosystem

C. Description of Demonstration areas

Reghaia Project Demo Area

The Reghaia coastal area and basin consist of a Ramsar listed coastal wetland of regional importance for biodiversity including as a migrating bird landing site, the Reghaia lake, a closed basin that is adversely affected from municipal waste water pollution from the Reghaia Town at some 4 km distant from the coast. The existing Reghaia sewage treatment plant is not functional and as a result municipal waste is discharged into the lake and ultimately into the coastal waters. Moreover the lake waters are heavily used for irrigation with the threat of depletion of the lake water body and the coastal aquifer. At the same time and beyond the scale of this potential coastal SPA, at the wider scale the Reghaia basin makes part of the larger Mitidja aquifer contiguous and interacting with the Algerian coastline. The Mitidja aquifer basin is heavily used for agriculture municipal supplies and is threatened by over-abstraction and pollution and subject to consequent coastal sea water intrusion and salinization, and ultimately pollution of the coastal and waters.

In this situation the Algerian Government has recognized the importance of waste water reuse , where the sewage discharges will amount to one billion Cu m in 2020, and initiated steps, with a pilot project in the Reghaia Basin for Managed Artificial Recharge (MAR) of the coastal aquifers and agricultural municipal waste water reuse in the Mitidja aquifer system.

UNESCO-IHP under the “Water Programme for Africa”, supported by Italy is currently implementing a technical assistance project on: “Integrated Basin Management System for agricultural Waste water reuse (Système Intègrè de Gestion du Bassin pour la réutilisation des Eaux usées pour l’Agriculture). The Reghaia Lake pilot basin project is focused on coordination of the participating domestic ministries, local institutions and water users. The groundwater demonstration is focused on coastal water quality management and will consider, draw upon, and incorporate the result listed below, of the above project into the ICZM management planning systems:

- Improved knowledge base on the pollution sources and their impact on the surface and groundwater quality;
- Integrated water quality and also quantity management planning in the Reghaia Lake basin coastal aquifer system;
- Evaluation of management and technological options;
- Proposal of appropriate guidelines on municipal reuse in agriculture; including economic evaluation and financial institutional arrangements;
- Roles and coordination frameworks for the concernes domestic institution sna sectors;

The outcomes of the project will be presented in a one-day conference in Algiers, to be held in March. The results of the project will be a valuable contribution to the development of a ICZM Plan for the area. The partners within component 1 of the SP Med will be invited to attend the meeting, which will also serve to define joint future activities in the demo area of Reghaia.

Transboundary demonstration area at Bojana Bay (Montenegro)

<u>General description of the coast</u>

The Government of Montenegro undertook in the late 90s a process of assessing the current coastal management situation in the country in order to ensure appropriate mid to long term planning for its most rapidly developing narrow zone right on the coastline. The Montenegrin coast stretches over 90 km in a straight line, between Croatia and Albania. Entire length of the coast including small islands is 300 km. The coast occupies a narrow land strip sharply

separated from the rest of the country by a high mountain range parallel to nearly the entire length of the shoreline.

The portion of territory on the right bank of the river Boyana is known as the delta of Boyana & Ada Boyana. This area consists of a multiple aquifer system including the Karst Aquifer, the underlying Flyshch deposits and the uppermost alluvial sands, gravels and silts and clays. Rainfall infiltration into the system is greatest into the Karst aquifer, which locally acts as the 'water reservoir' feeding into the alluvium; groundwater is considered to flow directly to the Boyana from the Karst and from the alluvium both to the river and towards the coastal area. Although an important water supply source at Gac draws important resource for public consumption, few historical data, or hydrogeological assessments existed on the coastal aquifers in the Boyana coastal zone. Hence, UNESCO- IHP started a study in 2008 in this area to improve the knowledge of the territory coastal ecosystems as well as the capacity to manage the coastal groundwater resources and as a response to the request of the Montenegrin Ministry of Environment.

Overall objectives of the work conducted in the Boyana coastal zone could be summarized as follows:

- Improvement of knowledge of the groundwater contribution to the marine discharge into the coastal currents in the Montenegro coastal.
- Strengthening of the resilience of the coastal ecosystems through an assessment of the vulnerability of the coastal aquifers.
- Provision of tools to identify solutions for adoption by the local and national government, so to result in a better management of the coastal zones.
- Design and partial implementation of a monitoring system for the surface water cycle, the river runoff and the coastal area.
- Development of a short term (several days) forecasting capability for hydrology, coastal currents and river basin runoff.
- Development and validation of modelling tools for the urban, surface, underground water and coastal currents in the Boyana river catchment.

A mathematical aquifer system model, AQMOD*,* that supports the monitoring and forecasting system for the discharge of urban and non-urban waters, was developed to assess the contribution to the marine discharge into the coastal currents in the Montenegro coastal area. A simulation of annual fluxes that discharge to the marine environment is also foreseen. Eventually, the project will develop a package of responses to increase resilience in the coastal marine ecosystems in connection with the IPCC climate change scenario impact studies. The partners involved in this process are: the Centre for Toxicological Research; Montenegro HYDROMET Service; University of Podgorica; Agency for Geology / hydrogeology; Aquifer Simulation Expert, which is supported by the International Association of Hydrogeologists.

The Boyana bay was investigated through surveys, detailed site sampling and through the drilling of two test boreholes. Three sub ecosystems of interest emerged from the study: the Karstic elevated lands; the coastal strip, where an expansion of tourism is planned; the low lying lands between the coastal strip and the periodically sea-river water invaded lands, where important wetlands and brackish water conditions prevail for potential deployment of ecohydrological principles for pollution management. Each sub system functions as part of the overall study area and needs to have a well defined environmental management system in place.

No analysis of time trends was possible in absence of comprehensive data prior to the survey work done under the AQMOD-ADRICOSM project. Nevertheless, modelling in steady state has demonstrated the inter actions between the various components and provides a valuable tool for sound management in future.

The results of this project will be used for the integration of groundwater management in ICZM and IWRM planning systems (1.1.2.2). Joint planning and harmonization meetings are foreseen for 2010.

Integrated Coastal aquifer Water Resources and Land Management (Gabes oases, Tunisia)

Due to its specific geographical situation on the Mediterranean Sea side, along the desert, and at the outlet of the North Western Sahara Aquifer System, the Gabes region (Tunisia) has developed rich ecosystems: the coastal oases. The socio-economic development of the last decades has led to an important exploitation of the costal aquifers which resulted in the drying up of the water resources feeding up the oasis.
The objective of the project is to improve groundwater management in the Gabes region considering the socio-economic needs and the sustainable protection of the coastal oases ecosystems. The project is meant to develop a fully integrated water resources management approach, replicable to the Mediterranean Sea area.

The project has identified six components:

Component 1: knowledge on groundwater resources
Aquifer system characterization, database/GIS, aquifer modelling

Component 2: Socio-economic development of Gabes area, and related groundwater needs
Land-use and demographic evolution, chronological data on water needs and abstraction, evolution of irrigated areas and industrial needs, analysis of socio-economic groundwater uses and evolution

Component 3: Analysis of the irrigated agricultural production systems

Component 4: Analysis of the oases ecosystems and their relationship with groundwater
Needs of the different components of the ecosystem, and analysis of their dependency to groundwater

Component 5: Integrated and sustainable management of groundwater resources and related ecosystems
Propositions for the development of tools for the management of groundwater, soils and ecosystems

Component 6: Communication, and dissemination

Expected results

- Operational knowledge of the functioning of the coastal aquifer system of the Gabes region (geological structure and hydrogeological functioning)
- Analysis of the socio-economical uses depending on the groundwater, allowing to define the needs and constraints of these uses on the water, at present and in a prospective approach
- Analysis of the functioning and the sensitivity of the oasis ecosystems, allowing to define its interaction with the groundwater resource, and to propose the needs of this ecosystem in terms of water resources and management of rules of the resource
- Development of a mathematical model and a methodology for integrated management of water resources, to allow for socio-economic development, preservation of the oasian ecosystems and sustainable use of the water resources
- Training and capacity building of local actors on the results of the project
- Communication on the objectives and the results of the project

Sub-Component 1.2: Integrated Coastal Zone Management

(GEF 950,000 $, Co-financing 2,164,700 $)

Implementing Agencies

UNEP-MAP Priority Actions Programme Regional Activity Centre (PAP/RAC), Mediterranean Environmental Technical Assistance Program (METAP), with support from Global Water Partnership-Mediterranean (GWP-MED) and UN Educational, Scientific and Cultural Organization International Hydrological Program (UNESCO/HP).

Background/Context/Rationale

The coastal zone is an area of interchange within and between physical, biological, social, cultural and economic processes. It is composed of multiple interacting systems: maritime, terrestrial and riverine. Changes, at any point in any part of the systems, can generate chain reactions far from their point of origin and possibly in a totally different system whose environmental conditions will be subsequently altered. Managing such complex systems requires an integrated approach capable of bringing together the multiple, interwoven, overlapping interests of the coastal area in a co-ordinated and rational manner, harnessing coastal resources for optimum social and economic benefit without prejudicing the resource base itself and maintaining the ecological processes.

Integrated Coastal Zone Management (ICZM) is such continuous, proactive and adaptive process of resource management for sustainable development in coastal areas. It is a process of achieving goals and objectives of sustainable development in coastal areas, within the constraints of physical, social and economic conditions, and within the constraints of legal, financial and administrative systems and institutions. It is not a substitute for sectoral planning, but focuses on the linkages between sectoral activities to achieve more comprehensive goals.

As coastal resources are used simultaneously by different economic and social sectors, integrated management can only be accomplished when all these uses, users and relationships are clearly known. It is therefore far wider than static land-use planning, requiring an inter-disciplinary approach to the management of dynamic processes in the terrestrial and marine environments. Such integrated approach in managing coastal environment is in line with the GEF efforts to support integrated approaches to natural resource management.

ICZM as concept and methodology to address complex coastal/marine management and protection issues was developed in early 1960s in the US. Within the Mediterranean Region, integrated coastal zone management was introduced by the Mediterranean Action Plan (MAP) / UNEP in mid 1980s as a major response to tackling the growing development pressure witnessed in coastal areas. A series of policy documents, recommendations, programmes and projects (such as Coastal Area Management Programmes - CAMPs), tools and instruments have been developed and implemented.

The **Mediterranean Strategy for Sustainable Development (MSSD)** calls for action to move the region towards sustainable development so as to strengthen peace, stability and prosperity, taking into account its weaknesses and the threats it faces but also strengths and opportunities.

One of seven essential issues MSSD attempts to achieve progress on is "Promoting sustainable management of the sea and the littoral and urgently stopping the degradation of coastal zones".

Progress on this issue calls for launching several pilot actions:

i. Preventing and reducing pollution from ships and the risks of accidents;
ii. Reducing pollution from land-based sources;
iii. Promoting sustainable fisheries and aquaculture;
iv. Protecting marine and coastal biodiversity; and
v. Promoting more integrated development and management of coastal areas and prevention of risks.

Pilot action under (v) calls for the following:

- Ratification and implementation of the MAP ICZM Protocol, signed in Madrid in January 2008 at the Conference of the Plenipotentiaries on the ICZM;;
- Adoption, before 2012, of coastal zone laws by countries that do not have theme; the promotion of specialised jurisdictions empowered to enforce respect; and the creation, by 2012, in countries that do not have them, of mechanisms and instruments for coastal management;
- Promotion of integrated management approaches and projects in all Mediterranean countries, involving local authorities, enterprises and NGOs;
- Defining geo-morphologically the coast area, assessing the vulnerability to natural and technological risks, banning construction in high-risk areas and integrating risk-prevention into urban development plans;
- Promotion of the role of islands as laboratories for coastal management (subsidiary and innovation);
- Support at the Euro-Mediterranean level to capacity building for coastal management, mobilising public opinion, and considering the establishment of a fund to enable private sources and local communities to finance the conservation and sustainable management of the Mediterranean coast.

Protocol on ICZM in the Mediterranean

- **Protocol on ICZM in the Mediterranean.** The Working Group of experts for the drafting of the Protocol on ICZM in the Mediterranean (ICZM Protocol) was established in November 2005 by the decision of the 14th Ordinary Meeting of the Contracting Parties to the Barcelona Convention and its Protocols. By November 2007, the Working Group presented the final text. Finally the Protocol was signed in Madrid in January 2008 at the Conference of the Plenipotentiaries on the ICZM.
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The intention of the ICZM Protocol is to establish a common framework for the integrated management of the Mediterranean coastal zone. The ICZM Component will investigate implications of adopting and ratifying the regional protocol on national institutional arrangements, national legislation and national coastal strategies, policies and plans. The Component will also contribute to methodological and juridical capacity in eligible countries to harmonise the national ICZM legislation with the Protocol.

The ICZM Strategy for the Mediterranean highlighted a set of strategic objectives, defining future programme orientations. Namely, among its objectives, it stressed the need to:

- Promote the mainstreaming of coastal management activities and a significant change in level of activities;
- Promote application of ICZM approaches at eco-regional level;
- Continue to identify and address emerging ICZM thematic priorities;
- Continue to develop ICZM methodology and best practices for the Mediterranean;
- Build capacity to implement existing laws and future ICZM protocol for the Mediterranean;
- Work at local level, e.g. making best use of CAMP projects and improve them.

As a result of the implementation of several CAMPs in the region, it appeared evident that the Mediterranean region needed to have a binding ICZM Protocol. The ICZM Protocol will

contribute in strengthening regional and national policies, strategies and actions aiming at protection and prevention of degradation of the coastal areas in the Northern Mediterranean countries and offer a model of coastal development to the countries of the South.

In order to achieve objectives identified within the Strategy and to ensure successful development and implementation of ICZM Protocol, ICZM component was included in the GEF Strategic Partnership (SP) for the Mediterranean Large Marine Ecosystem. In order to provide the needed C/M specific broader framework for on the ground implementation of two key MAP Strategic Action Programmes (i.e., The Strategic Action Program to Address Pollution from Land-Based Activities - SAP MED, and The Strategic Action Program for the Conservation of Mediterranean Marine and Coastal Biological Diversity - SAP BIO),

The ICZM Project component within the GEF SP will strengthen the enforcement, assessment and monitoring capabilities of the national and local institutions; and establish technical mechanisms for supporting transboundary pollution prevention and abatement originating in the coastal areas of the Mediterranean Sea. This is in line with the Environmental Quality Objectives (EQO's) identified in the Mediterranean TDA, which broadly are: i) reducing the impacts of LBS of pollution on the Mediterranean marine environment and human health; ii) reaching sustainable productivity from fisheries; and iii) preserving the coastal and marine biodiversity (i.e. habitats, ecosystems, biological taxa and genetic resources.

The ICZM component will ensure integration across focal areas (notably IW and BD), at the various levels (basin, ecosystem, country, and region), assisting to the GEF role as catalyst and facilitator of global environmental sustainability.

Objectives

The overall objective of the ICZM project component is to ensure sustainable management of Mediterranean coastal zones, with particular reference to international waters and biodiversity. The objective will be met by providing assistance to national governments of the Mediterranean countries to manage their coastal resources in an integrated manner and in accordance with priority needs identified by ICZM Protocol now in preparation

The main objectives of the ICZM Sub-Component are:

a) To facilitate strengthening of legal, institutional and policy framework for integrated coastal zone management of the Mediterranean countries, with specific reference to water resources management (WRM) and biodiversity (BD) protection and the action on adoption of the ICZM Protocol;
b) To contribute several eligible countries in preparing national ICZM strategies and plans; and
c) To provide assistance to countries in introducing / strengthening the use of ICZM methodology, practices and tools, notably through capacity building and implementation of replicable pilot / demonstration actions, based on an interactive participatory and focused at IW and BD.

Such ICZM related initiatives, focused at objectives of GEF IW and BD focal areas, would contribute to:

- Triggering countries' initiatives for ratifying the regional ICZM Protocol and national ICAM regulation, institutional and management frameworks well focussed at WRM and BD aspects;
- Improving capacity building at regional level and national/local levels, supported by broad stakeholder participation, in order to ensure its proper implementation;

- Justifying resources allocation for developing ICZM Strategies and NAPs with particular attention to WRM and BD aspects;
- Use of ICZM plans for solving WRM- and BD-related key problems identified in the ICZM Protocol for the Mediterranean;
- Demonstrate alternative management approaches, tools and techniques, such as Integrated Coastal and River Basin Management, marine spatial planning, COED, SEA, CCA and conflict resolution techniques.

Description of activities, including demonstration and pilot projects

The objective of the ICZM sub-component of the project is creation of a favourable environment for the ratification and implementation of the ICZM protocol. The ICZM component makes an integral part of Component I and Component III, Sub-category 6 of the Project. The following is the envisaged set of ICZM-related activities of the full size project.

1.2.1 Support activities in preparation of National ICZM Strategies and National Action Plans

The aim of this activity is to address the specific needs identified in project countries related to lack of national ICZM strategies and their implementation, at regional, national and local level. The project countries will be supported in preparation of ICZM Strategies and National Action Plans (NAPs). This project activity will promote comprehensive stakeholder participation through organisation of workshops and extensive consultation process.

The activity is in line with broad objectives of the Components 2 and 3 of overall Project in order:

- To develop and implement policies and legislation aimed at addressing transboundary causes of environmental degradation of the Mediterranean Sea, as established in the SAP MED and SAP BIO;
- To develop adequate capacity in the countries for legal/institutional set up, reforms and harmonisation of policies needed to reverse degradation trends and living resources depletion, by following the priorities established by the SAP MED and SAP BIO;
- Fostering the regional action on the implementation of the ICZM Protocol.

Under the activity PAP RAC and METAP will jointly assist interested countries in strengthening/developing national coastal legislation with special emphasis on systematic inclusion of WRM and BD protection concerns in the legislation. Also, PAP RAC and METAP will introduce COED methodology and examples as an ICZM tool, appropriate for assessment of environmental degradation in Mediterranean marine and coastal areas.

The project will demonstrate that ICZM may be an efficient methodology with tools appropriate for co-ordinating various policy actions towards sustainable management of coastal areas. The activity will promote adoption of new ICZM legislation and better enforcement of the existing legislation and integration of sectoral activities into ICZM methodology and practices. Capacity of national, sub-national and local ICZM institutions will be improved.

During the initial phase of project implementation (September 2009. till the Inception Workshop held in Budva on February 17-19 2010), new developments and emerging issues were identified and taken into account. These issues were discussed among partners and with representatives of several participating countries, also at the Meeting of the Strategic Partnership Co-ordination Group (Athens, September 2009.) and at the Initial meeting of the Component 1. Co-ordination Group (Paris, January 2010),

In particular, the following needs were identified: (i)strengthening integration of Groundwater/Aquifer Management , Water Resource Management (WRM) and Biodiversity

(BD) protection into ICZM, (ii) assessment of impacts of climate change in selected Pilot areas, (iii) improving harmonization and integration among Component 1. activities, and (iv) improving presentation of consolidated results.

Concerning needs for strengthening of the methodological approach towards integration, and for improved structuring of actions aiming at integration of partners' activities in selected Pilot areas, certain amendments of planed activities were agreed upon among partners, and approved at the Inception Workshop (IW).

Concerning impacts of Climate change in selected Pilot areas, in particular on WR, BD and wetlands areas, implementation of Vulnerability assessment as an ICZM tool and practical assessments for pilot areas were considered as indispensible and approved .

Finally, the need to present in a consolidated mode the results of integrative actions, methodologies, tools and Plans, to be used for replication and other pilot activities, through a Final Regional ICZM METAP Workshop, were also approved by the IW.

1.2.1.1 Strengthening the role of ICZM as a policy framework for biodiversity protection on the regional level

Although none of the countries has full coastal management framework (legal, institutional, planning, technical) in place, in each one of them some elements of the system could be found. However, the coastal management practices still lack integration and sustainability. Furthermore, the integration between marine and terrestrial domains is practically non-existent. This situation is coupled by the overall predominance of the land use planning while, at the same time, coastal management is neither widely known nor practised. Even when plans are developed, two root causes of their ineffectiveness are present: the lack of respect for the institution of planning, and the lack of the implementation instruments. There is a widespread lack of confidence in the institutions to govern equitably and efficiently. Transboundary environmental problems, often present in the sub-region, are getting higher on the political agenda but the non-existence of an effective management system, such as Integrated Coastal Area and River Basin Management (ICARM), is one of the root causes why the transboundary environmental problems are still persistent. Even in cases when national legislation on ICZM exists, the issues of biodiversity protection were not given adequate treatment within the overall ICZM framework.

This activity will include awareness raising and capacity building of national and local level responsible on ICZM approach in support of biodiversity protection.

Expected results: Regional training will provide relevant national and local institutions responsible for coastal resources management with knowledge on how to take into account BD protection issues into coastal planning process and will secure exchange of experiences among the countries of the project.

PAP/RAC prepares, manages and executes the activity, SPA/RAC provides technical support on BD protection issues; MAP/UNEP, MEDPOL, INFO/RAC, METAP, GWP-MED and UNESCO-IHP provide technical support in designing training materials and in disseminating and communicating the results of the activity.

1.2.1.2 Support to preparation of ICZM Strategies and NAPs in two selected countries

Many decision makers have not yet know ICZM benefits, although they do not shy away from them when an initiative emerges, particularly if it is driven by the foreign donors. Unfortunately, the implementation is the weak point. Today, ICZM practice varies from country to country. Some have placed emphasis on the spatial planning, some have

developed the regulatory and institutional framework, some have prepared coastal plans, but in none of the countries a complete ICZM framework is in place. ICZM Strategies and NAPs could improve participation in the coastal resources' management decision-making, increase level of internal financing of coastal management initiatives, prompt coastal local administrative units to prepare and adopt coastal management plans, help introduce new integrated coastal management tools and techniques and increase public awareness on the coastal areas problems.

An Outline for preparation of ICZM strategy and NAP will be finalised in co-operation with national authorities of all eligible countries. A regional workshop will be organised to discuss the Outline and to confirm country candidates for preparation of ICZM NAPs. Experiences and results achieved will be disseminated to all other participating countries.

Within this activity two ICZM Strategies and NAPs will be drafted and agreed upon and presented to national authorities and other relevant stakeholders for adoption. National conferences on draft NAPs will secure broad involvement of stakeholders in building a consensus on ICZM NAPs. Experience gained will be distributed to other participating countries for information and replication. The activity will build upon preceding activities, notably CAMPs implemented or on-going and other specific ones concerning National ICZM Strategies and Action plans and the ICZM Protocol for the Mediterranean. Furthermore, an even regional distribution of countries involved will be secured.

Results: An Outline for preparation of ICZM strategy and NAP will be finalised and discussed at a regional workshop. Joint activities with GWP MED and UNESCO-IHP within the ICZM demo projects will strengthen Aquifer and IWRM components of the overall project.
Draft ICZM Strategies and NAPs in two selected countries. National conferences on ICZM Strategies and NAPs. Interactive Participatory Process in consensus building on national ICZM Strategies and NAPs.

PAP/RAC prepares, manages and executes the activity, GWP-MED and SPA/RAC provide technical support on WRM and BD protection issues; INFO/RAC secures visibility and replicability of the action. National and local NGOs will be involved in support of facilitating multi-stakeholder meetings.

1.2.1.3 Harmonising national institutional arrangements and legislation with ICZM Protocol for the Mediterranean

The adopted ICZM Protocol for the Mediterranean poses new challenges to and gives ample opportunities for an efficient coastal management of the region. The Protocol represents an important outside push for strengthening of coast-related legislation. Primarily, a need arises for harmonising national institutional arrangements and legislation with the Protocol.

This activity will strive to build capacity of eligible countries for a smooth adapting of national coastal legislation with the ICZM Protocol. A national case study will be prepared to show implications of ratification of ICZM Protocol. The study, as well as the results of other relevant activities recently implemented of on-going ones will be presented at a workshop with the aim of exchanging relevant experience among coastal zone managers as well as juridical practitioners.

Results: A national case study on adapting national legislation to the provisions of the ICZM Protocol, synthesized presentation of other relevant inputs; 15 juridical practitioners trained on implications of national ratification of the Protocol.

Identified responsible institutions: PAP/RAC will commission an international and a national expert for preparation of the case study, and identify and compile other results of interest for

the issue. WB will provide technical expertise to PAP/RAC. National authorities of one eligible country and PAP/RAC will co-organise the workshop.

1.2.1.4 Developing/strengthening of coastal legislation, and integration of Groundwater/aquifer Management and Water Resource Management into ICZM in the Mediterranean

Lack of respect for law, as well as lack of specialised coastal laws, has greatly reduced the effectiveness of environmental resources management in coastal areas of several Mediterranean countries. The "regulatory split" between the coastal marine and terrestrial domains is evident, too. While the land resources are being managed in a relatively integrated manner, mainly thanks to the spatial planning laws that have been in place in most of the eligible countries, on the other, marine side of the coastline, resource management has been and still is almost exclusively sectoral.

In addition, the analysis of recent developments and new emerging issues indicated that strengthening integration of Groundwater/Aquifer and of WR Management plans into ICZM methodology and planning should be taken into account in order to fully end efficiently meet the project objectives and strategy, as well as an improved harmonization and integration among Component 1. activities to be demonstrated with practical examples of integration in two ICZM pilot areas

The purpose of this activity is to (i) facilitate the development and strengthening of coastal legislation *and (ii) provide for integration of Groundwater/Aquifer Management (IGw/AquiferM) and Water Resource Management (WRM) into ICZM,* by exchange of experience and best practices between Mediterranean countries. The assistance to countries will build upon WB/METAP and UNEP experience in promoting Integrated Coastal Zone Management as an essential approach and framework for all policies and interventions affecting coasts. Again, special emphasis will be given to inclusion of water- and biodiversity-related aspects into national ICZM legislation and management practices.

The activity will be implemented jointly by PAP/RAC and METAP with inputs by and participation of UNESCO-IHP and GWP Med. The Activity is structured in two sub-activities::

Sub-activity 1.2.1.4./A - Analysis of coastal legislation with recommendations to national authorities

A large number of coastal regulations were adopted in almost all Mediterranean countries, in particular since the adoption of the ICZM Act in the USA (1972). Despite being predominantly focused at particular issues and/or areas, enforcement problems, lack of consistency and in particular limited application of the ICZM concept, these laws resulted with tangible benefits and progress towards an improved environment protection, sustainable development and biodiversity protection in c/m areas. Nevertheless, experience and analyses indicate that the main problem of further strengthening and efficiency of coastal legislation relates to a weak and inconsistent application of ICZM, and a piecemeal approach. A new milestone was reached when new ICZM Med Protocol was approved by the Conference of the Plenipotentiaries on ICZM in January 2008. Finally, a rich experience on sustainable protection and use of coastal / marine areas, including coastal legislation was accumulated through activities of other UN Agencies, WB in particular including METAP, as well as through GEF projects.

The actions of this sub-activity focus at a practical support to implementation of the ICZM Protocol, aiming at improvement of coastal legislation and its harmonization with the Protocol. Within such a context, an analytical review of experiences and activities on coastal

legislation in the Mediterranean as well as (through METAP) in other regions, will be provided, to be followed by grounded and implementable recommendations.

Results: Analysis of national coastal laws in the Mediterranean and examples of WB/METAP experiences in other coastal regions, as well as a study on implementation prospective of Mediterranean ICZM Protocol will be prepared. Synthesis of results achieved through Activity 1.2.1.3. "Harmonizing national legal/institutional arrangements with ICZM Protocol" will be prepared and presented at one joint Workshop.
In addition PAP/RAC will commission the preparation of the document "Study on implementation prospective of Mediterranean ICZM Protocol", as PAP co-financing. The document will present (i) analysis and interpretation of the ICZM Med protocol, (ii) comparison with EU legislation (iii) analysis of relevant aspects of legislation of Croatia, and assessment of benefits from implementing the Protocol. This document will be presented within the Activity 1.2.1.3., its results and outputs to compliment the outputs of the present sub-activity.

METAP and PAP/RAC will jointly prepare and manage the sub-activity. SPA/RAC, UNESCO-IHP and GWP-MED will provide specialised inputs related to inclusion of IGWM and WRM and BD protection into coastal legislation and management and integrative practices.

Sub-activity 1.2.1.4./B : "Integration of IGWM (Integrated Ground Water Management) and IRBM (Integrated River Basin Management) with ICZM"

The analysis of recent developments and new emerging issues indicated that strengthening integration of Groundwater/Aquifer Management and of WR Management into ICZM methodology and planning should be taken into account, in order to fully end efficiently meet the Project objectives and strategy, as well as to provide for an improved harmonization and integration among Component 1. activities; all to be demonstrated with practical examples of integration in two ICZM Pilot areas

When preparing respective sections of the Inception Report, discussions among partners resulted with recommendations for a strengthened and improved approach, harmonization and integration of respective activities; this in particular of those related to ICZM Plans. Furthermore, it was emphasized that in most cases within sectoral projects the integrative approach focuses at integration within the (sectoral) project itself, approach usually differing from integration of individual sectoral project outputs within ICZM. Finally, in the present case of IGWM and IRBM, specific coastal zone aspects need to be taken into account, where relevant and as appropriate.

Therefore the need was emphasized for a joint effort towards (i) a consolidated approach to methodologies, (ii) precise definition of respective inputs/outputs, areas and levels, and (iii) identification of and agreement upon operational linkages among respective methodologies and management systems.

Consequently, this sub-activity is focused at methodological and practical integrative actions of Component 1 activities, by providing the needed methodological framework and practical guidance for integration in ICZM Pilot areas. Joint actions on methodology and guidance of activities in Pilot areas, involving all agencies implementing Component 1. also transversal linkages within other Activities are envisaged, as presented and approved by the IW.

The assistance to countries will build upon UNEP and WB/METAP experience in promoting Integrated Coastal Zone Management as an essential approach and framework for all policies and interventions affecting coastal and marine areas. Again, special emphasis will be given to inclusion of water- and biodiversity-related aspects into national ICZM legislation and management practices.

Results:
Analysis of methodologies and the Integrative Methodological Framework will be provided by an Integrative Working Group (IWG) of international consultants, selected jointly by UNESCO-IHP, GWP Med and PAP RAC. The IWG will: (i) prepare a comparative analysis of respective methodologies (IGWM, IRBM and ICZM), (ii) discuss linkages and output/inputs relations to provide for harmonized partners' activities and integration into ICZM, in particular concerning the Buna/Bojana and the Reghaia ICZM Plans, (iii) prepare the Integrative Methodological Framework (IMF) to be applied when integrating Partners' inputs into two ICZM Plans, (iv) guide partners' activities when implementing respective actions in the ICZM Plans, and (v) present the IMF and experience gained through its application in the ICZM Plans.

Integration of IGWM, IBRM with ICZM in selected Pilot areas will be achieved by contribution of the IWG. Its members will assist each his corresponding partner (UNESCO-IHP, GWP Med, PAP/RAC) in implementing the respective tasks within the two ICZM Plans. The focus will be (i) on application of the integrative approach and achievement of consolidated results, (ii) on revising respective partner's outputs and preparing comments and recommendations to be taken into account when preparing the ICZM Plans, and (iii). provision of on-the-spot assistance through Working meetings and field work.

The Integrative Methodological Framework, integration procedure, and results achieved in ICZM Plans will be presented at the PAP/METAP/UNESCO-IHP/GWP MED ICZM Regional Workshop

PAP/RAC, METAP, UNESCO-IHP and GWP-MED will jointly prepare, manage and support the sub-activity, providing specialised inputs related to inclusion of IGWM IWRM and BD protection into coastal legislation and integrative management and practices.

1.2.1.5. Improved integrative planning and use of ICZM methodologies and tools to support ICZM Protocol, in particular with reference to IGWM, and IWRM, integration into ICZM, BD protection and impacts of climate change.

Human activities located on the coast and in the adjacent river basins are having strong impact on the state of the coastal terrestrial and marine environment. Biodiversity loss is rapidly emerging phenomenon in the region. Although tourism is considered as a growth sector, the deteriorating environmental situation is degrading its ability to act as a development generator. Unregulated, and often haphazard and illegal, coastal linear urbanization is reducing the quality of coastal landscape as well as the capacity of future generations to make use of the coast at the level enjoyed by the current generation. Cost of coastal degradation, i.e. reduction of the capacity of national economies to generate satisfactory income could be assessed as being relatively high, particularly in some, less developed, countries of the region.

Recent analyses of new developments and emerging issues since the Project approval indicated the need to provide data and information on impacts of climate change: (i) an Overview on impacts of climate change in the entire Project area, and (ii) Vulnerability Assessments for two ICZM Pilot areas, with special reference to Groundwater/Aquifer Management, Water Resource Management and Biodiversity protection.

Finally problems of integration of results were discussed at the February Paris Meeting convened by the PMU, with recommendations to partners in Component 1. to provide for: (i) an improved harmonization and integration among Component 1. activities in ICZM Pilot areas, and (ii). to provide for a joint presentation of consolidated results, methodologies and practices for integration, as developed and applied and of practical experiences achieved in two ICZM Pilot areas, also with a view to harmonized Investment Portfolios .

Results. This activity will include capacity building, creation of network of experts and exchange of best practices through. development and presentation of selected ICZM tools, practical examples in two Pilot areas and a joint presentation of results at a Final Regional METAP/ICZM Workshop. The activity will build upon experience of METAP and PAP/RAC in developing and applying ICZM tools and methodologies for assessing impacts on WR and BD and providing integration of management of individual resources into ICZM in countries of the Mediterranean and other regions.
Methodologies and examples of Valuation of Environmental Services and COED will be prepared and presented. Methodology for and practices of Vulnerability Assessment and Adaptation Measures for Impacts of Climate change will be presented, to include an Overview of expected impacts in the region and project areas, with particular reference to WR and Biodiversity. Practical Assessments will be implemented in two ICZM Pilot areas, to be used as indispensible inputs for activities of all three partners. Finally a PAP RAC/METAP/UNESCO-IHP/GWP Med ICZM Final Regional Workshop will present in a consolidated and user friendly mode the results and experiences achieved, to include also those from Activity 1,2,1.4.

PAP RAC, METAP, UNESCO-IHP and GWP MED will jointly prepare and manage the activity. PAP/RAC will provide with existing national reports on ICZM and other information related to assessing the cost of environmental degradation of Mediterranean coast and methodologies, tools and integrative practices. SPA/RAC, UNESCO-IHP and GWP-MED will provide specialised inputs related to inclusion of IGWM, WRM and BD protection into ICZM and implementation of integrative practices.

1.2.2 Application of ICZM approach, tools and techniques in demonstration areas

The ICZM objective of this component relates to implementation of demonstration projects for effective management of coastal areas and identification and management of coastal habitats and marine protected areas (MPAs). Furthermore, ICZM approach, tools and techniques will be demonstrated in selected countries through preparation of ICZM plans.

In section C of Supplementary information to the project presents a set of criteria for selection of demonstration sites under the project.
Section E presents Description of sites/areas in the region, which are proposed as demonstration projects based on experience of PAP/RAC in its Coastal Area Management Programme and on preliminary consultations with relevant national authorities and the Project partners.

Outcome. Two ICZM plans for selected demo areas with institutional systems in place aimed at their implementation.

The following sub-activities of Activity 2. will be developed:

1.2.2.1 ICZM Plans to demonstrate ICZM approach, tools and techniques in selected areas

Coastal ICZM plans represent a step forward toward putting ICZM approach and strategies into practice. They stimulate the integration of major stakeholders in the decision-making process through an improved participation process. Coastal plans also help bringing the coastal issues at the top of national/local political agenda and help shape the national/local approach to coastal area management. ICZM plans also help increasing the number of coastal projects, many of them having a demonstration character. It is probable that the national financing of ICZM plans and projects will also increase, this being an indicator of the willingness to implement solutions proposed.

This activity will be developed through:

- Drafting ICZM Plans in two selected areas, one of them of transboundary nature, the other to include coastal lake, wetlands and identification of MPA; both important for their WRM- and BD-related features, including programme and tools for its implementation;
- The key topics of the transboundary ICZM Plan for an area of high environmental sensitivity and biodiversity value will include: a. the ICZM Plan as umbrella document, to include: Vulnerability Assessment of Impacts of Climate change, with a harmonized TB Ecosystem Based Management Plan, applying the ICZM concepts, b. programme for conservation of the fragile ecosystems and biodiversity of global and national importance, c. pollution (waste water, solid waste) reduction, treatment and management, d. a Water Resource Management Plan (GWP Med) and Aquifer Protection Programme / Vulnerability Assessment (UNESCO-IHP)/, e. identification of and procedures for establishment of MPA (RAC SPA), f. sustainable development (greening) of productive landscapes, g. Investment Portfolio - to look for supported or co-financed or soft-investment sources and projects
- The key individual actions of the ICZM Plan for a wetland area will include a. an umbrella ICZM Plan with a Vulnerability Assessment of impacts of Climate change with adaptation measures, b. wastewater treatment and control, c. sustainable beach management and Reghaia park management, d. an updated spatial plan to include MPA, WRM and Bd protection, e. Programme for controlled and sustainable tourism, fisheries, agriculture and forestry, f. identification and procedures for establishment of a MPA for the area of Agueli island, g. Investment Portfolio.
- Organisation of co-ordination / harmonisation meetings to ensure consensus building, integration and broad stakeholder involvement in ICZM Plan preparation and implementation;
- Final presentation conferences to present draft ICZM plans;
- Finalising ICZM plans with implementation instruments included;
- Identification of priority investments in protection and rehabilitation of valuable coastal areas.

***Key results**:* Final ICZM Plans for two selected areas prepared, one of them at least to include identification and procedures for establishment of a MPA. The plans will include the Lists of priority investments needed with short Prefeasibility outlines (Investment Portfolios). Joint organization, harmonisation and integration meetings organised. Two national workshops prepared and organised; workshop reference documents prepared, finalized and disseminated

1.2.2.2 Capacity building for effective implementation and sustainable financing of pilot ICZM projects

Often is the case that important long-term ICZM interventions fail due to their unsustainable funding, especially in developing countries. It is therefore important to conceive and plan these interventions bearing in mind from the beginning all possible means of financing and inherent financial risks. Inability to mobilise resources domestically is also troubling although some regional experience (South China Sea for example) prove that pilot projects can be entirely funded by the country involved. Uninterrupted financing of project is just one of their sustainability aspects. Strong political commitment at all levels is essential to the preparation and implementation of initiatives. Participation of stakeholders and end-users from the design phase through project implementation should be encouraged.

The sub-activity will contribute to capacity building of national officials to identify, select, implement and seek sustainable funding of pilot ICZM projects. Information on potential national funding sources, including national and international donors, development banks, etc. in the region will be presented. Also, examples of promotional activities for demo projects, the most effective means of gaining political support to the projects, good practices

in yielding public support for ICZM interventions and successful cases will be discussed. Replicability Strategy and Sustainable Med component will be presented and discussed.

Results: A workshop will be organised to present methodology for selection, implementation and sustainable financing of pilot ICZM projects. A compendium will be distributed containing lists of funding regulations, programmes and financial institutions in the region relevant to environmental and ICZM projects.Special attention will be given to the Replicability Strategy and Sustainable Med component and experiences.

Identified responsible institutions: PAP/RAC will prepare, manage and execute the activity with the assistance of INFO/RAC and the World Bank. The workshop will be co-organised with national authorities of an eligible country.

1.2.2.3 Co-ordination and harmonisation of ICZM component with other components' activities in demo projects

Establishing effective linkages among various Project components is crucial for its success. ICZM component demo areas and relevant activities should be selected in concert with other implementing institutions, primarily with GWP Med, UNESCO and METAP, and within MAP with MEDPOL and RAC-SPA. And vice versa, ICZM should be used as an overall framework for harmonising all sectoral interventions in demo projects prepared by other implementing institutions, including ICZM methodological and programmatic aspects.

An international expert will be engaged by PAP/RAC to co-ordinate implementation of activities in ICZM demo areas with other implementing institutions' activities, notably with activities on IWRM and coastal aquifers. Participation of the expert at four harmonisation meetings is envisaged.

Results: Concerted activities of all implementing agencies in ICZM and other demo areas. Harmonisation meetings organised.

Identified responsible institutions: PAP/RAC will prepare, manage and execute the activity. The harmonisation meetings will be co-organised with national authorities of eligible countries.

The objective of the ICZM sub-component of the project is creation of a favourable environment for the ratification and implementation of the ICZM protocol. The ICZM component makes an integral part of Component I and Component III, Sub-category 6 of the Project. The following is the envisaged set of ICZM-related activities of the full size project.

Risks and sustainability

Risks. In the coastal areas of the Mediterranean there is a widespread need for effective water resources management, biodiversity protection and coherent spatial planning. Unfortunately, in many instances exclusive sectoral approach to achieving these issues exist, instead of a comprehensive institutional, legal and management framework. ICZM brings this much needed inter-sectoral and spatial perspective, supporting for example further screening of initiatives pointing to their overlaps, gaps and potential conflict. However, at present in many countries ICZM institutional, legal and management frameworks are incomplete and therefore have not fully demonstrated their expected efficiency in addressing users conflicts and cumulative development and environmental impacts in coastal areas. The risk is therefore that *sectoral management will remain dominant form of coastal resources utilization*. However, ICZM activities of the project have been designed so as to improve the situation and minimise this risk.

A further risk might be *limited willingness of national / sub-national / local authorities to participate in the project*, as well as use and share project results and findings. Namely, there is a risk that instruments for the implementation of coastal strategies and plans will not be used and prevailing negative coastal trends will continue. However, involvement of the appropriate governmental and non-governmental stakeholders throughout the whole project, and the development of co-ordinating mechanisms addressing sectoral concerns within the ICZM framework is designed to minimise this risks.

Due to complexity of the project, there is a risk of *ineffective co-ordination* between the project implementation unit, project-executing agencies, national and local authorities, GEF Focal Points, IFIs, etc. Elaborated project implementation arrangements at the very start of the project and its regular monitoring and evaluation should significantly limit this risk.

Due to a number of actions of interest for individual ICZM project activities or areas, implemented since the Project approval, there is a risk of overlapping or repetition or of missed opportunities for synergy and harmonization. Intensive exchange of information, and discussions with relevant national responsible and actors implemented so far and the measures/mechanisms for harmonization envisaged should efficiently cope with this risk, with good prospective for its minimisation.

The depreciation of the US$ occurred meanwhile induced the risk of inadequate funds available in comparison with the envisaged programme. This risk was dealt with by a certain reduction of some activities (f. ex. reduction of some meetings being supplemented by other ways of communication, reduction of number of NAPs, other minor adapting..)

Inability of co-financiers to meet their commitments due to developments not anticipated at project design stage is the major project risk from the financial point of view. In order to minimise this risk, the project-executing agency will continuously monitor the co-financing, report to key project stakeholders, identify likely problems in advance, and react as appropriate. Also, formal agreements between responsible institutions and the agency prior to the beginning of project activities would limit this risk.

Finally, level of risk associated with execution of ICZM component with the project is relatively low, considering the great interest of the countries; institutions and organisations involved as well as the existing expected interest at the international level. The inclusion of institutional strengthening and ICZM capacity building elements within this project component reduces the overall project risk by ensuring that the beneficiary countries will have the needed ability to prepare and implement the Strategies and ICZM Plans identified and to strengthen their legal, institutional and policy framework for ICZM.

Sustainability. Sustainability is integrated into each of the project Outcomes of the ICZM component. All relevant Outcomes and Outputs are designed to ensure that the achievements under the ICZM component will be sustained after the project completion. PAP/RAC will focus its activities in strengthening national institutions and capacities in coastal management, as the most important objective to ensure sustainability of the project interventions. Development of legal and institutional actions, as well as strengthening operational potentials to work within an integrated vision among the Mediterranean institutions, will facilitate development of effective ICZM tools and instruments and will create favourable climate for civil participation.

Active participation of civil organisations in the project activities is a key element for the social sustainability. The Public Participation Strategy of the Component focuses at building a bottom-up pressure aiming to support effective project execution. This would contribute to sustainability by building broad support for biodiversity conservation and demonstrating its usefulness.

Appropriate project implementation arrangements will also facilitate sustainability of the interventions beyond the life span of the project. Forming a project-related co-ordination units (committees) within the countries involved might enable the integration and involvement of the different Ministries and governmental institutions.

Finally, with regard to the financial sustainability, it might be stated that there will be substantial funds in the region available for sustainable development activities. The challenge is to channel a part of these funds into ICZM promoting activities and to ensure they are well managed. This project component addresses this twin challenge head on. Lack of finances for follow-up should not be an obstacle. The high-levels of co-financing and baseline financing demonstrate this.

Linkages with other programmes and initiatives

The Transboundary Diagnostic Analysis (TDA), UNEP/MAP/MEDPOL, 2005, presents experts opinion, based on best available data, on the state of the environment and priority problems in the Mediterranean. The TDA provided the list of actions, which is designated to address the major transboundary issues of interest of the GEF International Waters (IW) focal area. The TDA outcome was use of Environmental Quality Objectives adopted in the SAP MED, SAP BIO and the FAO Code of conduct for sustainable fisheries. This led to specific targets to be met within a desired time frame, and specific interventions and actions that can be considered in the framework of National ICZM Action Plans (NAPs).

Other UNEP/MAP projects have been taken into account when preparing ICZM based activities of this project, like preparation of the Mediterranean Strategy for Sustainable Development and consensus building on future MAP ICZM Protocol.

In addition to the above mentioned, this project involves UNESCO, METAP, WWF MedPO, and other significant partners to jointly contribute to a more sustainable management of Mediterranean coastal areas, with specific reference to combating land-based pollution and biodiversity degradation and loss.

Some of the active GEF and non-GEF funded projects in the Mediterranean include:

- *SMAP III Integrated Coastal Zone Management plans of action (regional).* Following the launching of SMAP III in 2005, a Technical Assistance office was opened in Cairo and eight projects have been selected for implementation. All projects aim to develop integrated coastal zone management plans for specific regions in the Mediterranean countries (all projects will be implemented in GEF eligible countries). Their total value is € 7.60 million.

- *Promoting Awareness and Enabling a Policy Framework for Environment and Development Integration in the Mediterranean with focus on Integrated Coastal Zone Management (regional***)**. EC, UNEP/MAP, PAP/RAC, BP/RAC, METAP. The project started in 2005 with the overall objective to improve the advocacy and awareness in policy making at national level in SMAP beneficiary countries to engage them into the path towards the environmentally sustainable development. Also, the project is intended to encourage and support harmonised co-operative efforts at regional level for a common policy framework for ICZM. Total cost: € 1.20 million.

- *Spatial Planning in Coastal Zones - PlanCoast (regional).* EC, PAP/RAC. The project will lead the path towards the completely new spatial development instrument of Sea-Use-Planning for maritime areas and enhance ICZM implementation by linking it with the process of statutory spatial planning. The value of project activities to be implemented in the Adriatic region is estimated at €0.48 million.

- *MAP Coastal Area Management Programme (regional).* UNEP, MAP, BP/RAC, SPA/RAC, Info/RAC, PAP/RAC. Coastal Area Management Programme (CAMP) is oriented at implementation of practical integrated management projects in selected Mediterranean coastal areas, applying ICAM. A number of CAMP projects has been implemented in eligible countries, from the standpoint of MED SP of relevance are in particular those implemented in Algeria and Lebanon, both completed in 2005. In addition, CAMP projects are to start for Morocco and Montenegro.

- *Regional Solid Waste Management Project in METAP Mashreq and Maghreb Countries (regional).* METAP, WB. The project was approved in 2002 and is being carried out in, Algeria, Egypt, Jordan, Morocco, Lebanon, Palestine, Syria and Tunisia. The project addresses Solid Waste Management (SWM) as one of the most serious environmental concerns, especially in the Mashreq and Maghreb countries. The objective of the project is to promote the adoption of sustainable integrated waste management practices in the METAP beneficiary countries. Total cost: € 6.00 M.

- *Capacity building for an early assessment system of drought in three countries of the south shore of the Mediterranean Sea: Algeria, Morocco and Tunisia (regional).* EC, LIFE05 TCY/TN/000150. The project was approved in 2006. The overall objective of the project is to improve the capacities in Algeria, Morocco and Tunisia to deal with and adapt to drought periods. To this end, the project will identify the regions that are most sensitive to drought and reinforce capacities for regular monitoring in order to predict the level of risk of drought occurrence. Total cost: € 0.80 M.

- *Lake Shkoder Integrated Ecosystem Management (Albania and Serbia and Montenegro).* GEF, IBRD, WB. The project is in the GEF pipeline. It is supposed to be carried out in Albania and Montenegro. The overall objective of the project is to assist the Governments of Albania and Montenegro in achieving a more sustainable use of the natural resources of the Lake Shkoder and its watershed. The global environmental objective of the project is to reduce pollution and conserve the lake and its biodiversity as an internationally important nature habitat for different flora and fauna species, especially for waterfowl birds. Total Cost: US$ 27.45 M. TBD

- *Integrated Water and Ecosystems Management Project (Albania).* GEF, IBRD, WB. The project was approved and implementation started in 2003. The main objective of the project is to assist the Government of Albania in improving the management of uncontrolled wastewater discharging into international waters, which is threatening the global significant ecosystems along the coastline of Albania. Total Cost: US$ 12.58 M. TBD

- *Integrated Ecosystem Management of the Neretva and Trebisnjica River Basin (Bosnia and Herzegovina and Croatia).* GEF, IBRD, WB. The project will be implemented under Investment Fund for the Mediterranean Sea LME Partnership. It is in the GEF pipeline and is supposed to be carried out in Bosnia-Herzegovina and Croatia. The goal of the project would be to ensure an effective and environmentally sound management of the transboundary Neretva River Basin. The general project objective is to catalyse a more integrated approach to water resource management in the Neretva River Basin in order to improve the integrity of the ecosystem. The global environmental objective is to conserve the water and land resources, and biodiversity of a globally important watershed. Total Cost: US$ 17.13 M.
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- *Conservation and Sustainable Use of Biodiversity in the Dalmatian Coast through Greening Coastal Development (Croatia).* GEF, UNDP. The project is on-going . It aims at making development "greener" across a key area of the Croatian coastal zone by creating an enabling environment. The project also seeks to change the behaviour of economic actors within the area so that key mosaic of habitats and species are secured

and they're needs incorporated into economic development of the area. Total Cost: US$ 31.64 M.

- *Plan of Action for an Integrated Coastal Zone Management in the area of Port Said (Egypt).* EC, NRD (Nucleo di Ricerca sulla Desertificazione dell'Università degli Studi di Sassari, Italy). Project was approved in 2006 and is being carried out in Egypt, Coastal zone of Port Said. Its aim is to prepare an Integrated Coastal Zone Management Plan for the area and to create the basis for its successive concrete implementation through an integrated and interdisciplinary approach and with the direct involvement of the relevant stakeholders. Total Cost: €1.87 M.

- *Integrated Management of Cedar Forests in Lebanon in Co-operation with other Mediterranean Countries (Lebanon).* GEF, UNEP. The project approved in 2003 will contribute to the management of cedar forests and their protection from serious insect pests. The primary focus of this project will be on determining the causes of appearance of Cephalcia tannourinensis in the Tannourine-Hadath el-Jebbeh Cedars Forest and determining means to prevent its spread to other countries in the region. Project Cost: US$ 1.21 M.

- *Reducing conflicts of coastal natural resources use in the Nador area of Morocco (Morocco)*. EU, EUCC. The project approved in 2006 is being carried out in the Morocco's province of Nador. The overall goal of the project is to promote sustainable development in the coastal area of the province of Nador through the establishment of an ICZM Plan with civil society participation. Total cost: € 0.73 M.

- *The Fara'a and Jerash Integrated Watershed Management Project (Palestine and Jordan).* EC, SMAP. The project was approved in 2003. The overall project objective is to create sustainable development conditions for the rural population in the Jordan River Basin. The watersheds have the highest potential for agricultural development in the area. Total Budget: € 4.95 M.

- *Integrated Sustainable Land Management in the Eastern Region (Syria).* GEF, UNDP. The project is in the GEF pipeline. Its goal is to reduce and reverse the process of land degradation and improve human livelihoods in the Eastern Region of Syria through ensuring co-ordination and upscaling of land management activities. The project will focus on piloting and adapting models for SLM, by reinforcing the enabling environment, and by mainstreaming SLM into the wider economic development of the region. Total Cost: US$ 22.76 M.

- *Gulf of Gabes Marine and Coastal Resources Protection Project (Tunisia).* GEF, IBRD, WB. The overall objective of the project, approved in 2005, is to contribute to the protection of important Mediterranean and international biodiversity and promote economic development by sustainable managing marine and coastal natural resources. Project Cost: US$ 9.81 M.

- *Biodiversity and Natural Resources Management Project (Turkey).* GEF. The project started in 2000 with the global objective to conserve the biological diversity and ecological integrity of selected ecosystems in a sustainable manner. The ecosystems include forest, wetland, steppe and alpine ecosystems that are representative of Turkey's four major bio geographical zones, which include the Black Sea and Caucasian mountain region, the Central Anatolian plateau, and the European and Mediterranean regions. Project Cost: US$ 11.54 M.

Supplementary information

A. Status of ICZM policy in the region
B. Status of ICZM Legislation, Institutions, Strategy and plans in GEF eligible countries of the Region
C. Criteria for selection of demonstration sites under the project
D. Preliminary list of stakeholders
E. Description of selected demonstration areas/projects

A. Status of ICZM policy in the region

It should be noted that Integrated Coastal Planning and Management (the MAP initial title for ICZM) has been identified from MAP inception in 1975 as one of its four basic components. PAP/RAC has been entrusted with its introducing and development in practice of Mediterranean coastal states. Gradually, ICZM methodologies and tools were developed and tested, primarily through the implementation of CAMP projects and ICZM tools such as EIA, SEA, CCA, and marine spatial planning. These actions were supported by various METAP, WB, and EC projects, all within their respective institutional and programmatic framework.

The assessment of ICZM status and implementation has been widely elaborated in a number of relevant recent documents (e.g. "Assessment of ICAM Initiatives in the Mediterranean: Experiences from METAP and MAP (1988-1996)", "White Paper on Coastal Zone Management in the Mediterranean", "Coastal Area Management Programmes: Improving the Implementation"). For the need of this project, National ICZM overviews for eligible countries and sub-regional ICZM Policy Briefs were prepared. The ICA Baseline and GEF Alternative analyses were prepared taking fully into account the findings of these documents including ICZM related findings in SAP MED and SAP BIO, as well as the results of the Expert Meeting on ICZM held in Split on 23-25 April 2006.

Among barriers for further strengthening of ICZM as a framework and tool for water resources management (WRM) and biodiversity (BD) protection the following might be mentioned:

- Poor enforcement of relevant laws and regulation;
- Inadequate legal framework and management structure in most countries;
- Still prevailing dominance of sectoral land use planning; and
- Low capacity for integration and application of ICZM methodology and tools, in particular related to WRM and BD protection.

However, in all the countries important elements of integrated coastal zone management are already established. Although none of them has a fully integrated coastal zone management framework (legal, institutional, planning, technical) in place, in each one of them some or a number of elements of the system can be found. The awareness of the need for a strengthened and better-focused ICZM, in this case on WRM and BD protection, is proved by the fact that all Mediterranean countries adopted the ICZM Protocol for the Mediterranean In addition, the civil sector emerging in all eligible countries indicates a high interest and potential of wide public to play a role in integrated coastal zone management.

The broad development/environmental goal of the ICZM project Sub-Component is to ensure sustainable management of Mediterranean coastal zones, by providing assistance to national governments of the Mediterranean countries to manage their coastal resources in an integrated manner. The main objective of the ICZM project component is to facilitate strengthening of legal, institutional and policy framework for integrated coastal zone management of the Mediterranean countries, and build capacity for implementation of ICZM focused at WRM and BD protection. In this way, the component would support the achievement of the targets established by SAP MED and SAP BIO.

B. Status of ICZM Legislation, Institutions, Strategy and plans in GEF eligible countries of the Region

Country	ICZM Body	ICZM Law	ICZM Strategy	ICZM Plans
Albania	No	No	National coastal plan (prepared in 1995, adopted in 2002)	In preparation
Algeria	National Coastal Council proposed	Yes (2002)	No	CAMP SAP Wetland management
Bosnia and Herzegovina	No	No	No	No
Croatia	Office for the Adriatic (no decision making power)	Decree on the Protection of the Coastal Area (2004)	No, but a special plan for the Adriatic in preparation	No, only county spatial plans with some sea use plans
Egypt	No	No	No	National plan in preparation
Lebanon	Proposed	Draft prepared	Yes, waiting endorsement by parliament	No
Libya	No	No	No	No
Morocco	Steering committee & national agency proposed	In preparation	In preparation	In preparation in Nador
Montenegro	Yes, public institution with weak legal mandate	Yes	In preparation	No
Syria				National plan in preparation
Tunisia	APAL (no legal mandate)	No	No	No
Turkey	Committee since 1993 but no coordination role	No, only shore law to give boundaries		

C. Criteria for selection of demonstration sites under the project

The selection of the Demonstration Projects will be guided *inter alia* by the following:

1. Conformity with GEF programme: Demonstration projects should address at least one of the following GEF Operational Programs Focal Areas – Biodiversity or International Waters. Higher relevance of interventions proposed under the projects for both focal areas would be an advantage.

2. Conformity with MAP programme and programme of other regional institutions: Priority should be given to projects which promote well advanced activities of existing regional institutions. Notable example would be projects that demonstrate benefits of applying

the ICZM Protocol for Mediterranean and / or advantages of use of ICZM tools and techniques.

3. Multi-faceted nature of projects: Projects should aim as far as possible at demonstrating how ICZM may serve as a framework for integrating water resources management and/or biodiversity issues into an overall planning system.

4. Global / regional / sub-regional / transboundary nature of projects: Projects should clearly respond to the environmental benefits in the region and contribute to overall global environmental benefits. In this respect Projects selected may have a sub-regional outlook or be of a transboundary nature.

5. Hot spot targeting: Projects must target relevant hot spots identified by the countries. The Strategic Overviews prepared for each country could serve as a starting point for identifying the hot spots.

6. Sustainability: Projects, which demonstrate possibility for economic development and/or poverty alleviation, would have an advantage in the selection process. Also, the Projects, which deliver benefits beyond the life cycle of the interventions, would be preferred.

7. Favourable political environment: Clearly expressed willingness of national / local authorities to support implementation of a demonstration project is a strong sign in favour of the project.

8. Acceptability by local population: Demonstration projects are meant to have an overall positive effect on relevant local population. They could, however, negatively affect some society groups. It is imperative that expected outcomes of a project be introduced to local population prior to its implementation and their support to the project obtained.

9. Co-Financing: Only projects likely to attract adequate domestic funding and/or external support shall be considered. Projects demonstrating strong co-financing shall be given priority.

10. Cost-effectiveness: For a given budgetary limit, demonstration projects should yield a set of well-structured and tangible activities which contribute to success of an overall objective of the intervention.

11. Replicability: Projects' principles should be replicable in other countries of the region. They should promote sharing of experiences, enhancing regional co-operation and collective learning.

12. Performance criteria: Projects should achieve measurable concrete preliminary results in a designated time.

13. Capacity Building: Projects should be selected taking into account relevant national / local capacities for their implementation. Capacity building should be an integral part of the planned project activities.

14. Availability of data: Implementability of a demonstration project is positively related to existence of relevant data and its availability.

15. Participatory approach: Project outcomes should demonstrate a direct causal connection between increased participation and increased sustainability of proposed interventions. Projects should yield strong ownership with all partners including the

government, the private sector, civil society including NGOs and the scientific community.

16. Maximisation of use of regional expertise: Projects should aim at maximising the utilisation of national/local experts and institutions.

17. Geographical balance: Balance between GEF eligible countries in the region should be sought.

D. Preliminary list of stakeholders

ALBANIA

Public Institutions (Ministers)
- The Ministry of Agriculture and Food and its Directorates for Forestry and Fisheries
- The Ministry of Public Works, Land-use Planning and Tourism
- Ministry of environment, national environmental agency (NEA)
- Ministry of public economy and privatisation

Scientific Institutions (NEA) (1996)
- ISPU – The National Urban Planning Institute

ALGERIA

Public Istitutions
National level (Ministers)
- Ministère de l'Aménagement du Territoire et de l'Environnement - MATE
- Ministère de la Pêche et des Ressources Halieutiques
- Ministère des ressources eu eau
- Ministère de l'agriculture et du développement rural
- Ministère de la Santé, de la Population et de la Réforme Hospitalière
- Algerian Coastal Protection and Promotion (APPL)
- Office National de l'Assainissement - ONA
- National Water Agency (ADE)
- Conservatoire National du Littoral (CNL)
- Agence nationale d'aménagement du (ANAT)
- Centre National d'Etudes et de Recherches Appliquées en Urbanisme (CNERU)
- Centre National des opérations de surveillance et de sauvetage en mer
- Centre National des Technologies de Production plus Propre (CNTPP)
- National Centre for the Development of Biological Resources (CDRB)
- Office National pour la Statistique (ONS)

Regional and Local Level Institutions
- Wilaya assemblies

Specialized Committee
- Le Conseil National de l'Aménagement et de Développement Durable du Territoire
- Conseil National de l'Eau
- Le Conseil National de l'Information Géographique (CNIG)
- Comité National des ONG algériennes pour la lutte contre la désertification (CNOA)

Scientific Institutions
- Ecole Nationale Polytechnique - Département Génie de l'Environnement
- Institut des Sciences de la Mer et de l'Aménagement du Littoral (ISMAL)

- Institut National de Santé Publique (INSP)

Civil Society Organizations
- Mouvement Écologique Algérien (Algerian Ecological Movement)
- Association pour la Recherche sur le Climat et l'Environnement (ARCE)
- Association de réflexion d'échanges et d'action pour l'environnement et le développement (AREAED)
- Le Centre National d'Etudes et d'Analyses pour la Population et le Développement (CENEAP)
- Societe algerienne pour le droit de l'environnement (SADE)
- United Nations Development Programme (UNDP) - Algeria
- Judicial expertise in international environmental rights and desertification

BOSNIA AND HERZEGOVINA

Public Istitutions
National level (Ministries)
- Ministry of Foreign Affairs
- Ministry of Foreign Trade and Economic Relations
- Federal Ministry of Physical Planning and Environment
- Federal Ministry of Agriculture, Water Management and Forestry
- Federal Ministry of Transport and Communications
- Federal Ministry of Health
- Ministry of town planning, housing-communal (municipal) services, civil engineering and ecology RS
- Ministry of Agriculture, Water Management and Forestry RS
- Ministry of industry and technology RS
- Ministry of Health and Social Protection RS

Regional and Local Level Institutions
- Cantonal Authorities
- Water Management Companies
- The Directorate for Water RS

Inter Regional Level Institutions
- Communal service department

Specialized Committee
- Committee for Management of Environment, not specialise for coastal zones

Civil Society Organizations
- Environmental Steering Committee of BIH
- Commission for co-ordination of water management issues
- Public Enterprise for “Watershed Area of Adriatic Sea Basin”
- Public Enterprise for “Watershed Area of the Sava river basins”
- Public Company for Water in the Adriatic

CROATIA

Public Istitutions
National level (Ministries)
- The Ministry of Environmental Protection, Physical Planning and Construction
- Ministry of Agriculture, Forestry and Water Management
- Ministry of the Sea, Tourism, Transport and Development
- Ministry of the Economy, Labour and Entrepreneurship

- Ministry of Culture
- Ministry of Health
- Ministry of the Interior
- Ministry of Foreign Affairs and European Integration

Regional and Local Institutions
- Counties and municipal departments for land-use planning

Inter Regional Institutions
- Croatian Chamber of Commerce
- Croatian Waters
- Croatian Environment Agency
- State Institute for Nature Protection
- Central Bureau of Statistics of the Republic of Croatia

Scientific institutions
- Rudjer Boskovic Institute
- Institute of Oceanography and Fisheries

Civil Society Organizations
- State Institute for Nature Protection
- UNDP – Croatia
- Environmental Protection and Energy Efficiency Fund
- Fund for Regional Development
- NGOs active in environmental protection and nature conservation in Croatia

EGYPT

Public Istitutions
National level (Ministries)
- The Cabinet of Ministers
- Ministry of State for Environmental Affairs
- The Ministry of Water Resources and Irrigation
- Ministry of Tourism
- Ministry of Foreign Affairs
- Ministry of Agriculture and Land reclamation
- Egypt State information Service

Regional and Local Institutions
- Local departments of the Ministry of the Environment
- Regional branches of EEAA

Specialized Committee
- National Committee for ICZM

Scientific Institutions
- Egyptian Academy of Scientific research and Technology
- National research Centre
- Agriculture Research Centre (under Ministry of Agriculture and Land reclamation)
- National water Research Centre (under Ministry of Water Resources and Irrigation)
- Climate Change and Environmental Institute
- University of Alexandria
- American University in Cairo

Civil Society Orgai\nizations

- Hurghada Environmental Protection and Conservation Association
- CEDARE - Centre for Environment & Development for Arab Region and Europe

LEBANON

Public Istitutions
National level (Ministries)

- Ministry of the Environment
- Council for Development and Reconstruction (CDR)
- Ministry of Tourism
- Ministry of Agriculture
- Ministry of Public works and Transport
- Higher Council for Urban Planning (HCUP)
- Investment Development Authority of Lebanon (IDAL).

Regional and Local Institutions

- Directorate General for Urban Planning (DGUP)

Scientific institutions

- American University of Beirut
- Balamand University
- National Council for Scientific Research (CNSR)
- Industrial Research Institute

Civil Society Orgai\nizations

- AFDC (Association for Forest Development and Conservation)
- UNDP- Lebanon Country Office.
- Society for the Protection of Nature in Lebanon

International Organizations

- Economic and Social Commission for Western Asia
- ONU in Lebanon
- UNESCO in Lebanon
- United Nations Program for the development
- USAID in Lebanon
- Delegation of the European Union in Lebanon
- METAP, Unit of Planning and Programming (UPP).

LIBYA

Public Istitutions
National level (Ministries)

- Ministry of Planning
- Ministry of Agriculture
- Ministry of Transport
- Ministry of Defence
- Marine Research Agency
- Technical Centre for the Protection of the Environmental
- Environmental General Authority of Libya
- Marine biology Research Centre (MBRC), establishment in (1981)

MOROCCO

Public Istitutions
National level (Ministries)
- Secretariat General du Gouvernement
- Ministere de'l Interieur et Communes
- Ministere de l'Amenagement du Territoire, de l'Eau et de l'Environnement
- Ministere des Affaires etrangeres et de la cooperation
- Ministere de l'Equipment et des Transports
- Ministère de l'Agriculture, du Développement Rurale et des Pêches Maritimes – MADRPM
- Haut Commissariat aux Eaux et Forêts et à la Lutte Contre la Désertification
- Ministère du Tourisme, de l'Artisanat et de l'Economie Sociale
- Ministere de la Sante Publique
- Centre Royal de Télédection Spaciale (CRTS)- Rabat

Regional and Local institutions
- Prefectorial or provincial assemblies
- Communal assemblies

Specialized Committee
- Conseil National de l'Environnement
- Conseil Supérieur pour la Sauvegarde et l'Exploitation du Patrimoine Halieutique
- Conseil Supérieur de l'Eau et du Climat
- Conseil Supérieur de l'Aménagement du Territoire
- Commission nationale des études d'impact sur l'environnement
- Commission du Littoral
- Comité National de la Biodiversité
- Comité National des Zones Humides

Scientific Institutions
- Institut National des Recherches Halieutiques (INRH)- Casablanca
- Institut Scientifique – Rabat
- Institut National d'Aménagement et d'Urbanisme (INAU)- Rabat
- Institut National de Statistiques et de l'Economie Appliquée - Rabat
- Institut Agronomique et Vétérinaire Hassan II
- Institut Supérieur des Pêches Maritimes (ISPM)- Casablanca
- Faculté des Sciences de Tétouan
- Universite Ibnou Zohr – Agadir

Civil Society organizations
- Fondation Mohammed VI pour la protection de l'environnement
- Societe Marocaine pour le Droit de l'Environnement (SOMADE)
- Forum Maghrebin pour l'Environnement et le Développement
- The MED Forum (Forum of Mediterranean NGOs for Ecology and Sustainable Development)
- WWF MEDPO, Morocco Office
- Association AZIR pour la protection De l'environnement Al-Hoceima

MONTENEGRO

Public Istitutions
National level (Ministries)
- Ministry of Tourism and Environment
- Ministry of agriculture, water engineerning and fisheries

- Ministry of Maritime affairs and transportation
- Ministry of Culture and Media
- Ministry of Education
- Ministry of Economy and Industry

Regional and Local institutions
- Maritime Safety Department
- Port Authorities
- Regional Water Supply Corporation

Inter Regional Institutions
- Public institute Center for Ecotoxicologic Research
- Public Enterprise for Coastal zone management (Javno preduzeće za upravljanje morskim dobrom Crne Gore)

Specialized Committee
- National Council for Sustainable Development

Scientific Institutions
- Republic Hydrometeorologic Institute
- Republic Nature Protection Institute
- Republic Cultural Heritage Institute
- Institute for Marine Biology
- Regional Cultural heritage Institute
- Private entrepreneurs (tourisme)

SYRIA

Public Istitutions
National level (Ministries)
- Prime Minister's Office
- Ministry of Environment
- Ministry of Local Administration
- Higher Council for Environmental Safety (HCES)
- General Commission for Environmental Affairs (GCEA)
- The Ministry of Irrigation

Regional and Local institutions
- Local level, General Environment Directorates

Specialized Committee
- Committee established under MoE (2003?) to consider the adoption of ISO 14000

Scientific Institutions
- Center of Environmental Researches
- Centre of Scientific Studies and Researches
- University of Damascus
- Scientific Environmental Researches Centre (SERC)
- Teshrin University

Civil Society organizations
- Syrian Environment Association
- Environment Protection & Sustainable Development
- Environment Protection Society
- Syrian society for Wildlife Conservation

- Society of Coastal area for protection of health and environment
- Chamber of Tourism

TUNISIA

Public Istitutions
National level (Ministries)
- Ministry of Environment and Sustainable Development
- Ministère de l'Equipement, de l'habitat et de l'Aménagement du territoire
- Ministry of Tourism
- Ministry of Agriculture and hydraulic resources
- Ministry of Public Health

Regional and Local institutions
- Governorate assemblies
- Commune

Specialized Committee
- The National Sustainable Development Committee

Scientific Institutions
- Centre International des Technologies de l'Environnement de Tunis (CITET), under Ministry of Environment and Sustainable Development
- Institut National des Sciences et Technologies de l'Océanographie et de la Pêche (INSTOP)

Civil Society organizations
- Association Tunisienne pour la Protection de la Nature et de l'Environ (ATPNE; Friends of the Earth Tunisia)
- Association Les Amis des Oiseaux
- Association nationale tunisienne de la protection de la faune sauvage
- APNEK Association pour la Protection de la Nature et de l'Environnement de Kairouan
- WWF MEDPO,
- Tunisia Project Office

TURKEY

Public Istitutions
- *National level (Ministries)*Prime Minister's Office
- State Planning Organisation
- Ministry of Environment and Forestry
- Ministry Public Works and Settlements
- Ministry of Culture and Tourism
- Agriculture and Rural Affairs
- Ministry of Energy and Natural Resources

Regional and Local institutions
- General Directorates for different sectors (hydraulics, water work, construction of harbours, railways and airports, National Parks)
- Governing provinces and municipalities
- Authority for the Specially Protected Areas (Under Ministry of Environment and Forestry)
- Regional Development Agency (to be; proposed by the new law called Public Administration Law)

Inter Regional Institutions

- Regional Directorate for governmental hydraulic works

Specialized Committee
- National Committee for planning of Turkish coastal zones

Scientific Institutions
- Middle East Technical University (METU)
- Department of Civil Engineering
- Department of geological engineering, Remote Sensing and GIS Laboratory
- University of Mugla

Civil Society organizations
- MEDCOAST
- Association for Preserving the Natural Life (DHKD)
- WWF-Turkey (Foundation for Preserving the Natural Life)
- Greenpeace Mediterranean Campaign Office
- Foundation for Preserving the Environmental and Cultural Values (ÇEKÜL
- Foundation for Forestation and Combating with Erosion in Turkey and (TEMA
- Turkish Marine Environment Protection Association (TURMEPA)
- Turkish Marine Research Foundation (TÜDAV)
- Underwater Research Association (SAD)
- Mediterranean Seal Research Group (AFAG)
- Bird Research Association (KAD)
- Foundation for Preserving Environment and Recycling of Package Wastes (ÇEVKO)
- Buğday Association of Fostering the Ecological Life
- KORDON Association (Urban and Environmental Culture Association)
- Akyaka Lovers Association
- ÇevGön - Diyarbakır Environment Volunteers Association
- Pamukkale Association for Search-Rescue & Natural Sports
- Istanbul Water Initiative
- Turkish Foundation for Preserving Environment and Green Development

E. Description of selected demonstration areas/projects

1. Transboundary Albania - Montenegro demonstration area Buna (Bojana) river and estuary, adjacent coastal/marine areas and Shkoder (Skadar) lake area

The "Skadar lake-Bojana" demonstration area is shared by Montenegro and Albania, including the lake and imediate parts of its watershed, the Bojana river including its estuary ans adjacent marine area. The lake surface counts for 370 km sq. with predominantly shallow (4-7 m) depths, and some deeper underwater springs (8-44 m depth). The freshwater influx originates from 6 short rivers.

The lake area is rich in biodiversity and the Montenegro part is protected with the status of Nature Park, with regulation concerning controlled and sustainable fishing, protection of forest areas, valuable habitats and nesting/migratory birds areas. Nevertheless, the park does not include the Bojana River and its delta. Moreover, so far the Albanian part has no protected status. The lake area is included in the RAMSAR List. The designation of a RAMSAR site in the wider lake and river area are under discussion. So far the Albanian part has no protected status..
Biodiverity and habitats. Some lake species contributing to reduction of pollution, some fragments of Skadar oak still present, sparse Mediterrenean pseudo maquis, the open lake bed overgrown with submersed plants, traditional fisheries based on carp and bleak. Ornithofauna as the most remarkable biodiverity component (Pigmy Cormoran, Dalmatian

pelican). A number of species categorized as endangered and rare. The Montenegro biodiversity monitoring programme started in 2002.

Bojana is the offspring river, 41 km long, out of which with a large estuary, identified as one of the national areas most affected by pollution. In a distance of 1,3 Km from its spring, Bojana is connected with Drin river through a man-made channel. Bojana water inputs originate in Albania, Montenegro, Serbia, Kosovo, FYR Macedonia and Greece (Lakes Skadar, Ohrid and Prespa as well as Drin river). This hydrographical network determines the hydrologic regime of Skadar Lake, Bojana River and their tributaries in the catchment area and has an important impact on the morphology and pressures in the Bojana delta.

The key economic activities in the area are industry, fisheries, tourism, sustainable agriculture, in the coastal area (Ulcinj) also maritime transport and harbour activities.

The major lake and the river pollution sources are: urban and industrial untreated or only partially treated wastewaters; agriculture, and uncontrolled development of tourism facilities. Illegal / uncotrolled / over fishing resulting with serious depletion of fish stocks and affecting the lake biodiversity. High levels of eutrophication were monitored in the Bojana estuary affecting the marine environment, biodiversity, also tourism, in particular the Ulcinj Great Beach area. In addition, erosion and sedimentation phenomena are affecting the river zone, predominantly induced by extreme events (torrential precipitation in the watershed area). Uncontrolled or poorly regulated changes in land-use affect important lake / coastal / marine habitats and landscape. Protection and mitigation measures need updated planning based on ICZM, and planning, design and implementation of priority investments, including provision of funds.

The ICZM Plan for the area action will build on results and experiences from preceding ICZM and IWRM activities at transboundary, national and local levels, including experiences of implemented MAP CAMP projects (two Albanian CAMP Projects, the Montenegro CAMP to start in 2010). Operational links will be secured with the on-going GEF project (PDF-B phase) for the Skadar Lake Integrated Ecosystem Management.

The major stakeholders in each country will be the national authorities responsible for: nature protection; water management; development and land use planning; fisheries; tourism; agriculture, forestry; maritime transport; the Montenegro Public Agency for ICZM; scientific institutes; local authorities and qualified NGOs. In addition to PAP/RAC and GWP-Med, the major SP partners will be SPA/RAC and UNESCO, to provide for respective professional support and guidance.

NOTE: SIMILAR DESCRIPTION OF THE SAME AREA IS PRESENTED IN PP. F - 62 / F - 63 IN THE SUB-COMPONENT 1.3. THE ICZM PLAN AND THE IWRM PLAN WILL BE PREPARED JOINTLY IN A HARMONIZED WAY, WITH PRESENTLY ON-GOING DISUSSIONS BETWEEN PAP/RAS AND GWP MED. .

2. The Algerian demonstration area

"The Reghaia wetlands, lake, coastal and marine area"

The recently implemented MAP CAMP "The Algiers Coastal Area Project" identified among others the Reghaia area as one of high priorities for an ICZM pilot project to be implemented building on CAMP findings and results. The major expected output is an ICZM plan for the area, to include biodiversity protection, improvement of lake freshwater quality and identification of a MPA in the coastal/marine zone to include the Agueli island. In-depth consultations were made with responsible national and local authorities, the scientific

community and NGOs, and an agreement in principle reached on the essential lines of project formulation and implementation, once the needed conditions are met.

The Reghaia lake is located 30 km east of the city of Algiers, being a natural outlet of the Mitidja high plains. The lake and the surrounding wetland area presently have the legal status of PA - National Reserve. The area is under the administrative jurisdiction of the Reghaia and Heraoua municipalities. The lake surface counts for 75 ha, surrounded with 416 ha of agricultural lands, 24 ha of forest and uncultivated lands, and 10 ha of built areas.

The marine part counts for an aquatory of 863 ha, including the Agueli island of utmost biodiversity importance, being the sanctuary and nesting area for migratory birds (including the Big Cormoran - *Phalacrocora carbo* and the Goeland Laucophee - *Larus cahinnans*).

The coastal strip consists of sandy beaches and the system of dunes dividing the wetland area and the coastline, the vegetation including *Pancratium maritimum, Lotus Creticus, Amophila Arenaria, Chamaerop Humilis, Tamarix Africana, Plantago Cronopus*, etc.

The wetlands area counts for 206 bird species, out of which more than 100 waterfowls, 57 species protected under the national legislation, 30 ones protected under intentional conventions and lists, among them the most rare *Marmaronetta angustrirostris, Porphyrio porphyrio, Anthya nyroca, and Oxyra leucocephala*. The area counts also for 21 mammal species, 3 of them listed in the CITES Annexes, 1 in the IUCN Red list. In addition out of 3 protected reptile species 1 is on the CITEX Annex list.

The entire coastal habitat is degrading and endangered, due to uncontrolled and increasing pollution by urban and agricultural waste water and uncontrolled expansion of urban areas and tourism facilities, needing urgent comprehensive integrated planning and rehabilitation programme. Actual negative impacts and potential very serious threats are caused by the nearby Reghaia Industrial Zone and communities of Reghaia, Heraoua and Ain Taya. These impacts are characterised by (i) disappearance of faunal biodiversity, (ii) loss and degradation of agricultural and forest areas, and (iii) pollution of Reghaia lake, wetlands and aquifers.

The CAMP Algiers project outlines in general the needed pilot programme for the area, to include an ICZM plan, wastewater treatment and control, sustainable beach management and Reghaia park management, and updated spatial plan to include MPA, WRM and Bd protection, controlled and sustainable tourism, fisheries, agriculture and forestry, as well as identification and procedures for establishment of a MPA to include the Agueli island.

The ICZM SP action intends to build on CAMP results, preparing an ICZM plan to be adopted by the national and local authorities, identification and establishment of the Agueli MPA, and development in parallel of the National ICZM strategy, to be adopted by the national authorities. Approval at programmatic level and full support has been reconfirmed by the responsible national representatives, with an adequate co-financing in cash and kind to be expected, on the lines and approach applied for the CAMP Algiers project.

The major stakeholders will be the national authorities responsible for environment protection, fisheries, tourism, agriculture and forestry, the responsible in the wilaya of Algiers, as well as the authorities of the three Municipalities (Ain Taya, Reghaia nad Heraoui). In addition to PAP/RAC, as major partners from the SP side, SPA/RAC, UNESCO and GWP MED will be included.

Sub-Component 1.3: Integrated Water Resource Management

(GEF 500,000 $, co-financing GWP-Med 1,000,000 $ and other sources directly raised by the PMU from country contributions 1,100,000 $)

Implementing Agency

Global Water Partnership – Mediterranean (GWP-MED) with support from Priority Actions Programme (PAP/RAC) and United Nations Educational, Scientific and Cultural Organization International Hydrological Program (UNESCO/HP)

Background/Context/Rationale

As of the 1990s, most countries started to realize that the 'business as usual' scenario of dealing with water management and water security issues was no longer suitable to cope with future challenges.
Following a series of international, regional and national fora, and particularly after the 2nd World Water Forum (The Hague, 2000), there is consensus that IWRM is a means towards achieving sustainable development and that it can contribute significantly towards achieving several of the Millennium Development Goals (MDGs, 2000). Key concepts of an IWRM approach are presented in Annex I.

At the World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002, the international community took an important step towards more sustainable patterns of water management by including, in the WSSD Plan of Implementation, a call for all countries to "develop integrated water resource management (IWRM) and water efficiency plans by 2005, with support to developing countries". The WSSD Plan of Implementation describes the actions leading to the development of the integrated water resource management and water efficiency.

The Mediterranean region is among the most water-stressed areas of the world. Apart from varying degrees of water scarcity, the Mediterranean countries face considerable water challenges. Many of them still suffer from lack of effective operational strategies; fragmentation of responsibilities between authorities; weak policy implementation; weak monitoring and assessment at the national and local level; limited technical, management and enforcement capabilities to address water resource issues; and financial constraints including lack of financial resources at affordable levels.

On a worldwide scale and in the Mediterranean region, many countries are currently in a stage of institutional reform, orienting priorities and practices towards an IWRM approach. In the north of the Mediterranean (EU Member States, EU Accession Countries and other Balkan countries), the EU Water Framework Directive (WFD) provides the main policy frame for water management. In the south and east of the Mediterranean, countries are taking steps towards IWRM. Until now, only few countries have completed their national IWRM plans or their very close to and even attempt to gradually move in the implementation phase. Many countries are in the process of developing their national IWRM plans while a smaller group of countries are still in the very initial phase of preparation (see Supplementary information).

Regardless of the level of progress achieved until now it is important to encourage and assist, as appropriate, all the countries of the region in their processes towards integrated management of water resources. Addressing, in particular, environmental and biodiversity concerns in the process of IWRM planning and implementation is of major importance for achieving sustainable development in the countries of the Mediterranean.

It is recognized that there is no 'one-solution-for-all' as regards sustainable water management at national level; this is mostly due to country particularities, the large number of sectors involved and the complexity of managing and balancing diverse needs and often

competing interests. Nevertheless, it is widely recognized that there is a wealth of valuable experiences to share at the regional, sub-regional and national levels and ground for a needed common strategic planning.

The situation gets even more complex when it comes to effective management of shared water resources, particularly since it often involves national sovereignties.

Description of activities, including demonstration and pilot projects

Within the general objective to supplement and support the achievement of the targets established by SAP MED and SAP BIO, the immediate objective of Sub-Component 1.3 is to facilitate action to promote IWRM planning at the national, transboundary and regional levels as a mean to reduce pollution from land based sources into the Mediterranean.

To achieve this objective, Sub-Component 1.3 on IWRM will:

- Promote policy dialogue with stakeholder participation including the private sector and support catalytic actions, at the national transboundary and regional levels, assisting countries to meet water-related MDGs and WSSD targets with an emphasis on IWRM including related environmental concerns.
- Support demonstration projects and capacity building at local, national and transboundary levels, aiming amongst others in maintaining environmental flows and functioning of water related coastal ecosystems and habitats/sensitive areas.
- Address biodiversity concerns and issues related to vulnerable habitats in national IWRM planning processes through consultation and assessment.
- Identify investment needs related to IWRM, taking into account biodiversity and water quality concerns.

Sub-Component 1.3 will implement activities for IWRM planning and application at the transboundary, national and local Levels.

At the regional and national levels it is recognized that, by its very nature, introduction of IWRM is highly context-specific and context-sensitive. The natural hydrological conditions provide the basis, but equally important is the political, legal, institutional, socio-economic and cultural setting. Therefore, the basic approach should account for the fact that the different countries are at various stages in their economic, political and social development. Accordingly, effective promotion and support of IWRM must take into account the local concerns and priorities and be based on national and possibly sub-regional approaches.

Though there is no “one size fits all”, it is recognized that commonly agreed principles and operational guidelines will assist countries and their administrations for a common understanding and for enhancing synergies with the stakeholders as well as the international community. Roadmaps for IWRM planning and application are needed in countries that are lagging behind process while targeted support could be provided in countries that are in a more advanced stage. Capacity building is critical if targets are to be met while pilot actions at the catchment level can present tangible results serving as demonstration of good practice. Activities at the national level will be implemented in close cooperation with the Mediterranean Component of the European Union Water Initiative as well as its Joint Process with the EU Water Framework Directive.

At the same time, many of the major rivers, lakes and aquifers in the region are shared between two or more neighboring countries. Inadequate cooperation between the riparian countries may threaten the effective IWRM planning and implementation at a river basin level risking also effectively addressing environmental and biodiversity concerns downstream, at the coastal zone of the Mediterranean sea. Furthermore, inadequate cooperation in the management of shared waters, in combination with incidents of

degradation of water quality and/or water scarcity increase the potential for international conflicts thus posing a risk to stability and economic development in the region. Differences among the countries sharing the resource in socio-economic conditions, laws and institutions, managerial approaches as well as strong positions over issues such as historical rights, cultural values and political persuasions often present a rather complex situation. There is an important need for identification, design and application of solutions through which these shared water resources can become a catalyst for cooperation instead of a source of conflict.

Allowing these transboundary water resources to present an opportunity rather than a constraint to development, has led countries and the international community to undertake a series of initiatives. Among such initiative, the joint Petersburg Process Phase II / Athens Declaration Process support actions for capacity building and local IWRM planning. The Process is supported by Germany, Greece, GEF IW:LEARN, World Bank and other key partners in the region (UNECE, UNESCO/INWEB, UNDP, etc) and the countries (particularly of Mediterranean Balkans) of the region. Activities at the transboundary level will be implemented in close cooperation with the joint Petersburg Process Phase II / Athens Declaration Process and its partners.

Activities at the national and local levels will be closely coordinated, where applicable, with the activities of the GEF SPMM components on ICZM and Coastal Aquifers.

Main Outcome: Countries have increased capacity to manage their water resources effectively based on IWRM principles, including response to environmental concerns.

Main Output: Progressive adoption of IWRM policies, implementation of IWRM practices in pilot areas and building of capacity, including address of environmental challenges.

Activity 1.3.1. Contribute to developing the new Strategy for Water in the Mediterranean
(GEF 0 $, Co-financing 70,000 $)

Water is a defined priority in regional policy frameworks like the Barcelona Convention and its Mediterranean Commission for Sustainable Development (MSSD), the Euro-Mediterranean Partnership etc. Moreover, action plans on a range of water issues have been prepared and agreed under different formal and informal frameworks in the Mediterranean over the last 15 years. Among key reference documents are the Turin Plan of Action on Local Water Management (Euro-Mediterranean context, 1999), the recommendations of the Working Group on Water Demand Management of the MSSD (1997, 2002), the Framework for Action for Water in the Mediterranean developed through a multi-stakeholder consultative process by GWP (2000), etc. The IWRM concept has been introduced and developed mainly over the last 5 years and particularly after WSSD (2002). The Mediterranean Strategy for Sustainable Development (MSSD, 2005) has a chapter on water resources management and includes IWRM among its priorities. However, at the moment, in the Mediterranean there is no commonly agreed set of guidelines or a plan of action for addressing integrated management of water resources.

Following decision of the Euro-Mediterranean Ministerial Conference on Water (22 December 2008, Dead Sea, Jordan), a new long Term Strategy for Water in the Mediterranean (SWM) will be elaborated to respond to key challenges faced by the Mediterranean countries, including address of related environmental challenges and considerations for transboundary water resources, and based on international and regional experiences,.

The SWM will be structured in four main chapters addressing: water governance, water and climate change adaptation, water demand management including non-conventional water

resources, and water financing.. Recommendations will be linked with targets and indicators where appropriate.

The SWM is expected to be agreed at the UfM Ministerial Conference on Water, on 12-14 April 2009, in Barcelona. Representatives of key international and regional organizations and stakeholder networks will participate as observers.

After the adoption of the SWM and based on the decisions of the Ministerial Conference, an Action Plan linking recommendations with existing and planned financial and human capacities at the regional and national levels may be elaborated.

Coordination with MAP/UNEP and the related GEF SP action planning activities on ICZM and Aquifers will be secured.

Activity 1.3.2. Catalyze Action and Build Capacity on National IWRM Planning (GEF 300,000 $, Co-financing 1,330,000 $)

IWRM planning contributes in the sustainable management of the resource by creating an operational framework for building an enabling environment, establishing institutional roles, enhancing financing strategies and applying management instruments. Countries that have not developed yet IWRM plans or they are in need for revisiting their existing plans or strategies will be assisted through catalytic actions and capacity building on national IWRM planning.

The activity will provide technical support through assessment and focused policy workshops and training courses for the preparation of IWRM Roadmaps and elaboration of strategic parts of the full-scale IWRM plans. Depending on specific country needs agreed with the governments of the countries where the project will be implemented, activities will have a focus on:

- Policy instruments,
- Legal and regulatory frameworks,
- Mechanisms for consultation and participation,
- Role of management agencies (including river basin or hydrographic organizations),
- Mechanisms to achieve financial sustainability,
- Environmental issues in IWRM planning.

Moreover, the activity will enhance stakeholders' involvement by building their capacities in core IWRM competencies such as participatory approaches, conflict resolution, fundraising, local action planning and management.

Policy workshops and targeted training courses (the exact number is pending on conditions per country) will be implemented in four (4) countries ie. in Lebanon, Egypt, Tunisia and Palestine.

More specifically, activities to be undertaken include:

- In Lebanon, assisting the country to advance on national IWRM planning through reviewing of the National 10-Year Strategic Plan on Water (2000-2009) and drafting of a National IWRM Plan. Activities in Lebanon will be implemented under the lead of the Ministry of Energy and Water and in collaboration with other Ministries and agencies with competence on water as well as stakeholder organisations.

- In Egypt, assisting the country to advance on strategic financing planning for water resources and services through developing sustainable financing strategy for water supply and sanitation with particular attention to affordability issues of the population with regards to

tariff and valuation issues, promoting a feasible framework for development of public private partnership and advancing financing planning for IWRM with an emphasis on irrigation. Activities in Egypt will be implemented under the lead of the Ministry of Housing, the Holding Company for Water and Wastewater and the Ministry of Water Resources and Irrigation and in collaboration with other Ministries and agencies with competence on water as well as stakeholder organisations.

- In Tunisia, assisting the country to review its long term Strategy for the Water Sector with an IWRM approach and to build capacity on national IWRM planning. Activities in Tunisia will be implemented under the lead of the Ministry of Agriculture and Water Resources and in collaboration with other Ministries and agencies with competence on water as well as stakeholder organisations.

- In Palestine, assisting the Palestinian Authority to implement its water governance reform programme with emphasis on reviewing legal instruments for the water sector and developing strategic planning for emergencies in relation to water. Activities in Palestine will be implemented under the lead of the Palestinian Water Authority and in in collaboration with other Ministries and agencies with competence on water as well as stakeholder organisations.

GWP-Med will prepare and manage the activity in collaboration with partners like UNEP Collaborating Centre on Environment and Water (UNEP UCC), the Organisation for Economic Cooperation and Development (OECD), etc. National authorities will have a key role in the project and a wide range of stakeholders will be involved. Co-ordination will be established with PAP/RAC and UNESCO in Lebanon and Tunisia where activities of the related Sub-Components will be implemented.

Activity 1.3.3. Develop strategic shared vision and IRBM plans in globally important river basin(s) and adjacent coastal area (GEF 200,000 $, Co-financing 730,000 $)

Development plans and plans for the protection of the environment, in particular those concerning enhancement of the use and protection of watersheds and their adjacent coastal areas should be considered simultaneously. The protection of waters and the sea, either as an integral part of water management or as part of integrated land-use management, should follow the principles of integrated planning, development and management of environment and space. The interactive and functional relationships between the coastal areas and river basin areas have been accentuated by the growth of economic, urbanisation and tourism activities, changes within the infrastructure systems, and needs to supply coastal settlements and tourist facilities with fresh water, energy and food among other necessities.

The activity will build on the principles of UNEP-PAP/RAC "Conceptual Framework and Planning Guidelines for Integrated Coastal Area and River Basin Management", the experience on IWRM planning developed by international organizations including GWP, the principles and practices of the EU Water Framework Directive as well as related demonstration projects implemented in the region. The activity will be supported with broad stakeholder involvement through meetings and workshops organised.

Actions will also be developed in close cooperation with the Petersberg Phase II / Athens Declaration Process on transboundary water resources management in Southeastern Europe (led by Germany, Greece and the World Bank in collaboration with key UN agencies in the region), the Mediterranean Component of the EU Water Initiative (MED EUWI - led by Greece) and the MED-EUWI/WFD Joint Process (coordinated by the European Commission, DG Environment).

The activity will include:

- *Development of the enabling environment for collaboration among countries sharing the river basin through policy and technical dialogue among political partners and stakeholders aiming at the development of a shared vision for managing the shared resource;*
- *Elaboration of strategic assessment through Transboundary Diagnostic Analysis;*
- *Joint drafting of Integrated River Basin Management Plan (IRBM);*
- *Organisation of national and local workshops to ensure broad stakeholder involvement in IRBM Plan preparation and implementation;*
- *Finalising IRBM plan with implementation instruments included;*
- *Identification of priority investments in protection and rehabilitation of valuable coastal areas.*

IRBM Plans will be prepared in two (2) selected area of importance for IWRM and biodiversity protection, including programme and tools for its implementation. The plans will include the list of priority investments needed with short pre-feasibility outlines. One related national workshop and a number of local consultation meetings would be organised for each area. The activity will provide opportunity to test on real cases and with an integrated approach ICZM and IWRM principles and parameters, which have enough similarities but often present differences in the focus of approaches and themes tackled.

GWP-Med in coordination with PAP/RAC and UNESCO will prepare and manage the activity. Joint activity will focus on the the Buna / Bojana River as part of the extended Drin River Basin, Details of involvement are to be discussed with SPA/RAC. National institutions of selected countries will be engaged as stakeholders and partners in the activity. The Orontes River Basin is planned to constitute the second river basin of application.

Demonstration Projects

1. Transboundary Montenegro-Albanian demonstration area

Skadar (Alb.: Shkodra) lake - Bojana (Buna) river and estuary

The "Skadar lake-Bojana" demonstration area is shared by Montenegro and Albania, the border line dividing the lake, the border also going along a part of the Bojana river. The lake surface counts for 370 km sq., out of which 221 km sq. belong to Montenegro. The lake is predominantly shallow (4-7 m depth) with some deeper underwater springs (8-44 m depth). The influx of freshwater is provided by 6 relatively short rivers, 3 in Montenegro and 3 in the Albanian area.

Bojana is the offspring river, 41 km long, out of which 24 km are the borderline, with a large estuary in the lower Adriatic, nearby the coastal city of Ulcinj. In a distance of 1,3 Km from its spring, Bojana is connected with Drin river through a man-made channel. Bojana receives water input from a very complex hydrographical net which lies almost in the 1/5 of the Balkan peninsula in Albania, Monenegro, Serbia / Kosovo, FYR of Macedonia and Greece (Lakes Skadar, Ohrid and Prespa as well as Drin river). This hydrographical network determines the hydrologic regime of Skadar Lake, Bojuna River and their tributaries in the catchment area and has an important impact on the morphology and pressures in the Bojana delta.

The major economic activities in the area are industry, fisheries, tourism, sustainable agriculture and maritime transport and harbour activities.

Both the lake and the river are rather strongly polluted, the major sources of pollution being: urban and industrial untreated or only partially treated wastewaters; partly agriculture; and growing but uncontrolled development of tourism facilities. High levels of eutrophication were monitored in the Bojana estuary affecting the marine environment, biodiversity, also tourism, in particular the Ulcinj Great Beach area. Valuable landscape and habitats are endangered

and affected by uncontrolled or poorly regulated changes in land-use. In 2003 the Regulatory Concept for the Ulcinj Great Beach area has been adopted, including provisions for biodiversity protection and pollution abatement, with one EIA prepared, but the implementation of the rehabilitation process still waiting comprehensive planning and funding. Problems related to erosion and sedimentation are encountered in Bojana river because of its connection with Drin particularly during high discharge periods.

The Skadar lake area is of particular biodiversity importance, included in the RAMSAR List. The Montenegro part of the lake area has the status of a nature park, with regulation concerning controlled and sustainable fishing, protection of forest areas, valuable habitats and nesting/migratory birds areas. Nevertheless, the park does not include the Bojana River and its delta. Moreover, so far the Albanian part has no protected status. As a consequence, fishing is uncontrolled and together with illegal fishing in the Montenegro area resulting with serious depletion of fish stocks. The designation of a Ramsar site in the greater area of the lake and the river are under discussion.

The lake is extremely rich in biodiversity; with total BD SA index of 0,8752, with biogenetic resources of European importance, rich in relict species and endemic ones. The information on biodiversity in the area is rather abundant. Inventories identify: 257 invertebrate species; 56 fish species (out of which 14 autochthonous and 15 endemic); 51 species of amphibians and reptiles, predominantly endemic; 271 bird species (90% migratory); 50 mammals species; 726 algal ones. The forest areas are abundant with *Salicetum albae*, *Quercus robur ssp scutariensis*, degraded chestnut and Turkey oak, Oriental hornbeam, most degraded.

The ICZM and IWRM SP demonstration action is envisaged as a joint Montenegro-Albanian one, aiming at preparation of a joint comprehensive transboundary ICZM and IWRM planning document, and initiatives for harmonisation of protection level and practices, to be liaised with actions concerning the formulation and adoption of respective National Strategies and plans. The action will build on results and experiences from preceding ICZM and IWRM activities at transboundary, national and local levels, including experiences of implemented MAP CAMP projects, one of them bordering the lake and the Bojana estuary area. Operational links will be secured with the on-going GEF project (PDF-B phase) for the Skadar Lake Integrated Ecosystem Management.

The major stakeholders in each country will be the national authorities responsible for: nature protection; water management; development and land use planning; fisheries; tourism; agriculture, forestry; maritime transport; the Montenegro Public Agency for ICZM; scientific institutes; local authorities and qualified NGOs. In addition to PAP/RAC and GWP-Med, the major SP partners will be SPA/RAC and possibly UNESCO, to provide for respective professional support and guidance.

2. The Orontes demonstration area

The Orontes rises in the Labweh springs at Ain Zarka, in the Hermel region (North Bekaa Valley) in Lebanon and runs northwards between the mount-Lebanon and the Anti-Lebanon mountain ranges into Syria, where it has been dammed to form Lake Qattinah. Northwest of Hamah in Syria, the Orontes crosses the fertile Al-Ghab, once a swampy depression, and enters Turkey where it bends westward, passes through the Turkish province of Hatay in Iskenderun where it discharges into the Mediterranean Sea at the Gulf of Iskenderun near the port of Samandagi.

The Orontes flows through a diversity of landscapes between Lebanon and Turkey. In Lebanon, it forms a canyon of 50 to 90 m depth in Hermel, situated in a mountainous dry area that joins the Lebanese Bekaa plain to Syria. The Ain Zarka source, which is located in the Hermel district, in fact forms an oasis. The ancient monastery of St. Maroon (the place

where St. Maroon monks started their apostolate in Lebanon) that overhangs Ain Zarka is connected to this source through many water wells.

The River's two main tributaries are the Kara Su and Afrin rivers, located in the city of Antioch in the north.

Largely non-navigable for most of its 400 kilometres' length, the Orontes is nonetheless an important water source supplying several irrigation schemes located on the Lebanese and Syrian territories. In Ain Zarka, Lebanon, in particular it forms a strong and regular flow all year long, varying from 12 to 15 m^3/ s.

Before the revision of the water treaty between Lebanon and Syria (2001), the utilisation of this transboundary river in Lebanon was limited to fish culture and to small irrigation schemes. The Orontes constituted the most important river in ancient Syria with modern-day priority concerning the use in the drinking and irrigation sectors, though the River also supplies several infrastructure projects in Syria.

An agreement exists since 1994 between Lebanon and Syria stipulating the terms for the sharing of Orontes water resources between the two countries. Since that year amendments (1997) were made to the original agreement and an overall revision process was initiated in 1999, with the initiative of Lebanon. The revision process concluded in a new agreement between Lebanon and Syria in 2001. The Lebanese-Syrian High Committee for shared waters had a major role in the negotiation process.

Available data on the present status (quantity of flows, water quality, pressures by economic activities on surface and groundwater resources and the ecosystems etc) and uses of the resources are very poor and in many cases out-dated making it difficult to plan effectively the appropriate managerial, technical and socio-economic measures towards the sustainable management of the river basin.

The overall objective of this activity will be to promote the concept of Integrated Transboundary River Basin Management in Lebanon and Syria using the shared Orontes River as a pilot watershed.

Given the IWRM call for a holistic and participatory approach in water management, the activity will place emphasis on developing a steady communication channel at political level, while at the same time support the establishment of a multi-stakeholder platform with the actors from both sides that are involved in the management of the Orontes River. On the political level, it is essential to maintain a regular contact between the competent authorities so as to reassure their commitment to joint transboundary water management and facilitate the consideration of other issues besides water sharing. An Orontes Stakeholder Forum would aim to enhance the partnership culture within the countries and also on bilateral basis and ensure involvement and ownership from the side of water policy-makers, managers and end users alike.

In addition, and as already indicated, the available information on the Orontes River is sparse and inconsistent. Moreover, and based on experience from past projects, disclosing and sharing of data is a strenuous task and the involved countries are highly unwilling to release information to each other, and at cases even among the different institutions within the country. Therefore, the activity aims to contribute substantially to enhancing the knowledge on the river basin's state, conditions and particularities through a comprehensive assessment of water resources on both sides of the river, including a forecast analysis for water supply and demand up to 2030 particularly in view of climate change implications, as well as the conduct of a preliminary transboundary diagnostic analysis (TDA) of the basin, with due emphasis on environmental and socio-political aspects. The role of the stakeholder consultations is crucial also during the technical work; on the one hand through the role they

need to play in the successful completion of the preliminary TDA and on the other through the envisaged Orontes Stakeholder Forum that will assist in creating an enabling environment of trust for sharing, exchanging and appraising information.

The activity will make the most from experiences, related concepts and practices applied in transboundary river basins in the region and abroad, with due consideration for the tranferrability and applicability potential, including the experiences arising from the application of the EU Water Framework Directive to water basins (including transboundary ones) as well as of GEF International Waters methods. Moreover, the Project will utilise the experience of other on-going processes/initiatives in the region, including the MED EUWI, the Petersberg Phase II / Athens Declaration Process on transboundary water resources management in South-eastern Europe and the Union for the Mediterranean, only to name a few.

The activity will be managed by GWP-Med. Synergies with UNESCO and possibly PAP/RAC will be explored. The major stakeholders in each country will be the national authorities responsible for: water management; nature protection; development and land use planning; fisheries; tourism; agriculture, forestry; scientific institutes; local authorities; water users associations and qualified NGOs.

Risk and Sustainability

Risks for the successful implementation of activities and related responses include:
Risk: Sectoral water resources management remains dominant and integration is limited or fragmented at the level of projects.
Response: Over recent years and particularly after WSSD, countries have recognized the necessity of IWRM and have committed to its promotion and application through the WSSD Plan of Implementation. Support, implementation and monitoring mechanisms are developed in the majority of the countries of the region and would act complementary to and, where possible, in synergy with the activities described in the project.

Risk: Limited political will and commitment to action
Response: Engagement of responsible water authorities through inclusive coordination mechanisms will assist for increased level of commitment. Particularly at the government level, pro-active engagement of national authorities further to the agency where the GEF Focal Points seats (if and where relevant) will assist towards this end. At the level of stakeholders' participation, the design of activities foresees their active involvement form the outset.

Risk: Conflict situations and lack of political commitment to cooperate on transboundary water resources management
Response: Project actions are targeted to areas where some form of cooperation exists and willingness for joint action has been demonstrated. Nevertheless, if such situations emerge, mitigation strategies involve awareness creation and dialogue.

Risk: Inadequate implementation of activities
Response: Institutions involved in the implementation of activities have established capacities and expertise to appropriately respond and deliver the objectives. Activities are demand driven proving the interest by countries and stakeholders to cooperate.

Risk: Ineffective coordination due to the wide range of activities
Response: Project implementation arrangements and coordination mechanisms are an integral part of the project design.

Risk: Inability to meet co-financing commitments

Response: Being a major financing risk for the smooth implementation of the project, the coordination unit will pro-actively monitor the co-financing aiming to identify likely problems in advance, report to committees established through the project as well as to competent agencies and respond as appropriate.

Based on these, the level of project risk is considered reasonably limited, particularly since no heavy investments are involved.

Through related activities, all components of the project are designed to ensure that achievements will be sustained after completion. The project will develop operational links with major on-going processes and initiatives providing opportunities for concrete follow up actions.

A significant proportion of the project activities are designed to strengthen national and local capacities for IWRM. It is anticipated that the project activities will strengthen engagement of government authorities and stakeholders and will enhance opportunities for follow up actions. Therefore, a sustainability of components and activities can be expected beyond the life of the project.

Linkages with other programmes and initiatives

The Sub-Component 1.3 will be linked and cooperate with on-going key processes and initiatives at the regional and national levels, including:

- National Action Plans (NAPs),
- GEF initiatives and projects addressing IWRM issues at the regional, national and transboundary levels,
- Mediterranean Commission on Sustainable Development (MCSD) and its Working Group on water as well as its work for the implementation of the Mediterranean Strategy for Sustainable Development,
- Horizon 2020 Initiative to De-pollute the Mediterranean, coordinated by the European Commission and supported by various partners,
- European Neighborhood Policy and its National Action Plans,
- Mediterranean Component of the EU Water Initiative (MED EUWI) and the Joint Process between the Water Framework Directive (WFD) and MED EUWI. MED EUWI is led by Greece and is supported also by the European Commission. The Joint Process is led by the European Commission.
- African Water Facility (AWF). AWF is an Initiative of the Africa Ministers Council on Water (AMCOW) and a major outcome of the effort of implementing the African Water Vision and Framework for Action. The initiative supports water actions in Africa and is designed to mobilize investment for the water sector. It is hosted by the African Development Bank Group on behalf of the AMCOW.
- Petersberg Process Phase II / Athens Declaration Process on Transboundary Water Resources Management, led by Germany, Greece, GEF IW:LEARN and World Bank.
- Mediterranean Technical and Assistance Programme (METAP) and its work on water quality,
- On-going work and support of UNEP for achieving the 'IWRM 2005 Target' in North Africa countries, coordinated by UCC-Water.
- UN ESCWA, UN ECE, UN ECA, UNDP and their programmes on water resources management,
- UNESCO Regional Office in Cairo and its programme on water resources management,
- UNEP-GPA and its work on innovative financing for the environment,
- UNESCO and Sub-Category 4 on coastal aquifers,
- PAP/RAC and Sub-Category 6 on ICZM,
- CapNet and its network on capacity building for IWRM planning,
- GWPO and its Technical Advisory Committee (TAC).

Supplementary information

A. Concepts of the IWRM approach
B. Status of IWRM Plans in developing Mediterranean Countries
C. Description interventions to catalyze IWRM planning in selected countries
D. Criteria for demonstrations sites under the projects
E.Format for a basic profile of a shared water body
F. Note on MED EUWI Dialogues
G. World Summit on sustainable development plan of implementation (Paragraphs 25 & 26)

A. Concepts of the IWRM approach

IWRM approach[20]

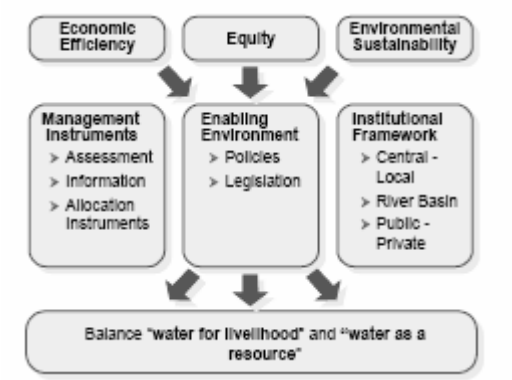
IWRM is defined as a process that promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. This approach promotes more coordinated development and management of:
- land and water,
- surface water and groundwater,
- the river basin and its adjacent coastal and marine environment, and
- upstream and downstream interests.

IWRM is also about reforming human systems to enable people to obtain sustainable and equitable benefits from those resources. For policy-making and planning, taking an IWRM approach requires that:
- water development and management takes into account the various uses of water and the range of people's water needs
- stakeholders are given a voice in water planning and management, with particular attention to securing the involvement of women and the poor;
- policies and priorities consider water resources implications, including the two-way relationship between macroeconomic policies and water development, management, and use;
- water-related decisions made at local and basin levels are along the lines of, or at least do not conflict with, the achievement of broader national objectives; and
- water planning and strategies are incorporated into broader social, economic, and environmental goals.

The "3 pillars"

An IWRM approach focuses on three basic pillars and explicitly aims at avoiding a fragmented approach of water resources management by considering the following aspects:
1) an *enabling environment* of suitable policies, strategies and legislation for sustainable water resources development and management
2) putting in place the *institutional framework* through which to put into practice the policies, strategies and legislation
3) and setting up the *management instruments* required by these institutions to do their job.

[20] Policy Brief (TEC): Unlocking the door to social development and economic growth: how a more integrated approach to water can help.

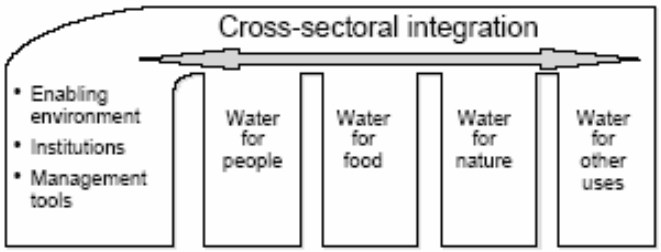


The “three pillars” of Integrated Water Resources Management

Integration[21]

A fundamental aspect of IWRM is the integration of different sectoral views and interests in the development and implementation of the IWRM framework. Integration should take place both horizontally – i.e. across sectors, and vertically – i.e. across different tiers of authority. Integration within the natural system concerns for instance the integration of land and water management, surface and groundwater, upstream and downstream water related interests, recognizing the full hydrologic cycle. Integration within the human system relates especially to cross-sectoral integration of policies and strategies and participation of all relevant stakeholders in the decision-making processes.

To secure the co-ordination of water management efforts across water related sectors, and throughout entire water basins, formal mechanisms and ways of co-operation and information exchange need to be established. This should be done at the highest political level and established in all relevant levels of water management. It is additionally essential that IWRM harmonize with and shows consistency with government policies and national or sectoral development plans. Thus, it is important to be aware of the links of IWRM with plans and processes at the national and sectoral level and take these into account during the planning process.



IWRM and its relation to sub sectors[22]

IWRM – a “process”

IWRM is a long and systematic ”process” where water is considered as a finite and vulnerable resource for which policy should be expressed in a cross-sectoral process, which guarantee that participation of representatives of sectors and stakeholder groups is provided for in the policy processes. Water as a resource along with its management and development is unique to the social, cultural, economic, geographical and historical reality/context of each country. This is why the IWRM approach has to be contextualized to be effective. The required process leading towards Integrated Water Resources Management is illustrated below in the Integrated Water Resources Management process cycle.

[21] Source figure: “IWRM & WE Plans by 2005” – Why, What and How?
[22] Source figure: GWP (TAC) Background Papers No. 4, IWRM

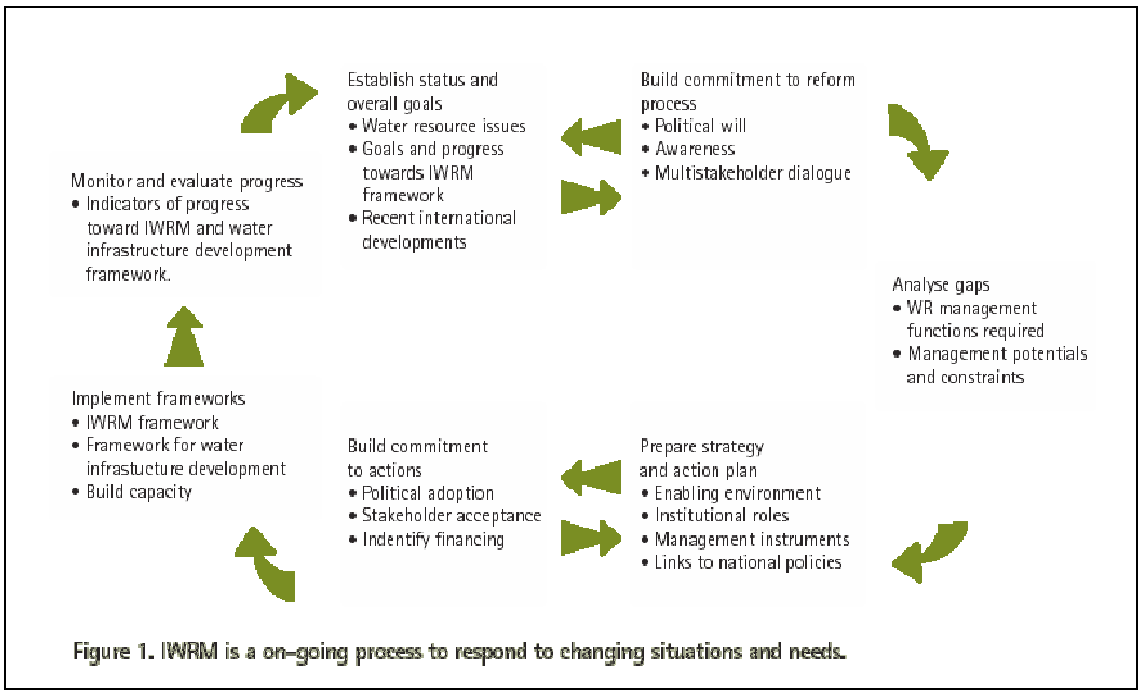


Figure 1. IWRM is a on-going process to respond to changing situations and needs.

The Integrated Water Resources Management Cycle

IWRM & WE Strategies/Plans[23]

The IWRM and WE plans provide the context and prerequisite for safe water supplies for domestic and other areas and basic sanitation for the population in order to guarantee sustainability. The IWRM and WE plans should aspire to institutionalize long term changes that will improve decision-making on a permanent basis. They should address specific objectives and goals for the national interest of the people and the environment in a holistic way - looking at water as a resource and means that all uses of water resources are considered together. Some countries have already initiated or been through the kind of development required by WSSD and have engaged in IWRM planning processes during several years, resulting in new national policies, strategies and laws for their water resources development and management. A number of national institutions in the water sector in different regions have taken holistic and integrated planning and management of water on board, making them IWRM friendly. In other countries, the legislative framework and policy directives remain highly sectoral and fragmented and many mandates and responsibilities are badly defined and/or duplicated.

Creating an IWRM strategy or plan[24]

Involvement from various sectors:
While a traditional water plan is usually designed and implemented exclusively by a water agency, an IWRM strategy/plan requires input and buy-in from all sectors that impact and are impacted by water development and management – for example, health, energy, tourism, industry, agriculture, and environment.

Broad focus:

[23] Source figure: "…Integrated Water Resources Management (IWRM) and Water Efficiency Plans by 2005" – Why, What and How? By Torkil Jønch-Clausen (2004).
[24] Catalyzing Change: a Handbook for developing integrated water resources management and water efficiency

Whereas traditional water plans tend to be concerned exclusively with water supply and demand issues, an IWRM strategy looks at water in relation to other ingredients needed to achieve larger development goals.

Dynamic rather than static:
Unlike a traditional water plan, an IWRM strategy/plan aims at laying down a framework for a continuing and adaptive process of strategic and coordinated action.

Stakeholder participation:
Because it calls for change – and therefore buy-in-at multiple levels, IWRM strategy/plan development calls for far broader and more extensive participation from stakeholders than a traditional planning process.

B. Status of IWRM Plans in developing Mediterranean Countries

Albania has a Water Strategy (2004). Albania has signed the Stabilization and Association Agreement with the EU (2006), is a Potential EU Candidate Country.

Algeria has a National Plan for Water (2005) that was put in place the same year the Water Law was adopted. An Action Plan for implementing the IWRM framework is currently under preparation. A river basin management approach is in place since 1996.

Bosnia and Herzegovina has an outdated Water Management Master Plan (1994) and is in progress of drafting a Water Protection Strategy. Bosnia and Herzegovina has started negotiations for Stabilization and Association Agreement with the EU (2005), is a Potential EU Candidate Country.

Croatia has a National Water Protection Plan (1999) and is preparing a Water Management Master Plan. Croatia has signed the Stabilization and Association Agreement with the EU (2005), is an EU Candidate Country.

Egypt's National Water Resources Plan (NWRP, 2005) corresponds to an IWRM Plan. The NWRP is a comprehensive document developed over six years with stakeholder involvement. The implementation framework for it is currently under preparation. Moreover, a National Master Plan targeting specifically the Water and Wastewater Sector of Egypt is in the process of getting finalised.

Israel has a Water Law in place since 1959, which establishes the framework for the control and protection of the country's water resources. Numerous regulations have been promulgated pursuant to the Water Law. In 2000 Israel decided to act according to the principles of IWRM in order to face and overcome a looming and lasting water crisis, while one year later the water legislation shifted towards privatization with the Water and Sewage Corporation Law of 2001.

Jordan has a Water Strategy (1997) and Water Policy (2003) in place as well as a National Water Master Plan (2003) that corresponds to an IWRM Plan.

Libya has a National Strategy for Water Resources Management 2000-2025 (1999), which sets the general platform for the national water policy. The legal framework includes an obligation to elaborate an IWRM Action Plan/Strategy.
Lebanon has a Work Plan 2000-2009 (for the account of the Ministry of Energy and Water, 1999). The Work Plan includes elements of an IWRM Plan, but it is focused on domestic water supply and is lagging behind in implementation. The water administration has been re-organised towards a watershed management (21 water authorities were consolidated into 4) and steps are taken for operationalizing the scheme.

Montenegro has become an independent country in May 2006. The country has a new Water law (2006). It has signed the Stabilization and Association Agreement with the EU (2008).
Serbia has a Water Resources Master Plan (2002). Serbia has started negotiations for a Stabilization and Association Agreement with the EU (2005), is a Potential EU Candidate Country.

Morocco follows a river basin management approach (established by law already since 1995) and has elaborated Master Plans of Integrated Water Resources Development for River Basins (PDAIRE). The country has recently (2007) finalized a National Water Plan to serve as an IWRM Plan, through a national consultation process structured on thematic priorities.

Palestinian Authority has a National Water Plan (2000), a Water Law (2002) and an Integrated Water Management Plan for West Bank and Gaza (2003) that corresponds to an IWRM Plan. Water regulation is under further development. Public Private Partnership is still at early stages of implementation in Gaza and is facing a lot of restrictions.

Syria has Water Strategy (2003) in place, following a 2000 Water Sector Analysis, prepared by the Ministry for Irrigation. The Water Strategy entails provision for elaborating an IWRM Plan. A Water Law was ratified in 2007 introducing consolidation of the water-related public entities. Independent water directorates at the basin level have been established and responsibility for water supply and sanitation has been decentralized to water authorities and municipalities.

Tunisia adopted a long term Strategy for the Water Sector in 2003 and is currently in the preparation process for producing an IWRM Plan. Responsibility of local water management is decentralized in 23 financially autonomous public provincial (rather than watershed) offices.

Turkey has a number of laws and plans though there is no evidence of an IWRM plan in place. Turkey is an EU Candidate Country and gradually tries to abides to principles and conditions of the EU Water Framework Directive.

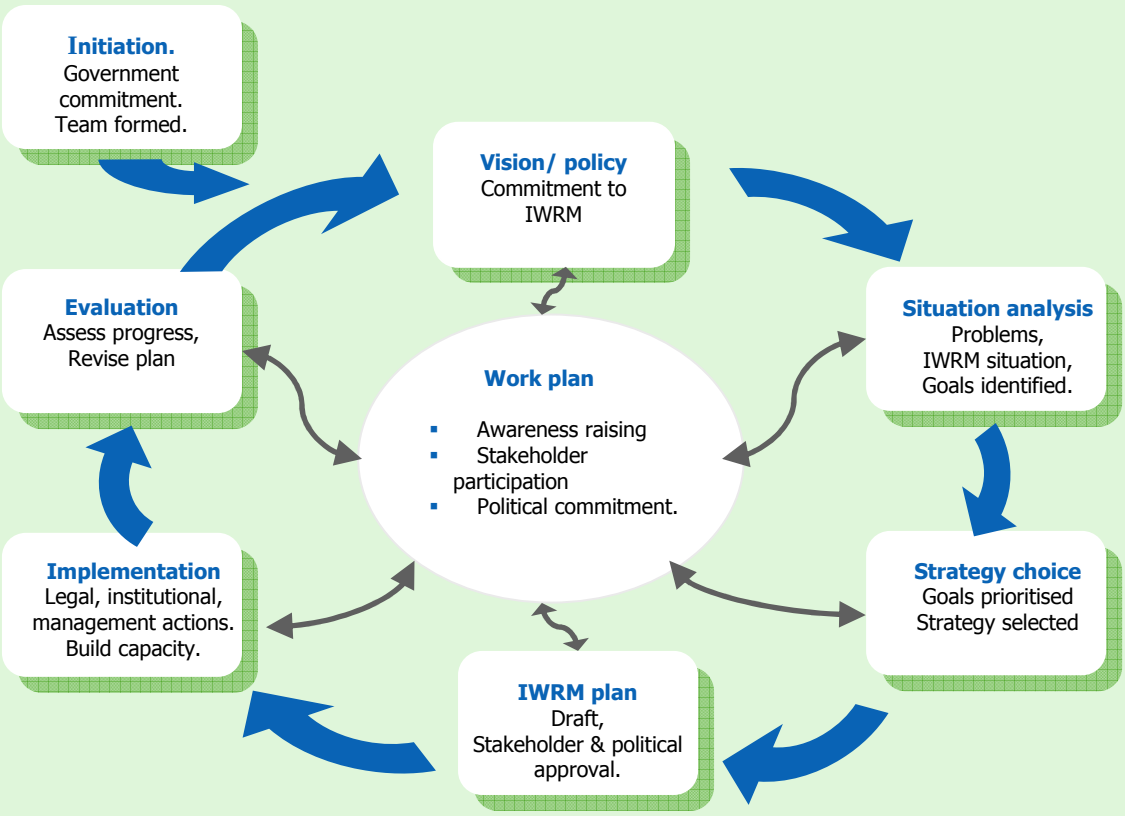
C. Description of interventions to catalyze IWRM planning in selected countries

Planning to introduce an IWRM approach to sustainable management and development of water resources may take several forms. The most powerful reason is to address priority water problems affecting society and this may result in focused action gradually progressing towards IWRM. More commonly, the recognition that water problems are symptomatic of a deeper failure of water management systems leads to long term planning with an agenda for more sustainable use of water resources. The identification of water as a key factor in poverty reduction and sustainable development also drives national planning on water.

An ultimum output of the process will be an IWRM plan, endorsed and implemented by government. In the process the stakeholders and politicians will become more informed about water issues, the importance and the benefits from addressing sustainable management and development of the water resources. The plan may be more or less detailed depending upon the present situation in the country but will identify longer term steps that will be required to continue along a path to sustainability, social equity and efficiency of use.

There are ten (10) key elements identified for supporting the making the Plan:

FIGURE. THE CYCLE FOR DEVELOPING AND ADJUSTING AN IWRM PLAN



A. Initiation
1. Raise political will and awareness on IWRM, and build support for the required reform process.
2. Create/strengthen multi-stakeholder platforms for dialogue and knowledge exchange.
3. Prepare detailed work plans, and monitoring and evaluation procedures.

B. Vision/policy
4. Create a framework for broad stakeholder participation.
5. Prepare capacity building activities for implementing the reform process.

C. Situation analysis and strategy choice
6. Identify water resources management challenges and functions.
7. Identify management potential and constraints.
8. Ensure knowledge from past and ongoing activities is fully available as a resource.

D. IWRM plan
9. Prepare the Action Plan and Transition Strategy towards IWRM and ensure adoption at all political levels.
10. Prepare detailed programme and funding strategies for the reform process.

Countries in the Mediterranean are at different stages of IWRM planning development and present a variety of needs. Nevertheless, there are many commonalities per sub-region that favor replication of interventions.

Based on the above steps / interventions, the SP project will implement demand-driven targeted activities in 4 countries ie. in Egypt, Lebanon, Palestine and Tunisia. These are in different stages of achieving IWRM planning and implementation and interventions will vary according to priorities that are identified in close cooperation with the competent authorities in each country.

D. Criteria for demonstrations sites under the projects

The selection of the Demonstration Projects will be guided *inter alia* by the following:

- *Conformity with GEF programme*: Demonstration projects should address at least one of the following GEF Operational Programs Focal Areas – Biodiversity or International Waters. Higher relevance of interventions proposed under the projects for both focal areas would be an advantage.

- *Conformity with MAP programme and programme of other regional institutions*: Priority should be given to projects which promote well advanced activities of existing regional institutions. Notable example would be projects that demonstrate possible benefits of adopting an ICZM Protocol for Mediterranean and / or advantages of use of ICZM tools and techniques.

- *Multi-faceted nature of projects*: Projects should aim as far as possible at demonstrating how ICZM may serve as a framework for integrating water resources management and/or biodiversity issues into an overall planning system.

- *Global / regional / sub-regional / transboundary nature of projects*: Projects should clearly respond to the environmental benefits in the region and contribute to overall global environmental benefits. In this respect Projects selected may have a sub-regional outlook or be of a transboundary nature.

- *Hot spot targeting*: Projects must target relevant hot spots identified by the countries. The Strategic Overviews prepared for each country could serve as a starting point for identifying the hot spots.

- *Sustainability*: Projects, which demonstrate possibility for economic development and/or poverty alleviation, would have an advantage in the selection process. Also, the Projects, which deliver benefits beyond the life cycle of the interventions, would be preferred.

- *Favourable political environment*: Clearly expressed willingness of national / local authorities to support implementation of a demonstration project is a strong sign in favour of the project.

- *Acceptability by local population*: Demonstration projects are meant to have an overall positive effect on relevant local population. They could, however, negatively affect some society groups. It is imperative that expected outcomes of a project be introduced to local population prior to its implementation and their support to the project obtained.

- *Co-Financing:* Only projects likely to attract adequate domestic funding and/or external support shall be considered. Projects demonstrating strong co-financing shall be given priority.

- *Cost-effectiveness*: For a given budgetary limit, demonstration projects should yield a set of well-structured and tangible activities, which contribute to success of an overall objective of the intervention.

- *Replicability:* Projects' principles should be replicable in other countries of the region. They should promote sharing of experiences, enhancing regional co-operation and collective learning.
- *Performance criteria:* Projects should achieve measurable concrete preliminary results in a designated time.

- *Capacity Building*: Projects should be selected taking into account relevant national / local capacities for their implementation. Capacity building should be an integral part of the planned project activities.

- *Availability of data*: Implementability of a demonstration project is positively related to existence of relevant data and its availability.

- *Participatory approach:* Project outcomes should demonstrate a direct causal connection between increased participation and increased sustainability of proposed interventions. Projects should yield strong ownership with all partners including the government, the private sector, civil society including NGOs and the scientific community.

- *Maximisation of use of regional expertise:* Projects should aim at maximising the utilisation of national/local experts and institutions.

- *Geographical balance:* Balance between GEF eligible countries in the region should be sought.

E.Format for a basic profile of a shared water body

0. NAME OF THE SHARED WATER BODY

1. GENERAL INFORMATION

1.1. Location
Provide information on (i) geographical boundaries, (ii) size and (iii) connection with other water bodies

1.2. Major physical characteristics
Provide key information on (i) topography, (ii) geology, (iii) climate and (iv) land types

1.3. Major socio-economic characteristics
Provide basic information on (i) urban / rural areas, (ii) population, (iii) major economic activities and (iv) cultural background

2. WATER RESOURCES

2.1. Hydrology
Provide information on (i) surface water, (ii) groundwater, (iii) water quality, (iv) variation in time and space, (v) extreme events, (vi) trends though time, etc.

2.2. Human impacts on water resources
Provide information on (i) surface cover / non-point sources, (ii) pollutants /point sources (iii) dams and diversions, (iv) agriculture / aquaculture, etc.

2.3. Data and information on water resources
Provide information on major assessments for the area and on existence of monitoring programmes. Eventually, provide expert judgment on monitoring systems status (adequacy, accuracy, reliability , consistency, deficiencies).

3. USES, NEEDS and DEMANDS
Identify existing uses, needs and demands as relates to water (i) for people, (ii) for food, (iii) for nature / ecosystems, (iv) for industry, (v) for energy, (vi) for other uses.

4. MANAGEMENT SETTING

4.1. International agreements / conventions and national legislation
List and provide information on existing formal international agreements / conventions as well as on national legislation, including participating / enforcement institutes, principal focus themes (e.g. water supply, pollution, environmental protection, navigation, hydropower, industrial uses, flood control, fishing, etc), key regulatory provisions ((including allocation and rights), management provisions and foreseen revision processes (if they exist). Provide similar information on informal agreements. Eventually, provide expert judgment on their enforcement and compliance.

4.2. Institutions / Planning and decision making processes distribution of responsibilities
Provide information on established or foreseen institutional arrangements, planning and decision making processes; indicate whether there is a master plan in place. Eventually, provide expert judgement on the level of efficiency of the existing arrangements.

4.3. Finances
Provide information on financial resources mobilized for running the management system (if exists), including domestic capital, multilateral and donor aid, private capital, private-public partnership. Eventually, provide expert judgement on (i) level of area's integration into current investment policies and priorities –at all levels- and (ii) the scale of funding that would be required for a proper functioning of a management scheme (based on related assessments, if they exist) and actions of immediate priority.

4.4. Past and present major projects (including listing of donors' interest)
List and provide information on major past and current project, including title, main themes tackled, major achievements, major obstacles, financial resources, lead organisation, key partners.

4.5. Stakeholders' Participation
List and provide information on the type and role of stakeholders (local, national and international) with substantial involvement in the area's management as well as the mechanisms for their participation (established or planned). Eventually, provide expert judgment on stakeholders' capacities and level of actual participation, suitability and application of existing mechanisms.

4.6. Awareness / Communication
Assess the level of awareness about the need for management in the area under consideration by the local population and authorities, the national authorities and the international community. Provide information on past and current major awareness-raising projects. In case of established institutional and management schemes, provide information on the existence of a communication strategy and related actions.

5. CONCLUSIONS / RECOMMENDATIONS

5.1. Critical problems and key challenges
Based on the above, prioritise critical problems (i) related to the resource, (ii) associated to uses, needs and demands, (iii) related to institutional, management, financial bottlenecks. Identify key challenges for enabling an effective management of the water body under consideration (e.g. shared vision, sustained commitment, institutions, agreements and regulatory framework, broad based partnerships) – link the latter with facts presented in Chapter 2,3 and 4.

5.2. Main achievements
Prioritise success actions undertaken and achievements accomplished (e.g. agreements ratified, institutions established, monitoring systems in place, management activities undertaken, public participation enhanced, awareness raised, capacity built) – link the latter with facts presented in Chapter 4.

5.3. Donor's interest
Assess the overall ability to mobilize domestic and private capital and ODA for running the management scheme and priority projects in the area. Recommend important players to be approached.

5.4. Recommended priority actions
List priority actions (on the short, medium and long term) for progressing with institutional, regulatory and management requirements. The latter could for example include specific recommendations on establishment of cooperative processes, partnerships formation, awareness activities, knowledge sharing and sound programmes of action.

For example programmes of action could entail river regulation, water harvesting and conservation, watershed management and soil erosion control, wastewater treatment, pollution control and water quality management, water use efficiency improvement, irrigated food production, environmental protection, fisheries development, hydropower generation, transport and navigation development, eco-tourism development, etc.

6. MAIN REFERENCES, BACKGROUND DOCUMENTS, MAPS

F. Note on MED EUWI Dialogues

The Mediterranean Component of the EU Water Initiative

The Mediterranean Component of the EU Water Initiative (MED EUWI) aims:
- to assist design of better, demand driven and result oriented programmes,
- to facilitate better coordination of water programmes and projects, aiming at a more effective use of existing funds, and the mobilization of new financial resources, where this is required, based on an analysis of gaps, and,
- to enhance cooperation for the proper implementation of these programmes and projects, based on peer review and strategic assessment.

MED EUWI, is giving particular emphasis to Mediterranean and South-eastern Europe priorities and focuses on the following themes:
- Water supply and sanitation, with emphasis on the poorest part of the societies
- Integrated water resources management, with emphasis on management of transboundary water bodies
- Water, food and environment interaction, with emphasis on fragile ecosystems
- Non-conventional water resources and
- Cross cutting issues such as transfer of technology, transfer of know how, capacity building and training and education.

The following partner countries are involved in MED EUWI:
- In the Mediterranean – Algeria, Egypt, Jordan, Israel, Lebanon, Libya, Morocco, Palestinian Authority, Syria, Turkey, Tunisia.
- In the South East Europe – Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Former Yugoslav Republic of Macedonia (FYROM), Romania, Serbia and Montenegro.

Therefore, the Component encompasses overall 18 countries.

MED EUWI aims to serve as a platform for promoting strategic partnerships between the EU and the Mediterranean and South-Eastern European countries as well as between government, civil society and the private sector. Non-EU donors and international organizations (including the UN family and the IFIs) are also contributing to the component through the promotion of synergies and development of activities at sub-regional level. GEF SP is envisaged as a strategic partner in the process. MED EUWI is led by Greece that chairs a multi-stakeholder Working Group. MED EUWI Secretariat is facilitated by the Global Water Partnership – Mediterranean (GWP-Med).

1. Content

Though progress has been made in the Mediterranean, many countries in the region still suffer from lack of effective operational strategies; fragmentation of responsibilities between authorities; weak policy implementation; weak monitoring and assessment at the national and local level; limited technical, management and enforcement capabilities to address water resource issues; and financial constraints and lack of financial resources at affordable levels.

It is vitally important that vision and planning in the water sector are based on a good understanding of the costs of achieving the targets set and that are supported by feasible financing strategies that would mobilise adequate resources where and when needed. It is evident that the cost of achieving the water related MDGs/WSSD targets in the Mediterranean far exceeds current levels of financing. Financing will not materialise without enabling legal and institutional reforms. National and local programs must be ambitious in order to focus attention on the scale of the problem and the urgent need for action. At the same time, the overwhelming scale of the challenge should not induce apathy and a mentality of subsidy dependence.

Though in some countries of the region there is advancement in preparing assessments of needs and financial strategies for water-related MDGs/WSSD targets, in the majority of cases progress is slow. MED EUWI aims to facilitate coordinated action and effective synergies between competent partners at country and regional level, assisting in effectively mobilizing ODA, in order to meet WSS and IWRM targets in the Mediterranean in the coming years.

To assist meeting the targets, MED EUWI aims to facilitate Country Dialogues
- to identify the priority actions to be undertaken,
- to assist in estimating the related costs and
- to facilitate reinforced EU donors' coordination, attracting new financial resources where needed.

MED EUWI Country Dialogues focus at national level on the following:
- Analysis of needs and gaps for achieving MDGs and WSSD targets at the country level,
- Identification of priority actions to achieve the targets
- Elaboration of financial assessment on cost for achieving targets and potential sources of finance as well as enhancement of donors' coordination
- Elaboration, discussion and agreement among a multi-stakeholder forum on a roadmap for achieving the targets at the country level

Through these, MED EUWI seeks to develop operational links and contribute, among others, to the European Neighbourhood Policy, the Joint Process of the EU Water Framework Directive with MED EUWI and the MEDA Water Programme.

2. Main Outputs

Main outputs foreseen through the Country Dialogues include:
- Output 1. Structured country dialogues processes implemented through national multi-stakeholder workshops and bilateral consultations with key stakeholders.
- Output 2. Country status assessments, including key water policies and status of water reform, basic country WSS and IWRM profile, governance and institutional capacities, gaps, emerging deficiencies and bottlenecks, major on-going water programmes, mapping of stakeholders and information on national investment and bilateral / multilateral water aid and identification of MED EUWI intervention.
- Output 3. Estimates of the expenditure needed to achieve the MDG/WSSD targets for WSS and IWRM and adequately maintain existing infrastructure
- Output 4 Estimates of already available finance and realistic forecasts of the future supply of finance under different conditions (policy measures) and assessment of country readiness to meet MDGs/WSSD targets for WSS and IWRM.
- Output 5. Financing strategies to meet MDGs/WSSD targets for WSS and IWRM, including simulations of financial leverage effects of different policy measures and recommendations on specific legal and institutional reforms needed to achieve the targets.
- Output 6. Country Roadmap to achieve MDGs / WSSD targets, including: targets and indicators, types of interventions and national framework programmes, roles and

responsibilities of different stakeholders, modalities of coordination, monitoring and reporting system.

3. Main Tasks

To deliver Outputs, the following Tasks are foreseen:

Task 1. Organize Country Dialogues Processes

MED EUWI Country Dialogues will be organised in selected countries in the Mediterranean aiming to:
- identify gaps and emerging deficiencies in current national priorities and implementation process to achieve MDGs/WSSD targets on WSS and IWRM,
- identify insufficiencies and bottlenecks in key prerequisites posed by donors for national investments on the water sector,
- identify types of interventions and concrete national framework programmes to meet targets,
- elaborate, discuss and agree on a roadmap for achieving targets at country level,
- assist the establishment of a permanent platform for cooperation between key involved partners at the national level including donor agencies.
The Country Dialogues involve water stakeholders including government authorities and agencies, local authorities, water users associations, civil society, academia, the private sector as well as international and national donors.

A set of criteria for selecting countries for detailed analysis and country dialogues may include physical conditions, socio-economic status, state of water policies and infrastructure, current level of water investment and aid, data availability, expression of interest and of willingness to cooperate by the host country and to provide local support etc.
Country Dialogues involve the following main steps:
- Inaugural Workshop,
- Country visits for bilateral and multilateral consultations,
- Workshop to present and endorse the Roadmap (see Task 5),
- Follow up visits.
Country Inaugural Workshops will launch the Country Dialogues. The purpose of the Inaugural Workshops would be to:
- inform on MED EUWI and the process of the Country Dialogue,
- elaborate on key actions taken in the country to meet water challenges,
- inform on achievements and orientation of bilateral and multilateral aid in the water sector in the country,
- inform on priority EU processes like the European Neighbourhood Policy, the MEDA Water Programme, the Joint Process of WFD/MED EUWI and their possible contribution to efforts to achieve water targets,
- discuss a process for establishing a strategic collaboration among water stakeholders and with donor agencies.

Country visits will be linked with data collection activities. Consultations would take place in bilateral with government and key stakeholders as well as with small groups of stakeholders per theme or linked with specific products.

Workshops to present, discuss and hopefully endorse the Roadmap and monitoring indicators will be conducted at the end phase of Country Dialogues. The country's government will be expected to act as convenor for the inaugural and final workshop and to ensure an anchorage of the process within their national institutional structure. Effort will be made to promote and eventually establish a system through which the multi-stakeholder fora would be repeated annually to monitor progress, review and update the Roadmap.

Task 2. Country status assessment on WSS and IWRM

Status assessments will be conducted in the countries of the region where Dialogues will be facilitated. Giving emphasis on issues pertaining to MDGs / WSSD Targets on WSS and IWRM, the status assessments will present a country profile and an overview on:

- status of water sector reform, with an emphasis on WSS and IWRM,
- governance and institutional capacities,
- mechanisms of coordination (within government institutions, with stakeholders, with and within donors)
- major on-going activities
- key financing mechanisms
- mapping of stakeholders
- gaps and deficiencies on the above
- identification of possible EUWI intervention.

The reviews will be conducted in close collaboration with the EU Delegations in the MEDA countries and the competent national authorities. The status assessments will provide background for Country Dialogues (see Task 1).

Task 3. Detailed case studies on current expenditure and needed financing to meet MDG/WSSD targets for WSS and IWRM

Collection, verification and analysis of data on existing financing for WSS and IWRM will be undertaken in the countries where a Dialogue is taking place. Financing sources that would be analysed include public budgets, public environmental and other special funds, user charges, private sector investments, foreign grants, foreign debt, etc. This may include data consistency check and expert judgements if some data is not available. It is expected that national authorities (ministries of water, economy, finance, agriculture, public health, urban development, environment, etc. as well as statistical agency) will assist providing available data on WSS and IWRM economic parameters, as well as all available necessary socio-economic and financial data. Based on these, readiness of country to meet MDG/WSSD targets for WSS and IWRM will be assessed.

Based on data collected, expenditure needs and financial deficits or surpluses to meet MDG/WSSD targets will be calculated applying transparent and tested modelling tools developed by OECD. The cost estimates would be divided by expenditure needs (O&M, capital investments, etc) and sector (water supply, sanitation, IWRM)

Task 4. Financing strategies for achieving MDG/WSSD targets for IWRM and WSS

Based on results of Task 3, scenarios of achieving targets and bridging financial deficits will be developed. Recommended policy measures and enabling legal and regulatory reforms to bridge gaps will be specified including those which can increase efficiency of the use of available resources, and those which could attract additional funds. Affordability analysis of alternative financing measures will be also provided. Feasible package(s) of policy measures will be presented and discussed through the Country Dialogue process.

Specific opportunities and targets for international partnerships in the selected MEDA countries to promote these financing strategies will be identified. Potential roles of different national stakeholders as well as the role of donors will be analysed. Quantitative estimates of the level of effort that would be required from various stakeholders to make partnerships effective in reaching specified targets would be conducted.

Task 5. Country Roadmap to achieve MDGs / WSSD targets on WSS and IWRM

A Roadmap by country to achieve the water related MDGs/WSSD targets will be elaborated based on deliverables of Tasks 2, 3 and 4. The Roadmap should also assist in guiding further donor planning. The Roadmap will describe:

- targets and indicators,
- identify roles and responsibilities of different stakeholders including donors,
- types of interventions to be undertaken and related national framework programmes to be developed and
- modalities of a coordination, monitoring and reporting system.

Roadmaps should achieve as wide as possible ownership and buy-in national water policies. Roadmaps will be discussed and agreed through the Country Dialogue process.

4. Duration

Depending on data availability, political will, progress already achieved on MDGs/WSSD target, stakeholders involvement available resources to support the progress, etc., the time needed for the implementation of the steps described above could be from 8 to 14 months. Nevertheless, the process of a National Dialogue goes beyond the finalization of studies and organisation of meetings foreseen in this process. The National Dialogues should be able to provide a set of critical tools and assist in establishing for a long-term process that will carry on, at the national level involving national and international partners, until targets will be achieved.

G. World Summit on sustainable development plan of implementation (Paragraphs 25 & 26)

Para 25. Develop integrated water resources management and water efficiency plans by 2005, with support to developing countries, through actions at all levels to:

(a) Develop and implement national/regional strategies, plans and programmes with regard to integrated river basin, watershed and groundwater management, and introduce measures to improve the efficiency of water infrastructure to reduce losses and increase recycling of water;

(b) Employ the full range of policy instruments, including regulation, monitoring, voluntary measures, market and information-based tools, land-use management and cost recovery of water services, without cost recovery objectives becoming a barrier to access to safe water by poor people, and adopt an integrated water basin approach;

(c) Improve the efficient use of water resources and promote their allocation among competing uses in a way that gives priority to the satisfaction of basic human needs and balances the requirement of preserving or restoring ecosystems and their functions, in particular in fragile environments, with human domestic, industrial and agriculture needs, including safeguarding drinking water quality;

(d) Develop programmes for mitigating the effects of extreme water-related events;

(e) Support the diffusion of technology and capacity-building for non-conventional water resources and conservation technologies, to developing countries and regions facing water scarcity conditions or subject to drought and desertification, through technical and financial support and capacity-building;

(f) Support, where appropriate, efforts and programmes for energy-efficient, sustainable and cost-effective desalination of seawater, water recycling and water harvesting from coastal

fogs in developing countries, through such measures as technological, technical and financial assistance and other modalities;

(g) Facilitate the establishment of public-private partnerships and other forms of partnership that give priority to the needs of the poor, within stable and transparent national regulatory frameworks provided by Governments, while respecting local conditions, involving all concerned stakeholders, and monitoring the performance and improving accountability of public institutions and private companies.

Para 26. Support developing countries and countries with economies in transition in their efforts to monitor and assess the quantity and quality of water resources, including through the establishment and/or further development of national monitoring networks and water resources databases and the development of relevant national indicators.

Component 2. Pollution from land based activities, including Persistent Organic Pollutants: implementation of SAP MED and related NAPs

Sub-component 2.1: Facilitation of policy and legislation reforms for pollution control

(GEF 950,000 $, Co-financing 1,086,000 $)

2.1a Industrial Pollution Pilot Projects

(GEF 774,000 $, Co-financing 910,000 $)

Implementing Agency
The UN Programme for the Assessment and the Control of Pollution in the Mediterranean Region (MEDPOL)

Background/Context/Rationale

In the NAPs, the countries presented specific action to reduce pollution from designated sources, until the year 2010. Actions included “hard” actions (example: construction of treatment plants) as well as “soft” actions (example: improvement of legislation and institutional framework). However, many countries acknowledged gaps and shortcomings on legal, institutional, financial and technical means to successfully implement the NAPs.

In order to assist the countries in their effort to implement their NAPs, it is necessary to facilitate the up grading of legal and institutional capacities, as well as to facilitate the horizontal know-how and technology transfer in the Mediterranean region. Know-how could be transferred directly between Government agencies or wholly within vertically integrated firms, but also through the coordination of multiple organizations such as network of information service providers, business consultants and financial firms. Although stakeholders play different roles, there is a need in the Mediterranean Region for partnership among stakeholders to create successful transfers. Governments with the assistance of MEDPOL can facilitate such partnerships.

Based on the analysis of the NAPs prepared by all Mediterranean Countries, specific activities are proposed to improve the legislative and institutional framework in the Region, as well as to implement actions which will protect the Mediterranean marine environment from land based pollution sources.

Description of activities, including demonstration and pilot projects

Mediterranean countries have already identified their priorities for action in their NDAs and have proposed a number of specific actions in the NAPs. Based on these priorities, the following <u>six projects</u> have been identified to prepare the ground for the proper implementation of the priorities actions. It is expected that their implementation will provoke policy and institutional changes at local, national and regional levels and will greatly improve the quality of the marine ecosystem of the Mediterranean Sea.

<u>2.1.1 Pilot Project on the management of Phosphogypsum produced from the phosphate fertilizers production process</u>
(GEF 120,000 $, Co-financing 140,000 $)

The Pilot Project on management of Phosphogypsum will be carried out in three eligible countries: Lebanon, Tunisia and Syria, in according of specific actions in the NAPs.

Phosphogypsum is a by-product of the phosphate fertilizer industry, which is dumped into the sea or/and deposited in stockpiles at the coastal zone. Once dumped into the marine environment, Phosphogypsum deposits will alter the sediment structure at the vicinity of the dumping area leading thus to a serious degradation of the benthic ecosystem. Also, because Phosphogypsum may contain high concentrations of the toxic metal Cadmium (Cd), these deposits may have a toxic impact on the marine biota.

In2006, Tunisia , in the framework of the implementation of its NAPs to address LBS of pollution launched a management project to reduce the quantity of phosphogypsum released into the marine environment and consequently curb the input of its associated metals.

The objectives of the project is to facilitate the transfer of know how related to environmental management of phosphogypsum from Tunisia to Syria and Lebanon in issues related to the improvement of legislative and institutional framework to manage the disposal of phosphogypsum slurry in Lebanon; the preparation and implementation of a management scheme for the phospogypsum slurry in Lebanon; to trigger the cooperation with phosphate fertilizer companies and relevant national authorities from Lebanon, Tunisia and Syria.

The expected results of the Project are: the improvement of legislative and institutional framework in order to review of existing legal instruments, stakeholders mobilization, improvement of coordination between responsible public authorities and private companies, and develop standards for safe disposal; environmentally sound management of the Phosphogypsum slurry at Lebanon; guidelines for the management of Phosphogypsum slurry; capacity building in Lebanon, Tunisia and Syria on management of phosphogypsum slurry and relative problems of the phosphate fertilizer companies.

2.1.2 Pilot Project on Chromium and (BOD) control of tanneries effluent
(GEF 170,000 $, Co-financing 190,000 $)

The project on Chromium and Biochemical Oxygen Demand (BOD) control in tanneries will be developed in Turkey, Albania, Algeria and Egypt in according with action on tanneries in their respective NAPs.
Leather tanning is a widespread industrial activity in the Mediterranean region, which is often practiced by small industrial units. Tannery effluents have high organic matter load and are considered as a major source for Chromium (Cr) releases. In the most of the eligible countries, there is a need to propose a legal, institutional and technical management scheme to control the effluent quality of tanneries.

The specific objectives of the projects are: to improve the legislative and institutional framework for the control of Cr and BOD releases from tanneries in Turkey**;** to prepare and to implement a pilot project on Cr and BOD control in a group of medium size tanneries in Turkey; to prepare and to implement Guidelines on Cr and BOD control in tannery's effluents with the collaboration of all concerned countries (including Albania, Algeria, Egypt and Turkey).

The expected results will be:

- Protection of coastal marine ecosystem from eutrophication and Cr contamination in areas where tanneries are operating
- Positive impact on coastal fisheries by improving the quality of the marine coastal ecosystem
- Protection of human health, which may be threatened from consumption of Cr-contaminated seafood in coastal areas and possible reduction of healthcare cost for residents
- Increase of the recreational value of the coastal zone at the vicinity of tanneries

- Strengthening of the national monitoring and research capacity on eutrophication, Cr and other heavy metals in the marine environment
- Strengthening of the national cooperation capacity between public authorities and private companies for the protection of the coastal marine environment from industrial releases

2.1.3. Project on recycling and regeneration of lubricating oil
(GEF 150,000 $, Co-financing 160,000 $)

The Pilot Project on management of Recycling and regeneration of lub oil will be carried out in the following eligible countries: Albania, Algeria, Croatia, Egypt, Libya, Morocco, Montenegro, Syria and Palestinian Authority, in according of specific actions in the NAPs.

Very few countries in the Mediterranean have an effective system for used lub-oil management, and in their NAPs they include actions to deal with this specific problem. Needless to mention that in the absence of effective management system, lub oil would reach the marine environment through the urban sewer system. Therefore, a project on recycling and regeneration of lubricating oil will benefit the Mediterranean region. The project will also take into consideration the important know-how of Tunisia and Bosnia-Herzegovina, which have developed a very promising system for the management of used lub-oil and oil filters.

The objectives are: to improve the legislative and institutional framework for the recycling and regeneration of used lub oil in Algeria; to prepare and to implement a Pilot Project on organizing a system for recycling and regeneration of lub oil in Algeria; to transfer the know-how and the expertise of the Tunisian and Bosnia-Herzegovina authorities on the organization of the lub oil recycling and regeneration system to Algeria and other concerned countries (Albania, Croatia, Egypt, Morocco, Montenegro, Palestinian Authority and Syria).

The expected results:
- Protection of coastal marine ecosystem from lub oil releases at the vicinity of coastal cities and industrial areas
- Positive impact on coastal fisheries by improving the quality of the marine coastal ecosystem
- Increase of the recreational value of the coastal zone at the vicinity of cities and industrial areas
- Strengthening of the national monitoring and research capacity on petroleum products in the marine environment
- Strengthening of the national cooperation capacity between public authorities and lub oil recycling private companies for the protection of the coastal marine environment.

2.1.1.4 Project on lead batteries recycling
(GEF 124,000 $, Co-financing 140,000 $)

The Pilot Project on management of Recycling of lead batteries will be carried out in the following eligible countries: Albania, Algeria, Croatia, Egypt, Libya, Morocco, Montenegro, Syria, Tunisia, Turkey and Palestinian Authority, in according of specific actions in the NAPs. Most Mediterranean countries face environmental problems with used lead car batteries, which are considered an important source of lead emissions from waste dumps and air deposition. Some countries have already established recycling systems, while others propose such actions in their NAPs. Lead batteries are considered as important source of lead (Pb) into the marine coastal environment. Therefore a project is proposed for the environmental safe recycling of lead batteries.

The objectives are: to improve the legislative and institutional framework for the recycling pf lead batteries in Syria; to prepare and implement a project on organizing a system for recycling lead batteries in Syria; to transfer the gained know-how and the expertise on the

lead batteries recycling to Albania, Algeria, Croatia, Egypt, Libya, Morocco, Montenegro, Palestinian Authority, Tunisia and Turkey.

The expected results:

- Improvement of the legislative and institutional framework for the recycling of lead batteries in Syria (review of existing legal instruments, stakeholders mobilization, improve of coordination between responsible public authorities and private companies, develop standards for lead batteries recycling)
- Initiation of a lead batteries recycling system in Syria
- Creation of a market for recycled Pb and creation of work positions for local people.

2.1.5 Assessment of the magnitude of riverine inputs of nutrients into the Mediterranean Sea

(GEF 90,000 $, Co-financing 130,000 $)

Harmful Algal Bloom (HAB), eutrophication process are the direct results of the enrichment of marine ecosystem with nutrients , namely nitrogen and phosphorus , from land based sources and from diffuse sources. Rivers in the Mediterranean are considered as major diffuse sources of nutrients into the sea.

Satellite imaging showed that eutrophication process is always associated with the river mouths such as the Rhone, Po, Nile and other river in the Aegean Sea as well as high nutrients inputs from land based sources.

Objectives: Collect quantitative information of the riverine inputs of water, sediments, nutrients a to the Mediterranean Sea in a spatially and temporally explicit manner; establish a geographical scale of inputs which should be distinguished at least at the scale of the major Mediterranean sub-basin (Alboran, North-Western, South-Western, Tyrrhenian, Adriatic, Ionian, Central, Aegean, North-Levantine and South-Levantine seas; establish nutrients budgets associated to specific time periods (e.g., decades) to which they correspond.

Expected outputs: Develop a database on Mediterranean rivers. This database has already been started in the framework of the MAP project of MEDPOL and will be further enlarged; develop of more sophisticated models for the prediction of riverine nutrient fluxes in relation with land use practices and changes. This type of models might be adapted for certain large Mediterranean rivers where the data coverage is good, both with respect to the water chemistry data and with respect to the potential controlling factors (fertilizer use, population density etc)

2.1.6 Project on setting Emission Limit Values (ELV) in industrial effluents and Environmental Quality Standards (EQS)

(GEF 120,000 $, Co-financing 150,000 $)

This Pilot Project will be carried out in most of the eligible countries. Many countries lack appropriate ELV for their industrial effluents, as well as Environmental Quality Standards (EQS) for the receiving water bodies. In order to implement a control on industrial emissions, ELV and EQS should be introduced in the legislation of all Mediterranean countries. To that purpose a horizontal project including all GEF-eligible Mediterranean countries will be implemented to introduce ELV and EQS in their legislation and to propose changes in their institutional framework.

The objectives are: to introduce ELV and EQS in the legislation of Albania, Algeria, Bosnia-Herzegovina, Croatia, Egypt, Libya, Morocco, Montenegro, Tunisia and Turkey, for all substances include in the SAP targets for the protection of the Mediterranean marine

ecosystem; to propose changes in the institutional framework of the GEF-eligible countries to ensure the proper use of the ELV and EQS for the protection of the Mediterranean Sea.

The expected results:

- Protection of coastal marine ecosystem from industrial effluents and improvement of its quality
- Positive impact on coastal fisheries, through improving the quality of the marine coastal ecosystem, by removing stressful pollutants, which may affect negatively the survival and reproduction of marine organisms
- Protection of human health, which may be threatened from consumption of contaminated seafood in coastal areas and possible reduction of healthcare cost for residents
- Creation of a market for national consulting companies, which will ensure the industries' compliance to ELV and EQS, and creation of work positions on national level
- Strengthening of the national monitoring and research capacity on industry-related pollutants in the marine environment
- Strengthening of the national cooperation capacity between public authorities, industries and private consulting companies for the protection of the coastal marine environment

Linkages with other programmes and initiatives

The Contracting Parties of the Barcelona Convention adopted in 1997 a Strategic Action Plan (SAP) for the Mediterranean Sea, as a follow-up of the signing the LBS protocol, aiming at reducing pollution loads released into the Mediterranean Sea. Reduction targets have been set for different categories of pollutants and each country prepared a National Diagnostic Analysis (NDA), a National Baseline Budget (NBB) for the emission of SAP designated pollutants, as well as a National Action Plan (NAP) to reduce emission of pollutants from LBS.

In the NDAs, all Mediterranean countries analysed the environmental characteristics of their coastal areas and highlighted the major pollution threats, which could affect the quality of the marine ecosystem. The legal and institutional framework of each country was also presented, along with assessments on existing gaps. The NDAs were prepared with active participation of public and private stakeholders, in an attempt to enhance public participation in the prioritisation of environmental issues in each country. The final NDA Reports represent therefore, not only the countries' perception for the environmental priorities in the coastal area, but also an initial assessment of capacity building needs and priorities.

In the NBBs, a quantitative evaluation was made on measured or estimated pollutants' emissions from LBS in all Mediterranean countries. These Reports gave for the first time a comparative regional estimation on the loads of pollutants that are discharged into the Mediterranean Sea. This is very important information, especially when planning pollutant's emissions reduction on a regional base, because it is possible to assess the relative importance of emitted pollution on regional, national or sectoral (industrial sector) level.

In the NAPs, the countries presented specific action to reduce pollution from designated sources, until the year 2010. Actions included "hard" actions (example: construction of treatment plants) as well as "soft" actions (example: improvement of legislation and institutional framework). However, many countries acknowledged gaps and shortcomings on legal, institutional, financial and technical means to successfully implement the NAPs.

In order to assist the countries in their effort to implement their NAPs, it is necessary to facilitate the up grading of legal and institutional capacities, as well as to facilitate the horizontal know-how and technology transfer in the Mediterranean region. Know-how could be transferred directly between government agencies or wholly within vertically integrated firms, but also through the coordination of multiple organizations such as network of information service providers, business consultants and financial firms. Although stakeholders play different roles, there is a need in the Mediterranean region for partnership among stakeholders to create successful transfers. Governments with the assistance of MEDPOL can facilitate such partnerships.

Based on the analysis of the NAPs prepared by all Mediterranean countries, specific activities are proposed to improve the legislative and institutional framework in the region, as well as to implement actions which will protect the Mediterranean marine environment from land based pollution sources.

Sub-component 2.1: Facilitation of policy and legislation reforms for pollution control

2.1 b Permit, Inspections and Compliance Systems
(GEF 176,000 $, Co-financing 176,000 $)

Implementing Agency:
The UN Programme for the Assessment and the Control of Pollution in the Mediterranean Region (MEDPOL)

Background/Context/Rationale

The activities related to the preparation of the NAPs have shown a number of gaps in the Mediterranean. One of these gaps is strictly linked with the compliance and enforcement of control measures and, more precisely, the system, which will control measures for pollution reduction, and compliance, i.e. the inspectorates.

Taking into account all the above, a review was made, based on existing data and information, of the status of permit, inspection and compliance systems in all Mediterranean countries including policy and legislative gaps. The review identified the basic subjects needing a more in depth study..

The implementation of the LBS Protocol priority actions and in particular of the SAP MED, include, *inter alia*, the introduction of new environmental tools including appropriate implementation of regulatory, economic and voluntary instruments, but it focuses on the reduction of certain pollutants from industries and various facilities. Following this, and in line with the above-mentioned strategy and taking into consideration the outcome of the above-mentioned review, the need to implement capacity building activities so as to enhance the inspectorate system will also complement the activity. Therefore, the major objective is to enhance and update the inspectorates in the following countries: Albania, Bosnia and Herzegovina, Croatia, Lebanon, Morocco, Montenegro, Syria and Turkey.

All concerned countries for the control of facilities including also industrial, have regular or non-regular activities regarding inspections, which are usually based on complaints reported and on specific needs. In addition, there is a considerable number of inspectors who although they possess the scientific background, they are not trained to inspect several facilities and they operate based on personal judgements. If action is to be taken, this could include the training of the inspectors and the planning of inspection based on needs and in an organized manner. As a result, all the countries will operate following the regulatory cycle that is well established widely accepted and followed by a considerable number of countries including those of the EU.

Description of activities, including demonstration and pilot projects

In order to strengthen the existing mechanism in the Mediterranean countries regarding environmental inspection activities, there is a need to provide a number of activities. This set of activities would include meetings among agencies responsible for permitting, inspections and enforcement in order to set up the procedure, as it is indicated in the regulatory cycle. Following the first meeting, a training workshop will be held in order to provide practical information on inspecting the most commonly polluting and industrial facilities of the country. It will also serve as guidance for the uniformity of the inspections.

Objectives: to strengthen the existing mechanism in the Mediterranean countries regarding environmental inspection activities, there is a need to tackle the issue in an integrated manner. The set of activities would include meetings among agencies responsible for

permitting, inspections and enforcement in order to set up the procedure, as it is indicated in the regulatory cycle, as well as a training workshop.

An initial meeting will consider the existing legislation and will possibly set the objectives and policy planning, along with the improvement of the system for permitting, compliance control and compliance promotion, which will result in the preparation of a plan of actions. During the meeting, the responsible authorities will consider the issue of reporting using also indicators and they will set up agreed indicators in the plan of action to be used for reporting and feedback. Furthermore, a training workshop will be held in order to provide practical information on inspecting the most commonly polluting and industrial facilities of the country. It will also serve as guidance for the uniformity of the inspections. The training workshop will be held in the national language or in any other language proposed by the country and will be based on the training material already prepared for this specific purpose. It is expected that at least 30 inspectors will be trained to inspect several, yet common, industrial facilities.

The training workshop, and the practical experience within one year time, will provide all the information for an assessment and feedback for: (a) the operation of the whole system, (b) the knowledge acquired and used by the inspectors and (c) an estimation if the targets set during the first meeting were met or not. All above will be discussed during a final meeting, and solutions will be proposed to all difficulties faced during the period under review and will be used for the formulation of amendments to the existing legislation.

The expected results are:

- Formulation of plans of action for permitting, compliance and control
- Experts in national centre capable to coordinate and implement national inspection systems
- Enhanced inspectorate systems
- Proposals for amending the legislation for compliance with LBS Protocol in relation to inspection

Linkages with other programmes and initiatives

- The European Union Network for the *Implementation and Enforcement of Environmental Law (IMPEL)***.**
- NECEMA – Network of Environmental Compliance and Enforcement in the Magreb
- INECE – International Network for Environmental Compliance and Enforcement

Sub-component 2.2: Transfer of Environmentally Sound Technology (TEST)

(GEF 1,000,000 $, Co-financing 1,400,000 $)

Implementing Agencies:
United Nation Industrial Development Organization (UNIDO) and UN Regional Activity Centre for Cleaner Production (CP/RAC)

Background/Context/Rationale

In April 2001, UNIDO launched the TEST programme on Transfer of Environmentally Sound Technology (TEST), which aims at reducing the barriers perceived by enterprises to compliance with environmental norms. The Programme, concentrates on building capacity in industrial service institutions to undertake seven analytical assessments, which together identify the least costly option for environmental compliance. The environmental management tools applied include: cleaner production; environmental management systems and accounting; and environmentally sound technology selection.

The TEST-MED component has been designed to address pollution from land-based activities of priority industrial pollution hot spots that are identified in the Strategic Action Plan (SAP) as part of the implementation of the Mediterranean Action Plan (MAP). The component will primarily address industrial hot spots generating and/or utilizing *Persistent Toxic Compounds (PTS)* that have severe transboundary effects on the marine environment and will serve as a demonstration component for the introduction of an integrated approach (TEST approach) for the adoption of best available techniques (BAT/EST), cleaner production and environmental management practices.

Pollution from land-based sources and activities has long been recognized as a major problem in the marine environment. It has been estimated that approximately 80% of the total pollution of the Mediterranean Sea is generated by land-based sources and activities. Under the framework of the Barcelona convention, the responses of the Mediterranean countries to this problem was the adoption of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources (LBS Protocol), which came into force in 1983, and the launching of the MEDPOL programme.

In the framework of the development of a Strategic Action Plan (SAP) for the Mediterranean Sea, as a follow-up of the signing the LBS protocol, the MAP Secretariat was given the responsibility of collecting, analysing and processing the data and information related to the "Identification of priority pollution hot spots and sensitive areas in the Mediterranean basin. Some 101 priority hot spots were identified as impacting public health, drinking water quality, recreation and other beneficial uses, aquatic life (including biodiversity), as well as economy and welfare (including marine resources of economic value) in the Mediterranean Countries.

Description of activities, including demonstration and pilot projects

The UNIDO TEST-MED component will support national governments in effectively implementing national strategies for reducing industrial discharges and in particular it will contribute to the activities, as follows:

- To give priority to small and medium-size companies, favouring the creation of associations in order to minimize waste generation;
- Reduce discharges and emission of pollutants as much as possible and in order to do so, to promote the implementation of environmental audits and apply BEP and BAT in industrial installations that are sources of pollutants.

In particular it will provide mechanism to meet the objectives and targets set by the SAP. Project activities will include the promotion and introduction of environmental standards

(such as ISO14000) and environmental management tools within the industrial sector as well as the transfer of Environmentally Sound Technology and their adaptation through partnership and twinning programs. The effectiveness of the TEST integrated approach will be demonstrated at a number of pilot enterprises[25], which will be identified during the first stage of the project within the selected priority hotspots in three Mediterranean countries (Tunisia, Morocco, and Egypt).

Objectives of the project

The objective of the TEST-MED component is to build national capacities in South Mediterranean countries; to apply the UNIDO-TEST integrated approach to facilitate the transfer of Environmentally Sound Technology (EST) that will improve the environmental performance and the productivity of priority industrial pollution hot spots of the South Mediterranean region. The project will have a demonstration component at pilot enterprises to be selected among the priority industrial sectors (among others releasing significant amounts of PTS are tanneries and derivates, cement works, metallurgy, agro-industries, organic and inorganic chemical industry) that are significantly contributing to transboundary pollution by releasing particularly PTS into the Mediterranean basin.

The enhanced national capacities would then be made available through the dissemination of project results to assist other enterprises of concern in the participating countries as well as in other South Mediterranean countries.

UNIDO approach

The Mediterranean countries that have been considered for participating in the UNIDO/TEST-MED project have been selected on the basis of three criteria.

- eligibility for technical cooperation and international assistance
- the presence of an established National Cleaner Production Centre or its equivalent
- a significant number of polluting industrial enterprises

The project strategy is based on UNIDO's substantial experience in implementing industrial environmental projects and in particular the TEST programme in the Danube River Basin. Some of the lessons learned from these projects that were relevant for developing the TEST-MED project strategy are:

1. The successful, widespread transfer of environmentally sound technology is dependent upon two factors. First, a technology's feasibility as well as its financial and environmental benefits of the technology must be demonstrated in an enterprise in the country and that experience must be accessible to other enterprises in the same country. Second, at least one institution (which could be a project counterpart, a private enterprise research institution eRTC.) has to market the new technology to other enterprises. Without an organized effort to disseminate results, successful technological innovations usually remain confined to the demonstration plants.

2. Technical cooperation projects that enhance capacity within an existing institution rather than create a new institution, have a greater chance of being sustained. The UNIDO-UNEP CP centers in the Mediterranean Region will be an excellent network for the successful diffusion of EST in the Region. UNIDO strategy envisages that additional capacity in environmental management tools besides CPA will be boosted in order to make these centers more effective.

[25] *The number of enterprises will vary from one country to another, depending on their size. However at a minimum 4 enterprises will be selected in each country.*

3. Any successful effort that addresses the technological transformation of enterprises based on EST also needs to take into account economic and social considerations. Failing to take into account these two factors usually prevents the implementation of the transformation. In particular, failure to deal with employees both in the design and implementation of the technology transformation and the most likely negative effects on employment, will prevent significant technology transformations.

The implementation strategy of the TEST-MED project is taking into account the above three points, and it consists of three major stages. The first stage of the TEST-MED project consists of establishing a TEST focal point (national counterpart) and network of partnership in each of the participating countries participating in the project. The second stage is to use the TEST network established to introduce and demonstrate the TEST integrated approach, at the selected number of enterprises in the chosen countries. The third stage is to disseminate the results of the demonstration both within and outside the chosen countries and initiate the TEST integrated approach in other enterprises in the chosen countries as well as in the other countries that are signatories to the Barcelona Convention. Figure 1 shows the TEST implementation strategy as well as the individual tools used at each stage of implementation.

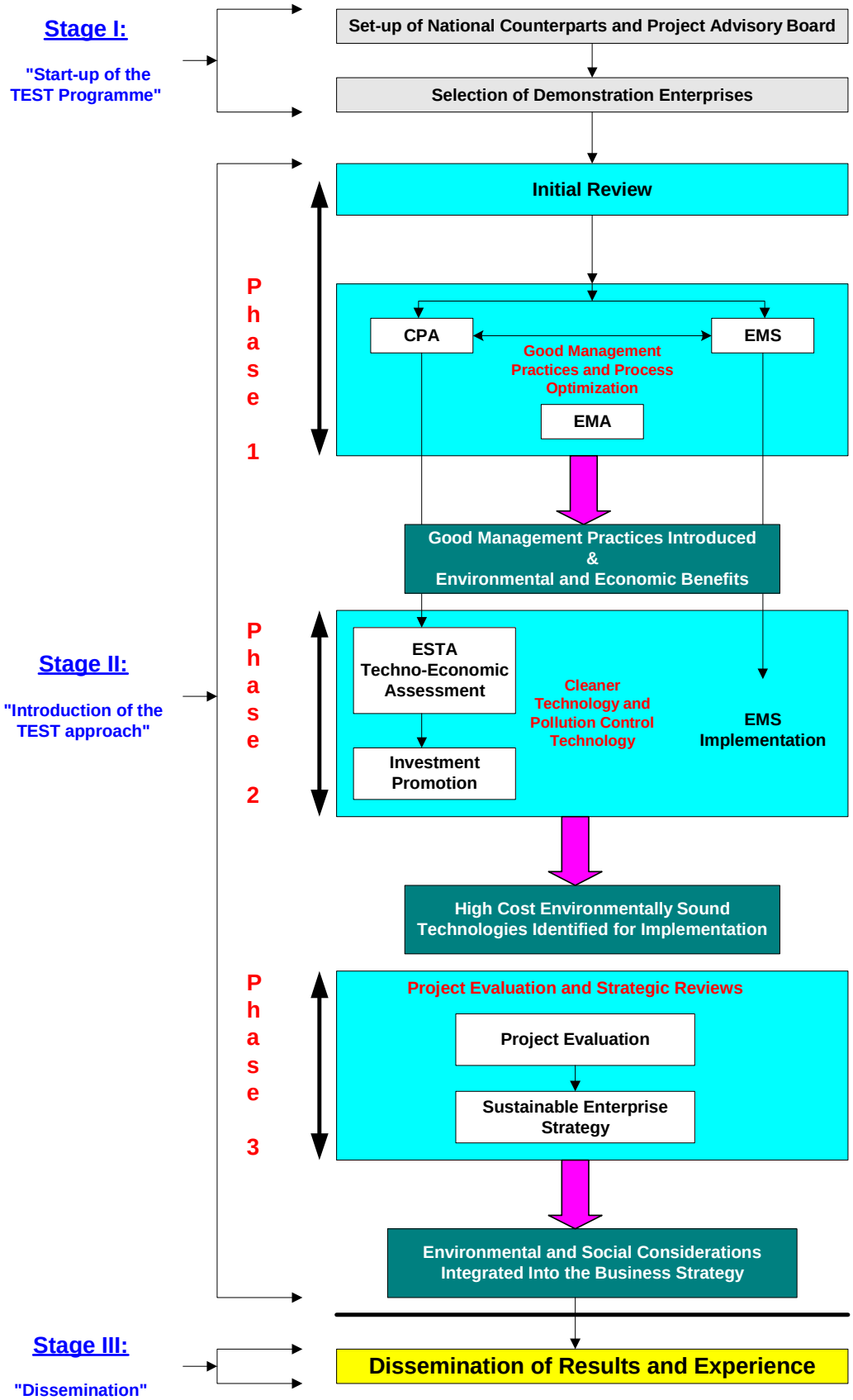
A TEST project is tailored to the unique conditions of the industrial sector as well as the institutional framework of the country where it is implemented. Introduction of the TEST integrated approach at the enterprise level is in the following sequence: first, the existing situation is improved by better management of the existing processes, then the introduction of new technology or of end-of-pipe solutions is considered. Finally, the lessons learned from each TEST project's implementation is reflected in the respective company's business strategy.

It may be argued that optimizing existing processes is an unnecessary step that wastes valuable time and financial resources if new, environmentally sound technology is to be installed. However, it must be remembered that there is usually a significant time lapse between when technological assessments and financial appraisals are conducted and when the new technology is actually put in place and operational. This time lapse can vary significantly from case to case and in some situations, it is worth investing modest resources in the existing processes to improve their environmental performance, until the final changes are installed and operational. By following this rationale, the money saved from the implementation of low, or no-investment CP options can be used to help fund the more expensive EST investments. Likewise, implementing the lower investment CP options may also reduce pollutant loads to a level where smaller-scale end-of-pipe equipment can be installed, or ideally, perhaps even avoided altogether. Companies should also remember that the transfer of skills (on how to use the TEST tools) is part of the overall EST process and these skills are not bound strictly to the specific technology being installed. It is critical that employees master the skills to use these system tools if the technology is to operate to its desired capacity.

The TEST-MED component acts at three levels:

2 It addresses the need to enhance the existing expertise within a country with respect to industrial environmental management skills, thereby enabling local institutions to offer enterprises an integrated package of technical, managerial and strategic services best tailored to their needs;
3 It demonstrates the effectiveness of the integrated TEST approach at demonstration industrial sites;
4 It supports the dissemination of the application of the TEST approach at the demonstration sites at national and regional level.

Fig. 1 – TEST project implementation strategy



The first stage of the TEST-MED project consists of the following activities:
(GEF 0 $, Co-financing 630,000 $)

1. Set up of national focal points (national advisory boards and national counterparts). The National Project Advisory Board is a platform, which includes all the major country's stakeholders (e.g. representatives from the Ministries of Industry, Environment MAP-MEDPOL's and CP/RAC focal points, academia, industrial associations, chambers of commerce and NGOs) that are relevant for the project, established to assure that the implementation will focus on national/local priorities and that the results are properly disseminated throughout the country. The National Project Advisory Boards will be set up in each country at the start-up of the TEST-MED project including: national and local authorities.

2. Introduction of the TEST integrated approach at national counterparts and set-up of the information management system. The National TEST counterpart plays one of the most important roles during the implementation of the project, being responsible for coordinating the local activities and the work of the local experts. The National counterparts will be an operating entity within a UNIDO/UNEP National Cleaner Production Center, (Morocco, Lebanon, Tunisia and Egypt), or their equivalent. All of these centers in fact have a track record in providing cleaner production services (in-plant demonstrations, training, information and policy advice) to industry. However final selection of the most suitable national counterparts will be done by UNIDO on the basis of the results of the initial assessment of country conditions[26]. Once the national counterparts are finally selected a team leader/national coordinator of the TEST project, and the core team of experts will be appointed in each country, an information management system will be set up that would enable local team to access relevant database on case studies and international standards. The national counterparts will be then introduced to the UNIDO TEST integrated approach through ad hoc training seminars.

3. Identification and selection of demonstration enterprises and preparation of initial review at demonstration enterprises including market and financial viability and initial environmental review. A number of demonstration enterprises[27], will be identified within the selected priority hotspots of Tunisia, Morocco, and Egypt in close cooperation with the MAP coordinating unit in Athens and will serve as a pilot to demonstrate the effectiveness of the TEST integrated approach. A core principle of the TEST approach is that it will only work if enterprise participation in the project is voluntary; importance is therefore given to "marketing" the TEST-MED component through on-site visits and seminars. Enterprises are selected on the basis of a multi-criteria approach. The selection criteria will be developed by consensus amongst UNIDO and its partners within the TEST project advisory Board. The main criteria for selection must include, but are not limited to, enterprises that are:
   - Located within, and 'contributing' to, priority pollution hot spots
   - Financially viable
   - Interested in participating in the project and committed to environmental improvements.

   One of the main selection criteria for enterprises is the viability pre-assessment, which determines if the enterprise has the potential to remain in business for more

[26] *This initial assessment will take part at the start-up of the project activities with the aim to confirm the suitability of the preliminary identified TEST counterparts (NCPCs) and in order to assess the existing skills and the training needs of local staff.*

[27] *The number of enterprises will vary from one country to another according to private sector conditions. However at a minimum 3 enterprises will be selected in each country.*

than five years given its market position and costs of production. Company environmental aspects and legal gaps will be also identified in order to define the focus areas of each TEST tools to be introduced (EMS, CPA, ESTA, EMA, SES). At the end of the initial review demonstration enterprises are finally selected. The work-plan of activities of the TEST approach will be finalized for each demonstration enterprise and the local counterpart will have signed letters of commitment/contracts the with selected enterprises to start-up demonstration activities.

The second Stage (GEF 853,000 $, Co-financing 253,000 $) of the TEST-MED project occurs when the demonstration enterprises are chosen and the initial reviews are completed and it consists of applying the integrated TEST approach at the selected demonstration enterprises through the following activities:

1. Implementation of Cleaner Production Assessment (CPA) at demonstration enterprises;
2. Introduction of EMS principles and design of EMS at demonstration enterprises;
3. Introduction of Environmental Management Accounting (EMA) practices and design of EMA systems at demonstration enterprises;
4. Preparation of EST investment project for the demonstration enterprises;
5. Investment promotion of identified EST projects;
6. Introduction of basic principles for preparation of enterprise sustainable strategies (SES).

The introduction of the TEST approach at enterprise level will be done in three phases:

1. The first phase aims at improving the operation of the existing processes and technology by introducing and integrating three different 'soft' and complementary environmental management tools into the company's daily operations: Cleaner Production Assessment (CPA), Environmental Management Systems (EMS) and Environmental Management accounting (EMA). The TEST approach includes a methodology that introduces the tools simultaneously and in an integrated fashion to take advantage of the synergies this creates. Although they can still be quite effective when implemented independently, this streamlining of data flows simplifies the work required and increases the overall effectiveness of the tools by generating more results that are positive. However, depending on the specific situation of the company, a step-by-step implementation may be the best option.

   The Cleaner Production Assessment will be initiated focusing on those priority aspects identified during the initial review (completed at the end of stage I), which revealed to a have a potential in terms of economical savings. In parallel each enterprise will introduce elements of Environmental Management System (EMS) for its operations as most of the preparatory work for setting up the system will have to be integrated with the CP assessment. Only after the Cleaner Production Assessment is completed enterprise moves on to the introduction of an Environmental Management Accounting (EMA) system on a pilot level, for internal organizational calculation and decision-making, CPA, EMA and EMS are environmental management tools that are mutually beneficial and combining their introduction will result in a substantive long-term improvement of the company's environmental performance and its competitiveness. National experts will be trained in how to integrate CPA with EMS and EMA and will initiate the in plant CPA assessment at the selected enterprises providing training of employees and the necessary assistance during the identification and selection of cleaner production measures. National experts will also be trained on how to design EMS and EMA systems and will be assisting the demonstration enterprises in implementing those management systems on a pilot scale.

   At the end of this phase, good management practices will have been identified and implemented and processes optimized. The results of this phase will generate the

first tangible environmental and economic benefits that the company achieves from the project.[28] This is very important, since it allows the demonstration enterprises to see results, quite quickly and can give them the added impetus and enthusiasm to go on to the next phase.

2. The second phase starts with an Environmentally Sound Technology Assessment (ESTA). At the end of the CPA module, the company will have collected a large amount of information about its production processes and on opportunities for improvements, some of which will require little-to-no finances to implement and others that will require some capital investment. Traditional CP projects assume that companies will perform a technology assessment using their own resources. This has normally resulted in very general pre-feasibility studies of investments needs. In addition, these projects usually do not provide any assistance with respect to evaluating or choosing end-of-pipe solutions; these are often still needed (although to a lesser degree) in order to meet specific environmental standards, regardless of the improvements achieved implementing the CP recommendations. The ESTA module continues where the CPA ends, to broaden the scope to include both large cleaner technology investments (technology change) and end-of-pipe solutions. ESTA modules can build on information supplied from the CPA and EMA modules generated during phase I of the stage II. Practical experience shows that separating CP assessments and EST assessments into two steps has very positive results. This approach demonstrates the importance of providing sufficient resources for the financial appraisal of large investments to address both issues in an integrated way. The scope of the second phase is to identify the higher capital investment requirements for environmentally sound technologies (EST) - cleaner technologies and end-of-pipe solutions. The ESTA module primarily consists of technical and economic evaluations of potential EST investment projects, which take into account long-term environmental savings and benefits. To do this, computational tools are used and the following activities are undertaken:
   - Preparation of a pre-feasibility study;
   - Preliminary identification of possible suppliers;
   - Preliminary identification of affordable sources of capital for the technology investment.

   National experts will be trained in the UNIDO COMFAR software for investment appraisal, and each national counterpart will be provided with software package and license. Sectorial international experts will assist national experts during the technical assessment that will identify potential combinations of advanced process and pollution control technologies that would bring plants into compliance with major environmental norms and at the same time contribute to the extent possible to improved productivity.
   Once the pre-feasibility studies will be completed for the identified EST solutions, possible sources of cheap capital at country level will be identified (including bilateral credit lines as well as put forward to multilateral funding groups, World Bank, ADB, GEF and EU). A portfolio of investment project proposals will be prepared for promotion within the existing UNIDO Network of Investment Promotion Offices (IPOs) and units (IPUs) in the Mediterranean countries that will help to explore and identify opportunities for direct foreign investment in the identified EST projects.

3. The third phase aims at ensuring the continued use of the test approach at the pilot facilities. For the approach to be continued, the experience must be reflected in a facility's strategic level (e.g. business plan development), which should in turn also lead to new insights and desired changes in the enterprise's values and strategies. The sustainable enterprise strategy (SES) is the module, in the integrated TEST,

[28] CP/EST measures identified in this phase that require a higher capital investment are forwarded to Phase II for further investigation.

aimed at accomplishing this integration of environmental and social dimensions into the enterprise's culture. In principle, the objective of the SES module is two-fold: 1. To integrate the TEST approach into the enterprise's strategies (business and functional) and formalize its principles within these strategies. 2. To provide a platform from which to evaluate and communicate the enterprise's performance, as it relates to processes and products, to the stakeholders (shareholders, employees, local authorities, civil society, customers, etc.) and establish a baseline from which to initiate and build ongoing dialogue. This will provide valuable feedback on company values and strategy.

This phase of the component builds on:

- Project indicators, which should be selected to best reflect the results of TEST approach implementation at each enterprise
- An effective management system, which will ensure continued measurement and evaluation of enterprise performance against the selected project indicators, and
- Relaying the experience that was gained on how to bridge the gaps between the old and new values, goals and strategies; how the experience was integrated into their business; and how any related challenges were overcome.

During this phase, the performance indicators set up at project's start and during the project's implementation should be measured, evaluated and the results analyzed, interpreted and reflected upon.

Project evaluation and reflection can be done both internally and externally. Reporting plays a role in both. In order to gain from TEST's real-life learning experience, the reporting cannot be just a one-way or one-time transfer of information. It has to be followed by dialogue and further reflection. This stage presents an opportunity to improve the company's relationship with the stakeholders and to learn more of their expectations. It is also an opportunity to educate the stakeholders about the experience and lessons learned, which may in turn alter their opinions and expectations. All this is crucial to further improve company performance.

The third stage (GEF 147,000 $, Co-financing 67,500 $) of the TEST-MED is related to the Dissemination of the results of the projects.
Consists of the following activities:

- Preparation of national publications on the application of the TEST approach at the demonstration enterprises;
- Organization of national seminars in each country;
- Organization of introductory seminars on TEST approach at other enterprises in each country; Organization of a Regional workshop to present the results of the TEST-MED component to other countries of the Mediterranean Region;
- Initiation of networking activities between the TEST counterparts and other institutions/national experts from the Mediterranean Region.

This third phase will facilitate and will improve the sharing and the dissemination of information on industrial best environmental practises for national and local governments, environmental management practitioners, NGOs and other stakeholders. Furthermore, a newly educated and motivated cadre of professionals from developing countries will engage in networking to promote the outcomes of trainings and hands on experience to extend the lessons learned from the project to other national experts from the Mediterranean Region.

This component will be carried out with the support of INFO/RAC's Replication and Communication Strategy.

The TEST-Med Projects will select approximately 15 demonstration enterprises in the selected South Mediterranean countries: Tunisia, Morocco, and Egypt. In order to address Transboundary issues the project will concentrate its actions in demonstration enterprises that are significantly contributing to the discharge of Persistent Toxic Compounds (PTS) in the Mediterranean basin. The main industrial sectors that are contributing to the "hot spots" Transboundary pollution (among others releasing significant amounts of PTS) are tanneries and derivatives, cement works, metallurgy, agro-industries, and organic and inorganic chemical industry.

Five of the eligible South Mediterranean countries, in which the MEDPOL Programme identified industrial hot spots significantly contributing to pollution of the Mediterranean Sea have an

established National Cleaner Production Center or its equivalent (Tunisia, Morocco, Egypt and Croatia). Croatia has already participated in the UNIDO-TEST project in the Danube River Basin, thus national capacities in the UNIDO-TEST integrated approach have been already created. Priority was given to the remaining three countries (Tunisia, Morocco, Egypt).
Justification.

Risk and Sustainability

The Sub-Component faces the risks identified below. Those will generally be manageable.

There is the risk that due to limited enforcement of the environmental norms, there may not be sufficient incentives for enterprises to participate on a voluntary base in the TEST-MED component. However this risk is acceptable because countries that signed the Euro-Med Partnership Agreement, in order to access to the EU markets will have to increase the efficiency of their production. This will be an additional incentive for companies to implement environmentally sound technology that allows for higher productivity and better environmental performances at the same time.

There is the risk that some of the participating enterprises may drop out of the TEST-MED project, diminishing the number of plant demonstrations undertaken during the project. To minimize the probability of occurrence of this risk UNIDO and the national counterparts will: i) apply sound selection procedures to select demonstration facilities based on the project criteria, ii) will sign letter of commitments and contracts with the enterprises to assure their engagement, iii) will maintain a continuous dialogue with the enterprises about their concerns and iv) will provide all the necessary technical assistance during implementation of project activities.
The EST options (combined process and pollution control technologies) identified for some of the demonstration plants may be too costly. If implemented by some enterprises, they could no longer be profitable operations. This risk is acceptable because based on the UNIDO experience of applying the TEST approach in the enterprises of the Danube river basin investments in EST are often profitable on the medium-long term. Additionally there is considerable evidence that the costs for compliance with environmental regulations are not excessive.

Financing may not be available for the enterprises to implement the identified EST option. This risk is also acceptable both because there are a number of programmes providing financial support for environmental investments and the enterprises themselves must begin to address environmental problems with their own resources if they are to stay in operation.

As a result of training courses provided by international experts, hands on experience will be gained working with international experts during the introduction of the TEST approach and its tools at the demonstration enterprises, while capacity will be built in networks of national institutions. One of the key aspects of the TEST-MED component is that existing national institutions dealing with industrial environmental management will be used to convey the acquired know-how at country level. Technical cooperation projects like TEST-MED that enhance capacity within an existing institution rather than create a new institution have a greater chance of being sustained.

The technical assistance provided to help the participating countries to enhance their capacity and to strengthen their institutions, through better education, training, and dissemination of best practices in industrial environmental management, will improve the chances of a long-term sustainable performance of the industrial sector. Sustainability of the TEST-MED project will be assured by two mechanisms:

(a) by building stronger national institutions able to provide integrated environmental services that will be made available to the remaining enterprises in the participating countries and in the Mediterranean Region.

(b) by developing the demand at enterprise level through peer pressure. The successful results that will be achieved through the introduction of the TEST approach in the selected industrial sites will serve as demonstration for other industries, thus generate demand for environmental services.

Linkages with other programmes and initiatives

The Component provides an important link to the overall MEDPOL program to improve the Mediterranean environment. The activities described in this project will complement the efforts of national governments by providing them with relevant inputs on how to implement EST solutions needed to reach selected SAP objectives and targets as well as with a broad range of management experiences and instruments.

The selected industrial priority hotspots generating and utilizing Persistent Toxic Compounds (PTS) in 3 Mediterranean Countries: Tunisia, Morocco, and Egypt. However the remaining South Mediterranean Countries that would be eligible for technical assistance will be involved in the dissemination of project results.

Five of the eligible South Mediterranean countries, in which the MED POL Programme identified industrial hot spots significantly contributing to pollution of the Mediterranean Sea have an established National Cleaner Production Center or its equivalent (Tunisia, Morocco, Egypt and Croatia). Croatia has already participated in the UNIDO-TEST project in the Danube River Basin, thus national capacities in the UNIDO-TEST integrated approach have been already created. Priority was given to the remaining three countries (Tunisia, Morocco, , Egypt).

With concern to industrial hot spots discharges and their impact on the Mediterranean, it has to be mentioned that the selected four countries are responsible of respectively 63% and 66% of the total BOD and COD loads arising from mixed and industrial hot spots of the Mediterranean countries that are eligible for technical cooperation[29]. Additionally the hot spots of the four selected countries have a significant number of chemical, petrochemical, textile, cement industries that are also highly contributing to PTS discharges thus primary contributing to Transboundary pollution issues of the Mediterranean Basin.

Supplementary information

A. Results of the TEST project in the Danube river basin
B. Main pollution loads in the Mediterranean Basin (Table)
C. Confirmation letter of the Italian Co-Financing to the TEST-MED project

A. Results of the TEST project in the Danube River Basin

Overview

In April 2001 within the framework of the UNDP-GEF "Pollution Reduction Programme for the Danube River Basin", UNIDO started the implementation of the TEST project in five Danubian countries (Bulgaria, Croatia, Hungary, Romania and Slovakia) with the aim to effectively demonstrate that it is possible enhance the environmental performance of industrial hot spots of concern and still maintain, or even enhance their competitive position.

[29] *This calculation has been made on the basis of the data provided in table 1 in annex I of this project document – source: UNEP/WHO: Identification of Priority Pollution Hot Spots and Sensitive Areas in the Mediterranean. MAP Technical Reports Series No.124. UNEP, Athens, 1999*

The main programme objective was to build capacity of the national counterparts in the five Danubian countries, to apply the TEST integrated approach for industrial environmental management developed by UNIDO so that they will, in turn, pass on the acquired expertise to assist enterprises and institutions in their own countries and throughout the Danube River Basin.

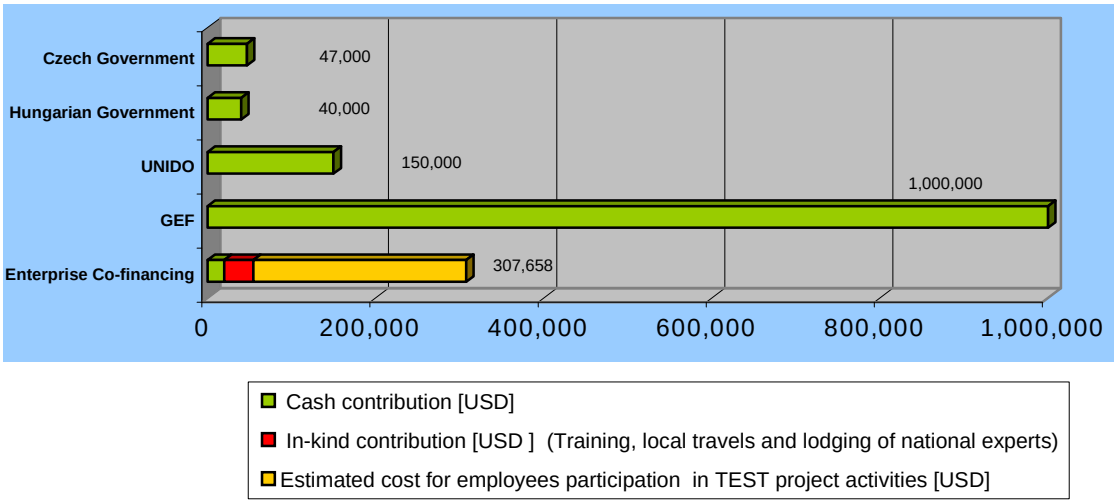
The project's national partners (counterparts) were the National Cleaner Production Centres (NCPCs) of Croatia, Hungary, and Slovakia (members of the UNIDO/UNEP network of NCPCs), the Institute for Industrial Ecology (ECOIND) in Romania, and the Technical University of Sofia in Bulgaria.
The UNIDO-TEST project in the Danube River basin targeted 17 hot spots of industrial pollution, from various industrial sectors (chemical, food, machinery, textile, pulp and paper). The list of enterprises is provided in table 1.

Table 1 – List of enterprises participating in the TEST project

	Country	Selected Enterprise	Industrial Sector
1	Croatia	Agroproteinka	Meat Rendering
2		Gavrilovic d.o.o.	Integrated meat processing
3		Herbos	Pesticides- Atrazine plant
4		IPK Tvornica Secera Osijek	Sugar
5	Romania	ASTRA Romana	Petrochemical - refinery
6		Rulmentul	Machinery – bearing production
7		Chimcomplex	Intermediate Chemicals -Isopropyl-amine
8		SOMEŞ	Pulp and paper
9	Slovakia	AssiDoman Sturov	Pulp and paper
10		Zos Trnava	Machinery - repair railway wagons
11	Hungary	Gunter – Tata Kft.	Machinery – Heat exchanger manufacturing
12		Indukcios es Vedogazos	Steel heat treatment
13		VIDEOTON Audio Company	Electronic products, plastic and wood processing
14		Nitrokemia 2000	Intermediates Chemicals
15	Bulgaria	Yuta JSC	Textile
16		Slavianka JSC	Fish processing
17		Zaharni Zavodi AD	Sugar - Alchool production

The TEST project's primary financial supporter was GEF, with some participation from UNIDO and other donors (the Hungarian and Czech Governments). However, apart from the direct financial contributions to project activities, significant co-financing was provided by the 17 participating enterprises in terms of cash and in-kind. Figure 1 provides a breakdown of the total TEST project financial contributions, including the total co-financing provided by the 17 Danubian companies (labor cost estimated by the total number of man days of labor force involved in TEST-related activities, including training, multiplied by the average daily salary).

Fig. 1 – TEST project in the Danube river basin: financial contributions



Results of the project

Through the project the participating industrial polluters have been introduced to the **TEST integrated approach** having the opportunity to learn how to use environmentally sound technologies to reach continuous improvement of their economic and environmental profiles.
Tangible results were achieved, both in terms of increased productivity and in terms of improved environmental performance. The threats identified in the business environment, often perceived by the companies as survival threats connected with environmental compliance issues and production costs were reduced and new opportunities were identified.

Increased productivity was achieved through the implementation of identified **CP/EST measures**, leading to a reduction of specific production inputs costs (increase of profit margins), increased production capacity, better control of production costs related to process inefficiencies and better labour conditions. In many of the participating companies, the identified measures also resulted in improved quality of the final product.

Better management of environmental aspects was achieved through introduction of EMS elements. By December 2003 **4 enterprises obtained ISO 14001 certification,** while the remaining companies have adopted the main EMS procedures, prepared an environmental policy and an environmental management programme. In 9 of the 17 enterprises the EMS was fully integrated into the existing quality management system (QMS). Furthermore, as a direct result of the EMS component of the TEST projects, several organizational changes occurred in the environmental function of the companies such as the creation of an environmental department or the increase of its staff, appointment of the environmental manager.

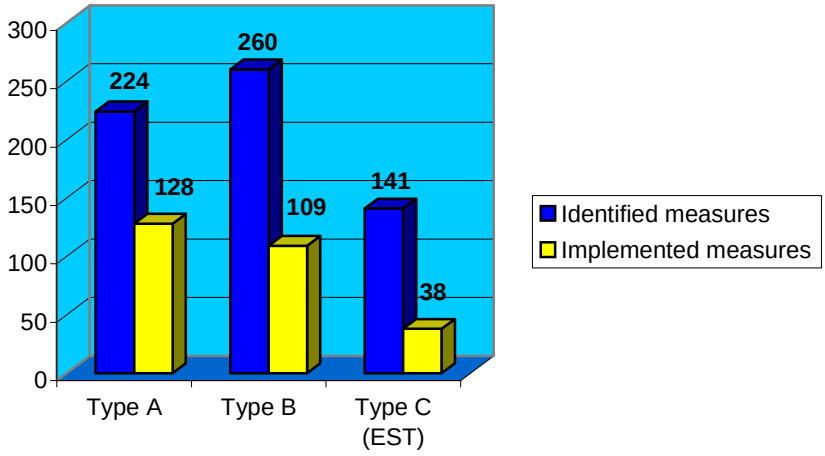
EMA principles were also introduced in the participating companies to increase cost transparency by allocating environmental costs to production steps and products. Environmental costs were calculated and pulled out of the overheads accounts, new environmental accounts were created within the accounting department for environmental expenditures and internal procedures were put in place to monitor the environmental costs of the company on a periodic basis and for allocation to product costs.

Other less tangible benefits, like improved relationships with stakeholders leading to the projection of a better image towards local authorities and customers were also achieved. This was especially true in those companies that introduced a full EMS and obtained the ISO 14001 certification.

Both the tangible and less tangible benefits contributed to strengthen the position of the enterprises and their competitive advantages, thus reducing the existing barriers to access to both local and foreign markets (especially the EU market).

Figure 2 summarizes the total number of **CP/EST measures** that were identified vs. the number that were implemented. The end of the project, comprising good-housekeeping measures (type A) and low cost measures with short payback periods (type B) implemented a total of 230 CP measures. The total investment entered into by the 17 enterprises to implement the 109 type B measures was approximately 1.7 MUSD, while the total estimated financial savings were approximately 1.3 MUSD per year.

Fig. 2 –total number of measures identified vs. those implemented at the 17 enterprises.



A number of **CP/EST** measures requiring high investment (type C) were also identified at each company. These investments include both new cleaner technologies (requiring large investments) and some end-of-pipe technology. These measures were evaluated technically and financially within the scope of the TEST project and approved (by the top management) for implementation. Table 2 provides a summary of the investments required, the related financial benefits, the value of the related financial indicators (IRR, NPV), and the expected implementation for each company. The total investments required for the 17 enterprises are approximately 47 MUSD.

Table 2: EST investments at the 17 enterprises

Country	Enterprise	Total Investments [USD]	Total Yearly Savings [USD]	Financial Indicators (IRR, NPV, PBP)	Expected Date of Implementation
Croatia	Agroproteinka	7,500,000	1,500,000	**IRR:** 33%	April 2007
	Gavrilovic d.o.o.	3,500,000	440,000	**IRR:** 26%	September 2006
	Herbos	800,000	0 (end-of-pipe)	-	Mid-2006
	IPK Tvornica Secera Osijek	800,000	400,000	**IRR:** 110%	September 2004
Romania	Astra Romana	3,162,000	1% reduction of product cost	**NPV:** 319 - 943. Eur **IRR**: 10.45-11.2%	2004/2007
	Rulmentul	400,000	2,500,000	**NPV:** 2.4 Mill Eur **IRR:** 1002%	2003
	Chimcomplex	270,000	220,000	**NPV:** positive after 4 yrs. **IRR:** positive after 6 yrs.	Under negotiation
	Somes	11,500,000	1,370,000	**NPV:** Mill. Eur: 3.3-4.4 **IRR:** 14-18%	2004 - 2006
Slovakia	AssiDoman Sturov	4,050,000	2,293,000	**NPV:** 0.228 - 4.725 Mill. EUR **IRR:** 38.42% - 60.85%	2005
	Zos Trnava	7,167,500	75,000 only for penalties, 4 times increased production	**NPV:** 40 - 626 kUSD **IRR:** 4% - 17%	2009
Hungary	Gunter – Tata Kft.	898,828	0 (end-of-pipe)	-	2007
	Indukcios es Vedogazos	18,560	0 (end-of-pipe)	**PBP:** 6.8 yrs.	2004
	VIDEOTON Audio Company	35,783	0 (end-of-pipe)	-	2007
	Nitrokemia 2000	265,500	171,817	**PBP:** 1.54 yrs. **NPV:** 206,749 USD	2006
Bulgaria	Yuta JSC	2,500,000	Not available	min. **PBP:** 4 yrs. max. **PBP:** 5.3 yrs.	2003-2005
	Slavianka JSC			Not available	2005
	Zaharni Zavodi AD	4,700,000	350,000	min. **PBP:** 3.5 yrs. Max. **PBP:** > 5 yrs.	2004-2005
TOTAL		**47,568,171**	**5,361,817**		

The environmental benefits were significant in terms of reduced consumption of natural resources (including fresh water consumption and energy), reduced wastewater discharges and pollution loads[30] into the Danube River and its tributaries, as well as reduction of waste generation and air emissions[31].

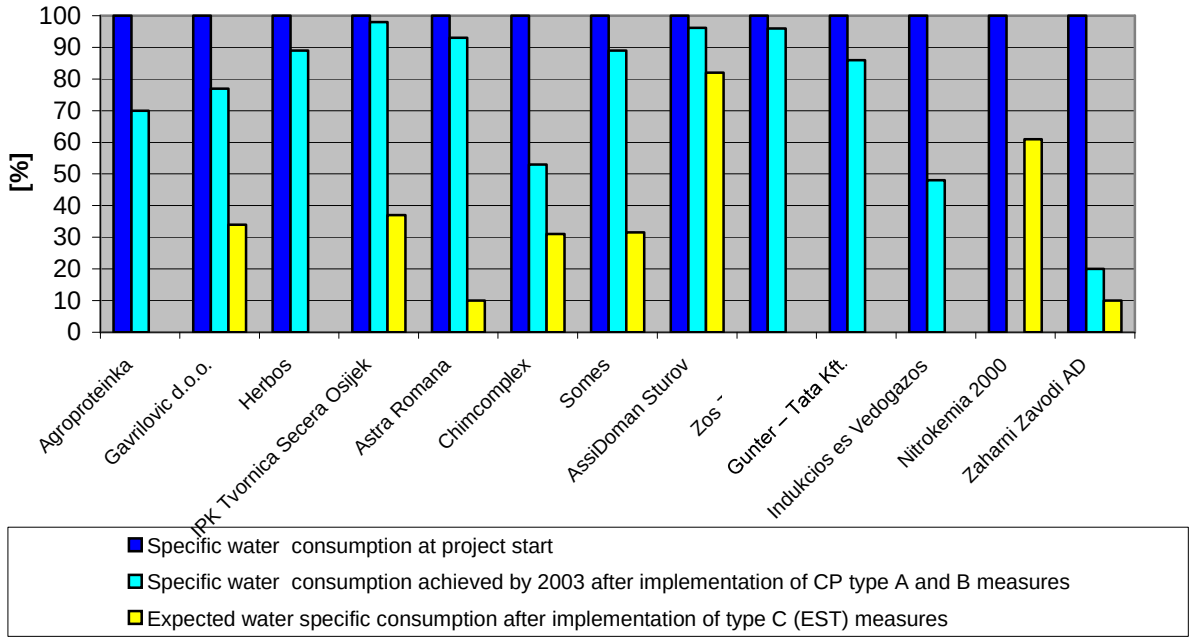
Figure 3 provides a summary of the reductions in specific water consumption at each TEST enterprise after implementation of the identified CP/EST measures. As of the end of 2003, the range of reduction varied between 2 and 89 percent of the initial value, leading to an impressive total reduction in wastewater discharges, into the Danube River basin, of 4,590,104 m^3/year. It is expected additional reductions in wastewater discharges, after full implementation of the large EST investments, would be 7,862,563 m^3/year.

[30] Pollution loads in the wastewaters were reduced in most of the companies, including COD, BOD, oily products, TSS, heavy metals, toxic chemicals (e.g. PCE), herbicides (Atrazine) and nutrients.

[31] Significant reductions were achieved in terms of VOC and H_2S emissions as well as CO_2.

Fig 3: specific water consumption at the enterprises at project start, in December 2003 and after implementation of large EST investments

Total reduction of wastewater discharge in the Danube river basin achieved by 2003: **4,590,104 m3/year**
Expected additional reduction of wastewater discharge after implementation of EST: **7,862,563 m3/year**



Additional information on the results of the TEST project (at each enterprise) can be found in the UNIDO-TEST publications “Increasing productivity and environmental performance: an integrated approach –Know-how and experience from the UNIDO-TEST project in the Danube river Basin” and in the national publications, available from UNIDO upon request.

Besides the tangible economic and environmental benefits achieved at the 17 pilot enterprises, other important results need to be mentioned, especially in relation to capacity building and awareness raising, both at the national counterpart level and at the level of the participating enterprises. A total number of 90 trainees from the national counterparts and more then 600 from the 17 enterprises were trained in the TEST approach and its tools for approximately 2000 man/days of training.

In terms of the capacity built in the national counterpart institutions, it should be mentioned that one of the major benefits of the TEST programme for them, was besides the training, the hands-on experience they gained in new environmental management tools (such as EMA or EMS). The TEST programme presented a great opportunity to reinforce the skills of the national counterparts and the possibility of expanding the range of technical services they could offer to local enterprises.

The capacity built at the enterprise level and the increased awareness among the employees and mangers led to the following improvements:

- Empowerment and reorganization of the environmental function within the company
- Improved internal communication between top managers/middle management and employees
- Improved external communication with local authorities and the ability to communicate the environmental performance of the company to all its stakeholders

- Environmental considerations taken into account during investment decision making processes (increased bargaining power of the environmental function)
- Adoption and continued use of CPA, EMS, EMA as evidenced by the fact that several companies replicated the use of these tools in other production units, at their own expense (using the skills developed during the TEST project).
- Integration of environmental considerations at the level of individual companies' business strategies Lessons learned

One of the major challenges implementing the TEST programme in the Danube River basin was the identification and selection of demonstration enterprises. Finding industrial hot spots was not difficult, given the previous UNDP project, but being in a hot spot was not a sufficient reason to be considered for the project.

The challenge was to identify good pilot sites that would participate effectively in the project and that were financially viable. Only financially viable companies will undertake the necessary investment and upgrades in EST and will really be interested in having a long-term sustainable strategy. One of the major principles of a TEST project is that involvement as demonstration enterprise is voluntary. Therefore, as enterprises in the Danube River basin had to be convinced that they would achieve significant benefits (economical in the first place and environmental) from their participation in the project, marketing the programme was a crucial activity for its successful start-up. Considerable effort was required, since it was particularly important to find enterprises with a strong commitment to avoid the possibility that they would withdraw during project.

The identification of the correct drivers existing in the business environment was very important, not only during the first stage when the project was being marketed and pilot sites were being selected, but also during the overall implementation of the programme, to maintain the commitment of the managers. For instance, the possibility of achieving potential savings through the introduction of CP measures was difficult to explain to managers (although they were convinced by the end of Phase I of the second stage). This resistance was mainly due to the fact the costs in this part of the world, for utilities and many raw materials, are low as are wastewater and solid waste disposal fees and penalties.

Low stakeholders interest in a companies' environmental performance, low awareness of stakeholder interests at the companies and limited external motivating factors to improve the environmental performance of the companies, represented serious impediments to persuading companies to participate in the programme. What the project implementation showed was that usually economic drivers[32] are much stronger than environmental ones and it is these economic drivers that are pushing companies to improve the efficiency of their operations and to acquire EMS certification.

Even though their participation was mostly subsidized by funds from the programme itself the demonstration enterprises were required to make a small (token) financial contribution. This proved to be an effective strategy to strengthen their commitment and active participation in the project.

The results achieved by each of the 17 enterprises varied because of a number of different factors such as level of commitment of the top management, company's position on the market and internal communication issues. The net result was that some enterprises were more successful in implementing soft management tools (CPA, EMS, EMA), while others achieved significant results in the implementation of new EST. However in all cases the utilization of an integrated approach (TEST) that introduces the tools simultaneously and in an integrated fashion

[32] *The pre-accession process to the European Union undertaken by many countries in the Central and Eastern Europe has created a very favourable condition for the development of economic drivers in the direction of a more sustainable industrial development.*

has generated significant synergies. Streamlining of data flows simplified the work required and increased the overall effectiveness of the tools by generating more results.

It should be noted that none of the selected enterprises withdrew from the project and even though there were different levels of success in each of the enterprises, all of them achieved measurable results by implementing the integrated TEST approach. The primary reason for this is because the project was able to confirm one of the basic theses of the TEST approach, namely that improving environmental performance does not have to be at the expense of competitiveness. The most financially feasible measures, both organizational and technical, were identified and partially implemented to bring the enterprises into compliance with the environmental norms of the Danube River Protection Convention and the EU's IPPC Directive, while also accommodating their need to remain competitive.

B. Main pollution loads in the Mediterranean Basin (Table)

(*source: UNEP/WHO: Identification of Priority Pollution Hot Spots and Sensitive Areas in the Mediterranean. MAP Technical Reports Series No.124. UNEP, Athens, 1999)*

Country	Hot Spot	Source of pollution[33]	Population	BOD t/yr	COD t/yr	Total-N t/yr	Total-P t/yr	TSS t/yr
Albania	Durres	D	120,000	2,864	-	477	96	4,300
Albania	Vlore	D	110,000	2,628	-	438	88	3,942
Albania	Vlore (PVC Factory)	I	-	-	-	-	-	-
Algeria	Oran Ville	I	1,230,000	26,937	44,895	6,734	2,693	40,405
Algeria	Rouiba	M	120,000	2,628	4,380	657	262	3,942
Algeria	Ghazaouet	M	120,000	2,628	4,380	657	262	3,942
Algeria	Alger	M	1,957,334	42,865	71,442	10,716	4,286	64,298
Algeria	Mostaganem	M	631,000	13,818	23,031	3,454	1,381	20,728
Algeria	Bejaia	M	859,000	18,812	31,353	4,703	1,881	28,218
Algeria	Annaba	M	890,000	19,491	32,485	4,872	1,949	29,236
Algeria	Skikda	M	747,000	16,359	27,265	4,089	1,635	24,538
Bosnia and Herzegovina	Neum	D	-	-	-	-	-	-
Croatia	Kastela Bay + indust. zone	M	See Split	5,006	11,095	594	129	8,481
Croatia	Split	M	350000+	1,643	3,286	411	115	1,232
Croatia	Sibenik	M	60000+	201	410	89	20	240
Croatia	Zadar + indust. Zone	M	85000+	1,056	3,940	154	26	1,410
Croatia	Pula	M	63979+	329	513	-	4	259
Croatia	Rijeka + Kvarner Bay	M	-	32	121	-	-	25
Croatia	Bakar (ex Cokery)	I	-	-	-	-	-	-
Croatia	Dubrovnik	D	50000+	160	310	79	19	139
Cyprus	Limassol	M	130,000	1,181	2,185	39	15	336
Egypt	El-Manzala	M	-	-	-	-	-	-
Egypt	Abu-Qir Bay	M	-	91,701	575,490	4,966	8,248	120,035
Egypt	El-Mex Bay	M	-	219,498	175,654	2,081	2,628	286,645
Egypt	Alexandria	D	4,000,000	1,632	-	1,520	2,266	8,831
France	Marseille	D	900,000	13,700	24,800	4,700	300	3,100
France	Gardanne	I	-	-	-	-	-	31,600

[33] *I = industrial; D = Domestic ; M= mixed*

Country	Hot Spot	Source of pollution[33]	Population	BOD t/yr	COD t/yr	Total-N t/yr	Total-P t/yr	TSS t/yr
France	Toulon	D	310,000	1,300	5,000	1,500	150	1,000
France	Cannes	D	144,000	1,900	3,800	600	150	1,000
France	Frejus	D	175,000	650	1,700	400	40	400
Greece	Thermaikos Gulf	M		297	1,043	-	15	142
Greece	Inner Saronic Gulf	M	3,345,000	59,386	118,735	-	-	42,815
Greece	Patraikos Gulf	M	155,180	127	473	110	29	110
Greece	Pagasitikos Gulf	M	77,907	657	1,095	-	-	-
Greece	Heraklio Gulf	M	117,167	84	141	-	-	29
Greece	Elefsis Bay	I	-	61	446	-	-	70
Greece	NW Saronic Gulf	I	-	22	22	-	-	5
Greece	Larymna Bay	I	-	-	7,516	-	-	2,505
Greece	Nea Karvali Bay	I	-	295	739	625	126	-
Israel	Haifa Bay	M	-	5,300	20,000	11,055	1,272	7,200
Israel	Naharaiya	D	37,500	2,900	6,200	122	86	2,250
Israel	Akko	D	46,000	2,000	4,400	330	53	2,200
Israel	Gush Dan	M	1,100,000	-	-	2,900	1,200	44,000
Israel	Ashdod	I	-	2,630	12,150	600	7	258
Italy	Porto Marghera (VE)	M	309,422	9,988	39,953	3,746	2,497	19,977
Italy	Genova	M	678,771	15,796	63,184	5,923	3,949	31,592
Italy	Augusta-Melilli-Priolo	M	57,311	1,808	7,232	678	452	3,616
Italy	Brindisi	M	95,383	2,077	8,308	779	519	4,154
Italy	Gela	M	72,535	2,144	8,578	804	536	4,289
Italy	La Spezia	M	101,422	3,949	15,796	1,450	940	7,346
Italy	Milazzo	M	31,541	616	2,464	231	154	1,232
Italy	Golfo di Napoli	M	1,540,814	16,251	65,005	6,094	4,063	32,502
Italy	Ravenna	I	135,844	6,363	25,453	2,386	1,591	12,727
Italy	Taranto	M	232,334	2,484	9,937	932	621	4,968
Italy	Rosignano Solvay (Marritimo)	I	30,021	187	747	70	47	373
Italy	Bari-Barletta (Global)	D	1,200,000	7,707	30,827	2,890	1,927	15,413
Italy	Livorno	I	167,512	2,698	10,792	1,012	674	5,396
Italy	Manfredonia	M	58,318	1,272	5,087	477	318	2,543
Italy	Ancona-Falc	I	131,390	2,990	11,959	1,121	747	5,979
Lebanon	Gt Beirut Area	M	-	29,235	-	-	-	14
Lebanon	Jounieh	M	200,000	4,280	-	-	-	80
Lebanon	Saida-Ghaziye	M	205,000	5,134	-	-	-	293
Lebanon	Tripoli	M	353,000	7,446	-	-	-	-
Lebanon	Batroun Selaata	M	51,000	1077+	-	-	-	-
Libya	Zanzur	I	-	-	-	-	-	-
Libya	Tripoli	D	1,200,000	3,100	4,650	740	-	4,300
Libya	Benghazi	D	750,000	2	2,100	306	-	1,226
Libya	Zawwia	D	-	-	-	-	-	-
Libya	Tobruk	D	-	-	-	-	-	-
Malta	Weid Ghammieq	M	270,085	10,250	16,021	135,415	12,447	124,538
Malta	Cumnija	M	59,224	2,412	3,599	1,914	1,495	14,240
Malta	Ras il-Hobz	M	25,957	1,273	3,318	1,777	2,233	28,165
Morocco	Tangier	M	526,215	9,401	22,076	928	150	9,651
Morocco	Tetouan	M	367,349	6,861	15,304	723	114	7,143
Morocco	Nador	M	246,113	1,888	4,435	83	100	1,433
Slovenia	Koper (incl. Rizana River)	M	46,221	485	5,111	76	8	250
Slovenia	Izola	M	13,770	1,092	-	90	21	414

Country	Hot Spot	Source of pollution[33]	Population	BOD t/yr	COD t/yr	Total-N t/yr	Total-P t/yr	TSS t/yr
Slovenia	Delamaris	I	(See Izola)					
Slovenia	Piran Submarine Outfall	D	17,000	125	290	23	26	116
Spain	Barcelona	M	4,680,000	-	-	-	-	-
Spain	Tarragona	M	110,000	-	-	-	-	-
Spain	Valencia	M	2,143,000	-	-	-	-	-
Spain	Cartagena	D	168,000	-	-	-	-	-
Spain	Algeciras	D	85,000	-	-	-	-	-
Syria	Tartous	M	319,152	18.5+	-	73.5+	34.3+	-
Syria	Lattakia	M	746,851	530	-	-	-	168
Syria	Banias	M	142,564	163	316	-	-	-
Syria	Jableh	M	166,779	542	-	-	-	225
Tunisia	Gabes	M	150,000	1,732	-	320	724	4,860
Tunisia	Lake of Tunis	I	400,000	2,243	4,384	300	26	1,210
Tunisia	Lake of Bizerte	I	250,000	2,687	-	476	118	2,329
Tunisia	Sfax-South	I	395,277	843	1,900	100	40	345
Turkey	Icel area	M	897,813	19,659	32,768	4,916	1,967	29,491
Turkey	Antalya area	D	707,209	15,487	25,812	3,872	1,549	23,232
Turkey	Adana area	M	1,198,285	26,242	43,737	6,561	2,624	39,333
Turkey	Antakya area	D	434,084	9,504	15,842	2,376	950	14,258
Turkey	Bodrum area	D	65,061	1,424	2,373	356	142	2,136

C. Confirmation letter of the Italian Co-Financing to the TEST-MED project

The Permanent Representative of Italy
to the International Organizations
Hohe Markt 8-9
1010 Vienna

1787 DNA Italy/Fin

Vienna, September 10, 2003

Office of the Managing Director
PROGRAMME COORDINATION AND FIELD OPERATIONS DIVISION (PCF)
16 SEP 2003
Log no.:
Action: HA FOR INFO FRM

Subject: Voluntary contributions for the year 2003.

Dear Mrs. Hirose, and dear friend

with reference to the Italian voluntary contribution for the year 2003 (amounting to 4 million €, as per our former communication), we are pleased to confirm the proposals contained in the agreed minutes signed in Vienna on 30.4.03 by the representatives of both Italy and UNIDO (a copy of which I attach for your convenience).

With regard to the utilization of the remaining balance of around 1 million US $, the Italian Ministry for Foreign Affairs intends to allocate it to the ITPO Office in Italy against its 2004 budget.

With my best regards,

Yours sincerely

(Claudio Moreno)

Mrs. Haruko Hirose
Managing Director
Programme Coordination and
Field Operations Division
UNIDO
V.I.C
A- 1400 V I E N N A

Sub-component 2.3: Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries

(GEF 2,450,000 $, Co-financing 3,280,000 $)
Implementing Agencies:
The Programme for the Assessment and the Control of Pollution in the Mediterranean Region (MEDPOL)
The Regional Activity Center for Cleaner Production (CP/RAC)

Background/Context/Rationale

Background

Persistent organic pollutants (POPs) including PCBs are chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of living organisms and are toxic to humans and wildlife. Recognizing the dangers of POPs, countries began in the 1980s to limit their production, use and release, first individually, then on a regional basis.

In the frame of the Strategic Action Plan (SAP) to address Land Based pollution sources, adopted in 1997 under Art. 15 of the LBS Protocol to the Barcelona Convention, POPs including PCBs are covered by the list of substances that have to be eliminated from effluent and emissions flows discharged directly or indirectly into the Mediterranean Sea according to a well defined timeframe ending in 2025. Problems related to POPs have been identified in the National Diagnostic Analysis (NDAs) of most Mediterranean countries, mainly related to pesticides and PCBs. As a result, Contracting Parties to the Barcelona Convention prepared and endorsed in 2005 specific National Action Plans (NAPs) in which they describe the specific interventions planned to be implemented to reduce pollution inputs according to the targets and deadlines of the SAP. The pollution reductions refer to a baseline budget of emissions and releases that was prepared country by country in relation to the year 2003. Reduction and elimination of PCBs is included in the NAPs that were prepared.

At the same time, all Parties to the Stockholm Convention have the obligation, under the provision of Article 7 of the Convention, to prepare National Implementation Plans (NIPs) setting out how they will implement the obligations under the Convention. The Convention obliges Parties to transmit these plans to the Conference of the Parties within two years of the entry into force of the Convention for that Party. Developing countries and countries with economies in transition are eligible to support from the financial mechanism of the Convention for the development of their national plans. In this context, the GEF has approved grants for enabling activities in Albania, Algeria, Bosnia-Herzegovina, Croatia, Egypt, Lebanon, Morocco, Serbia & Montenegro, Syria, Tunisia and Turkey. Egypt, Lebanon, Albania and Morocco have transmitted their NIPs to the Secretariat for the Conference of the Parties. NIP development is well advanced in all the other states. Several states have already commenced the preparation of projects to implement the priorities set out in their NIPs. Morocco, Tunisia and Algeria are participating with other francophone West African Parties to the Stockholm Convention in the GEF-funded project 'Demonstration of a Regional Approach to Environmentally Sound Management of PCB liquid wastes and transformers and capacitors containing PCBs[34]. Project development work under a PDF-B grant will commence in Autumn 2006. Morocco is also involved in a UNDP-GEF Project recently approved for the establishment of waste disposal capacity for PCBs. Similarly, Algeria is being assisted by the IBRD to develop a project that aims to use environmentally sound practices to manage and dispose of PCBs stocked and in use in equipment throughout Algeria; as well as

[34] GEFSEC project ID 2770, implemented jointly by UNEP and the Secretariat of the Basel Convention and executed by the Basel Convention Regional Centre in Dakar, Senegal

to develop a sound legislative and regulatory framework for POPs and hazardous wastes management and build capacity for its implementation and enforcement.

Considering the international context and the similar obligations and activities, this project is considered a milestone in the process of reducing and eliminating PCBs as it will facilitate the implementation of NAPs and NIPs in the targeted countries (Albania, Egypt, Lebanon, Libya and Syria). It will enable the national authorities to acquire capacity and capability to manage the stocks of oils and equipment contaminated by PCBs through an effective demonstration project.

In 1996, the IFCS concluded that available information was sufficient to demonstrate the need for international action, including the preparation of a global, legally-binding instrument, to reduce the risks to human health and the environment arising from releases of an initial list of 12 POPs. Intergovernmental negotiations culminated in the adoption of the Convention text and its opening for signature at a Conference of Plenipotentiaries held in Stockholm in May, 2001. The Stockholm Convention entered into force in May 2004, and now (August 2006) has 128 Parties.

Of the countries of the Mediterranean Basin, the European Community is a Party to the Stockholm Convention as are Albania, Egypt, Lebanon, Libya, Morocco, Syria, and Tunisia, Algeria, Bosnia-Herzegovina, Croatia, Israel, Montenegro, Serbia and Turkey. Only Albania, Egypt, Lebanon, Libya and Syria are targeted by this project since they ratified the Stockholm Convention and have not so far joined any regional project unlike Morocco and Tunisia.

PCBs management is an issue of concern for most Mediterranean countries and relative actions have been included in their respective SAP/ NAPs and NIPs. Priority actions are likely to focus on the introduction of legal and regulatory frameworks requiring environmentally sound management, agreeing and implementing phase-out programmes for PCB equipment, disposing of PCB oils and contaminated oils and equipment, identifying and restoring land contaminated by PCBs.

As a result of the preparation of NDAs and NAPs, country-based assessments and action planning, all Mediterranean countries have identified PCB equipment that continues in service; stockpiles of PCBs-containing electrical equipment; and quantities of discarded equipment and quantities of oil that consist of or are contaminated by PCBs. In the NIPs, national electric companies are identified as the principal holders of this equipment; stocks and waste and so represent the initial focus for work to eliminate PCBs.

Assessment of PCB in the Mediterranean region

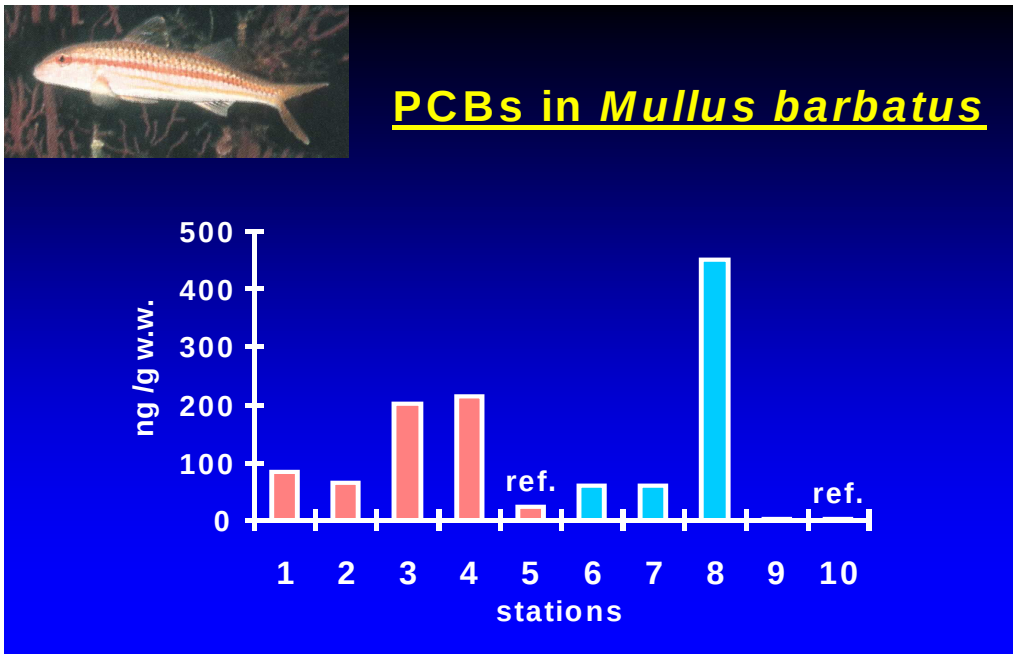
According to the assessment report on PTS in the Mediterranean region prepared in 2002 in the framework of UNEP Chemicals, PCB containing equipment has been largely used. Total PCB production in some of the European countries (France, Italy and Spain) was in the range of 300,000 tonnes, for the period 1954-84. There is a lack of quantitative information concerning the amount and status of remaining stocks of PCB containing equipment. Most of the PCB destruction capacity of the Region is located in France. PCB emissions show a decreasing trend with time in the EMEP countries of the Region. Some hot spots have arisen from the stockage of electrical equipment containing PCBs oils and the destruction of electrical and military equipment during regional conflicts, such as the Balkans and the Israel-Lebanon wars.

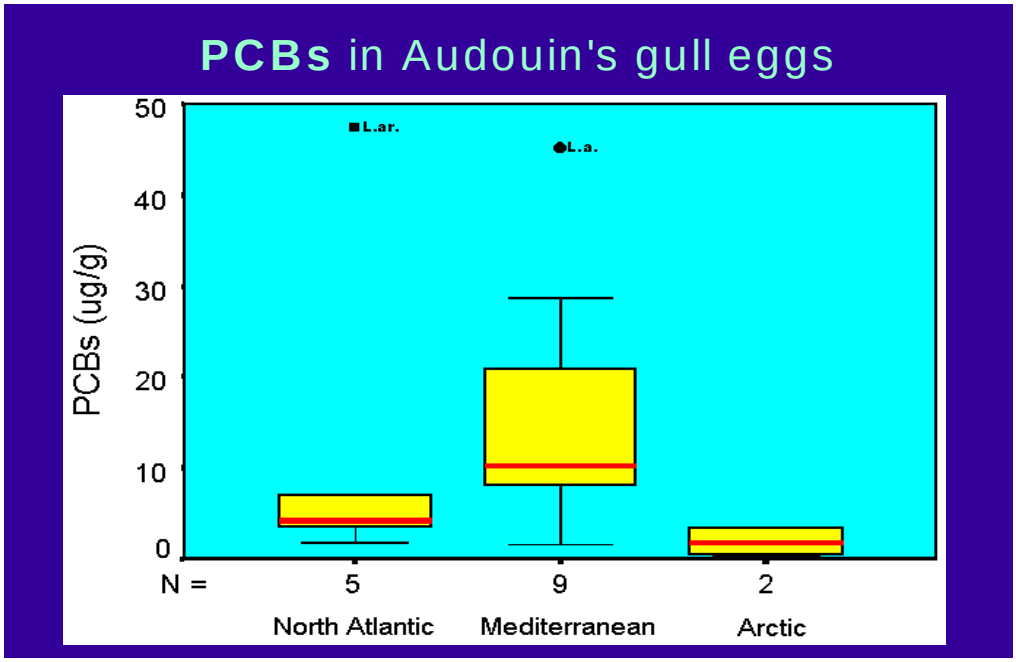
A recent environmental assessment entitled “ASSESSMENT OF THE MEDITERRANEAN SEDIMENTS CONTAMINATION BY PERSISTENT ORGANIC POLLUTANTS” published by Albaiges et al (to be published) concluded that the contamination in the Mediterranean Sea by PCBs, using sediment concentrations as environmental indicators, demonstrated both noticeable trends and gaps of knowledge. However, in spite of this, the analysis conducted with the available data seems to indicate that chemical contamination of sediments by PCBs in the Mediterranean is more a local problem, associated with urban/industrial and riverine discharges,

as well as coastal enclosures (harbours and lagoons) than a widespread issue across the region. In this respect, a number of areas of concern, particularly along the Northern coast, have been identified. In this context, though regional assessment are being rare, the transboundary movement of PCBs throughout the region and at global level via food chain and wet deposition should be highly considered. Furthermore, the analysis of the temporal variation of concentrations indicates a steady input of PCBs in the Mediterranean Sea and the need for an improved management of their potential sources.

The Environmental Risk Assessment (ERA) concludes that a general low toxicity risk for the benthos community by PCbs contamination is expected outside the continental shelf of the Mediterranean. However, some areas of concern were identified in the vicinity of certain industrial locations and in the mouths of major rivers, spotting the need of further ecotoxicological research in these zones in a detailed ERA.

Moreover, few long-term temporal trend monitoring in fish (Mullus barbatus), mussels and seabird eggs (Audouin gull) has been carried out in the Northern Mediterranean. . Results also suggest that atmospheric concentrations of PCBs have remained approximately constant during the past decade due to practically constant inputs.





MEDPOL assessment

In 2001 MEDPOL, in the framework of MAP-GEF project entitled "Determination of priority actions for the further elaboration and implementation of the Strategic Action Programme for the Mediterranean Sea" prepared an inventory of PCBs in the region.

A number of statements could be drawn from the inventory:

- For many Mediterranean countries no detailed information exists on the releases of PCBs and nine pesticides from point sources (industry and urban centres). This could be the result of the lack of monitoring programmes.

- Due to the fact that most of the PCBs have been banned in the majority of the countries of the region, their main sources consist of stockpiles due to import and, more importantly, of the compounds present in the main environmental vectors and reservoirs due to previous chronic usage and accidental spills.

- PCB-containing equipment has been largely used in the region.

- The first regulation on PCBs applied by the EEC is dated 1976, when their use was restricted to closed circuits; the second one, in 1985, when the use of PCB as a raw material or chemical intermediate was banned. Finally, in 1987, PCB was totally banned for use in new closed circuits.

- In spite of the legislation in force, there are still large amounts of PCB in use. This is because in many countries there are exemptions for devices in use for a long period. Moreover, there are stockpiled amounts waiting to be eliminated.

- There is general agreement that the disposal of equipment with PCB containing oils is the main source of PCBs in the region. PCB production and use has been linked to economic development before the use of the substance was banned. Hence, the main stockpiles of

PCB equipment will reside in the northern parts of the region, where appropriate management of the PCB wastes has not been fully implemented.

- There is no uniform information regarding the statistics on actual uses and stocks of PCB's for the countries of the region.

State of the art of the implementation of ESM of PCBs in the targeted countries

Albania

Albania ratified the Stockholm Convention on 4 October 2004 and submitted its NIP on 12 February 2007. The NIP addresses PCBs. In order to respect its commitments vis-a- vis PCBs, Albania proposes the following management options in the 2007-2020 time frame:

1. To elaborate and implement regulation regarding to management, handling, monitoring, phase out and disposal of oil and equipments contaminated with PCBs;
2. To elaborate and implement internal KESH guideline on transformer management, handling and phase out;
3. To train the employees responsible for transformer handling and maintenance;
4. Establish laboratory capacity for analysis of PCBs in transformer oils;
5. Implement awareness raising activities for the concerned public;
6. Gradual rehabilitation of the PCBs contaminated sites;
7. Disposal of mineral oil contaminated by PCBs;
8. Design and put in place a national PCBs monitoring program.

The NIP mentions the following conclusions:
o Low quantity of PCBs oil transformers;
o Most part of them are mineral oil transformers;
o About 5, 3 % of all tested transformers and 6 % of distribution transformers are suspected to be PCBs contaminated;
o Number of transformers manufactured before 1990: 6000 units
o Average weight of distribution transformers (150 of them are substations transformers and 5 850 are electric cabins transformers): 1.5 tons

o Number of transformers suspected to be contaminated: about 320
o Total weight of transformers: 1 100 tons
o Total weight of dielectric: 300 tons
o Total weight of drained transformers: 800 tons

It is estimated that the cost of the implementation of PCBs management options is worth 2.559.350 US$

Egypt

Egypt ratified Stockholm Convention on 2 may 2003 and submitted its NIP on 16 March 2006. In order to respect its commitments vis-a-vis PCBs, Egypt developed the following activities as part of its NIP:
a. Disposal of PCBs
b. Checking transformers manufactured during the period 1955-1977 estimated to contain almost 20,490 kg of oil of PCBs, for the purpose of disposal as well as the number of condensers, manufactured before 1970, which contain PCBs oils.
c. Disposal of equipment polluted with PCBs
d. Disposing of the 3,666 condensers and 26 transformers, that were manufactured during the period from 1955-1977

e. Completing the PCB Inventory (contaminated areas, old loads, including the volume of contaminated soil) at the regional and local levels.
f. Resolving the issue of waste containing PCBs in a comprehensive manner with the goal of establishing a collection system and ensuring safe disposal until an acceptable method of liquidation becomes available.

According to the NIP of Egypt, data received from the Ministry of Electricity and Energy, indicates that no PCBs exist in Egypt so far. However, the results of the preliminary inventory show that the condensers and transformers manufactured during the period from 1955 to 1977 could possibly contain PCBs as shown in the following table.

Number	Type	Description
3666	Condensers	Big condensers manufactured in 1970 with a capacity of 2.5 F / 275 V and 300 F/ 400 V that may contain PCBs. It is estimated (MEDPOL expert) that, in average, each of the condensers contains 20 kg of contaminated oil. Thus the total amount of PCbs contaminated oil is expected to be 74000 kg
26	Transformers	Big transformers manufactured during the period form 1955 to 1977 that totally contain 20490 Kg. of oil that possibly contains PCBs.

Accordingly the total amount of PCBs contaminated oil is around 94490 kg or 94.5 tons.

Lebanon

Lebanon ratified the Stockholm Convention on 3 January 2003 and submitted its NIP on 17 May 2006. In order to respect its commitments vis-a vis PCBs, Lebanon developed the following activities as part of its NIP:

- Prepare a comprehensive Inventory of PCBs
- Develop a plan to phase out PCBs transformers
- Develop and implement a plan for the disposal of PCBs oils and equipments
- Develop and implement an awareness and information programme
- Develop and implement a stakeholders involvement plan

The preliminary inventory indicated that PCBs is present in oils and equipments as follows:

Two old electricity power plants have PCB equipment (estimate of total OIL = 42tons)

Distribution: 16,000 distribution transformers of which many containing PCBs, gradually being phased out. Investigation is needed for 13 tons of PCBs oil, which were imported in 2002.

The Bauchrieh repair shop (EDL) revealed that 14 out of 84 samples proved to contains >>50ppm of PCBs

Libya

Libya ratified the Stockholm Convention on 14 June 2005 and it is expected to submit its NIP on 12 September 2007. No comprehensive national inventory of PCBs has been so far prepared. In 2005 Libya inventoried 2255 tons including of PCBs contaminated oil and equipment only for the western part of the Libya. The inventory were conducted in the following sites:

1 Ber Alganam
2 Tarhuna
3 Al sdada
4 Al Harsha
5 Abukammas

Libya is willing to develop its inventory with the assistance of international organizations.

Syria

Syria ratified the Stockholm Convention 0n 5 August 2005 and it is expected to finalize its NIP by 3 November 2007. An Action Plan is expected to include:

- Public awareness
- Development of a national laboratory for PCBs analysis
- Confinement and disposal of contaminated oils and equipments
- Capacity building programme
- Development of national regulations
- Implementation of a pilot project in a hot spot where 2500 transformers are contaminated.

The total number of the transformer containing PCBs is 1724 and the total quantity of the oil contaminated by PCBs is 1384.25 tons
The total number of transformers (19,604) and the total quantity of the oil (2,990 kg) need verification (national inventory of PCBs –Syria 2005)

Project rationale

This proposal seeks to build on priorities established in the NAPs and the NIPs, and on existing initiatives in some Mediterranean states, to provide a first, harmonized initiative on PCBs that meets the obligations of the Stockholm and Barcelona Conventions and is compatible with requirements under the Basel Convention to which all the Mediterranean states are Party.

There is a need to continue and enhance work begun during national implementation planning and to implement regulatory and institutional frameworks to ensure the introduction and sustainability of environmentally sound management of equipment that contains or is contaminated by PCBs throughout its 'life-cycle'.

The project will address the following:
1) Detailed inventory, national registration and labeling schemes to ensure that equipment containing, or contaminated by, PCBs can be identified and tracked throughout its 'life-cycle';

2) Improved maintenance, servicing and storage operations in order to provide differentiated and environmentally sound treatment and handling of equipment containing, or contaminated by, PCBs;

3) Plans for the phase-out of in-service equipment containing, or are contaminated by, PCBs that meet target dates set in the Stockholm Convention or more stringent national legislation or regional agreements;

4) Disposal operations for equipment already out-of-service and discarded equipment and other wastes containing, or contaminated by, PCBs.

- Programmes of awareness raising and capacity building in sound management principles and requirements for technical staff handling PCB equipment and oils; their managers and industry decision makers; holders of PCB containing and contaminated

equipment outside of the national electrical company, including Government; and members of the Public vulnerable to PCB risks;

- Assessment of sites contaminated by PCBs

5) The development objective or goal of the proposal is to reduce risks to human health and the environment from releases of PCBs.

The purpose of this project are

- to introduce environmentally sound management (ESM) to all stages of the 'life-cycle' of electrical equipment containing or contaminated by PCBs.
- assisting national authorities and owners in developing a sound policy for the ESM of PCBs based on principles of ESM, taking into account the provisions of the SC and the BC.
- creating conditions for a sound decision making process with respect to the demonstration/disposal activities.
- pave the road for the implementation of NIPs through a on-the-job training on PCBs contaminated oil and equipment disposal process.

Objectives/Outputs

The outputs of the project are:

1. Institutional and legal frameworks for implementation of ESM of PCBs;
2. Improved maintenance, servicing and storage operations;
3. Phase-out plans for equipment containing or contaminated by PCBs;
4. Disposal of obsolete equipment in demonstration projects carried out according to Stockholm convention guidelines to ensure environmental safeguards;
5. Technical capacity for ESM of PCBs equipment;
6. Awareness of importance of ESM of PCBs equipment;
7. National capacity to implement PCBs phase-out and disposal programmes.

The project will ensure the environmentally safe disposal of the following quantities of PCBs contaminated oils and equipments:

The total quantity which would be disposed, considering that the cost of disposal of 1 kg is 3.21 $, as for 13 November 2007, is **877.742 kg** or **870 tons*.** The breakdown of the cost at the level of the targeted countries is as follows:

Lebanon	42 tons	for an amount of 133,980 $
Syria	209 tons	for an amount of 666,550 $
Libya	209 tons	for an amount of 666,550 $
Egypt	209 tons	for an amount of 666,550 $
Albania	209 tons	for an amount of 666,550 $

The total of 870 tons is calculated for a disposal rate of 3.19 $ per ton. This total of 2.8 M US$ for disposal (GEF and cash Co-financing) includes the activities as described below under 2.3.2 and also the training for the personnel representing the national authority, private sectors and stakeholders during the overall disposal process under activity 2.3.5

Description of activities, including demonstration and pilot projects

NB The Sub-Component 2.3 "Environmentally Sound Management of equipment, stocks and wastes containing or contaminated by PCBs in national electricity companies of Mediterranean countries" will be carried out jointly by MEDPOL and CP/RAC.
The Activities (2.3.1, 2.3.2 and 2.3.5) described below will be carried out only by MEDPOL

Activity 2.3.1 Legislative and institutional framework for implementation of ESM of PCBs (GEF 500,000 $, Co-financing 450,000 $)

This component will review existing institutional, legal, regulatory and administrative frameworks and technical norms and standards, recommending, as necessary, revised arrangements meeting national, regional and international requirements. Wherever possible, these arrangements will be harmonized on a regional basis to strengthen cooperation and joint working. The component will build close coordination between public regulatory authorities and entities holding or handling equipment containing or contaminated with PCBs in order to secure PCBs and prevent their environmental release.

- Review and improve existing legal, regulatory and administrative instruments;
- Agree on technical standards for reporting, analysis and labeling;
- Develop or upgrade reporting and registration schemes and national databases;
- Agree on ESM standards for PCB equipment in use and in storage awaiting disposal;
- Develop and agree on norms and standards for the assessment and environmentally sound remediation of sites contaminated by PCBs.

Activity 2.3.2 Demonstration projects to improve the management programme of PCBs and facilitate the implementation of NIPs and SAP-MED
(GEF 1,350,000 $, Co-financing 750,000 $)

The projects will be developed through the implementation of three different activities based on the Stockholm Convention guidelines (PCB Transformers and Capacitors From Management to Reclassification and Disposal (2002) and Basel Convention Guidelines.

2.3.2.1 Improve maintenance, servicing and storage operations

This activity will review existing maintenance, servicing and storage facilities available in participating states. Improvements will be proposed to be considered by the relevant national authority and stakeholders in selected pilot demonstration projects. Consultation with owners will be undertaken to develop plans for improvements or revised arrangements compatible with environmentally sound practices.

Activity:

- Select sites and establish pilot facilities demonstrating environmentally sound handling and treatment of PCBs equipment.

2.3.2.2 Phase-out plans for equipment containing or contaminated by PCBs

This activity will be carried out with national electrical company officials to review or develop phase-out plans for equipment containing or contaminated with PCBs, to ensure that they meet the target dates set in the Stockholm Convention or more stringent national or regional agreements. The activity will use criteria set out in the Stockholm Convention as well as available risk management approaches, such as that provided as guidance by the Secretariat of the Basel Convention, to undertake risk-based assessments of in-service equipment containing or contaminated by PCBs. This work will also define likely costs associated with PCB phase out and identify incremental costs over and above normal capital replacement costs. Phase-out planning will then be extended to customers of the national electrical company to ensure that quantities of PCBs held by them can also be secured and disposed properly. Activities will include:

- Conducting risk-based assessment of in-service equipment containing or contaminated by PCBs;

- Developing precautionary phase-out plans that manage risks from equipment compatible with national regulations and with international convention requirements
- Defining costs and incremental costs associated with the phase out plan

2.3.2.3 Disposal of obsolete equipment

This subcomponent will provide detailed inventories of obsolete equipment already off-line and awaiting disposal in order to provide specifications for environmentally sound disposal operations. The component will use existing guidance, such as that prepared by the Secretariat of the Basel Convention, to examine cost-effective disposal alternatives and contract, via open tender procedures, appropriate measures at selected demonstration sites. Cost-effectiveness evaluation will consider, in particular, opportunities to undertake all or part of operations on a national or sub-regional basis in order to build sustainable capacity and retain value from potentially recyclable metal components, minimizing international disposal costs.

Activities will include:

1. Assessment according to Basel and Stockholm conventions relevant guidelines
   1a Assessment of PCBs transformers
   1b Assessment of capacitors containing PCB

2. Request of proposal from final disposal company (ies) of PCBs, (issuing net weight of PCBs, PCB contamination)
3. Request for proposal from shipping company (ies).
4. Request for proposal to ensure the road transport to disposal sites.
5. Preparing the application file according the Regulation 259/93 “Transfrontier shipments of waste in EU and between EU and OECD or their countries and according to Basel Convention (notification process).
6. Setting plan to remove the contaminated units.
7. Providing to the export country all necessary equipment and packaging, material (pumps, drums UN Labels etc…)
8. Getting the import license from import country (30-45 days after to the application date).
9. Performing the emptying of transformers, confinement, labeling and marking of PCBs packs.
10. Getting empty ISO sea containers in demonstration sites, loading the sea container and labeling of packages and containers.
11. Notifying the movement of load to the import authorities as well as the treatment facility.
12. Shipping of containers.
13. Road transportation to the facility of PCB final disposal.
14. The final disposal company treats all PCBs and after, issues a certificate of disposal.

Any demonstrations within the project (e.g. servicing, maintenance, storage and disposal operations) would be required to meet appropriate local and international environmental standards and incorporate suitable safeguards. The project will take advice on these from local and international authorities (for example follow country procedures on Environmental Impact Assessment) and also seek advice from other similar GEF supported projects. Suitable conditions, specifications and safeguards will be incorporated in any commercial tendering exercises. International transboundary movements of PCB wastes as part of disposal operations will be required to be compliant with relevant international rules, standards and guidelines for such hazardous wastes.

2.3.3 Awareness of importance of ESM of PCBs equipment
(GEF 100,000 $, Co-financing 600,000 $: Co-financing from both BCRC Egypt and the participating countries to be confirmed during the Steering Committee*).*

This activity will provide more general rising of awareness of the need for, and principles of, the environmentally sound management of PCBs equipment. Target audiences will be public and private sector actors likely to be engaged in policy and capital investment decision making – particularly in sectors outside of the electrical utility, where electrical equipment is not 'core business'; the waste and recycling sector; as well as civil society, particularly those likely to be vulnerable to PCB risks.

Activities will include:

- Developing communications strategies and materials appropriate to target audience groups;
- Promoting awareness and involvement in phase-out and disposal of PCBs equipment amongst key target groups

This activity will fund public awareness tasks on: (1) governmental bodies involved in PCB management; (2) PCB generators companies; (3) PCB waste management and transport companies (including metal scrappers); (4) PCB treatment companies; (5) Municipalities close to PCB sites; (6) Local communities close to PCB sites; (7) society as a whole, etc.

The public awareness to be undertaken will include:

1. *National PCB Websites*. Development of multilingual public awareness and project information websites to facilitate the main concepts and key messages to the different stakeholders and target audiences (government, power companies, waste management companies, local communities, society as a whole, etc.) (One similar website in each country independent or as part of the National Ministry of Environment website, including Croatia?).

2. *Video*. A PCB awareness video production of about 3 minute duration to be distributed to target audiences (maybe a Croatian version also?), including dissemination.

3. *Brochures*. 10,000 brochures for raising awareness on POPs and PCBs (About 2,000 brochures in each target country, maybe Croatia?), including dissemination.

CPRAC will take into account contributions from INFO/RAC while designing, producing and disseminating PCB awareness materials.

2.3.4 Technical capacity for ESM of PCBs equipment
(GEF 300,000 $, Co-financing 980,000 $: Co-financing from both BCRC Egypt and the participating countries to be confirmed during the Steering Committee*).*

This activity will provide technical training and capacity building in the environmentally sound management of PCBs to the personnel directly engaged in the management of electrical equipment that might contain or be contaminated with PCBs. In the first instance, this component will concentrate on personnel of national electrical companies and the public regulatory authorities but will be extended during the project to include waste and metal recyclers engaged in the reclamation, recycling and disposal of PCBs equipment, and customers of the national electrical company, to ensure that quantities of PCBs held by them can also be properly managed.

Guidance for the implementation of this component has already been developed by the Secretariat of the Basel Convention.

Activities will include:

- Providing training opportunities for maintenance and servicing personnel in best-practices for environmentally sound maintenance and servicing;
- Providing training in risk assessment and precautionary planning for the phase-out of in-service equipment containing or contaminated with PCBs;
- Providing training in the management of disposal operations.
- Preparation of a monitoring system for the management and disposal of POPs operations in Arabic countries.

It is planned to implement the following sub-activities:

1. *PCB capacity building team*. This team will be in charge of the management and implementation of the capacity building activities of the PCB Project. This team is composed by the CPRAC with the collaboration of the SBC (Secretariat of the Basel Convention) and BCRC-Cairo (Basel Convention Regional Center-Cairo). This budget item will cover some necessary administrative-technical support, equipment, accessories, travel, etc. for this overall management.

2. *Establishment of an international and national expert group on capacity building*. Ten (10) International and National consultants will be engaged for project implementation. These consultants consist of one (1) International Chief Technical Advisor (CTA), (1) Assistant for the Chief Technical Advisor (ACTA), five (5) National Technical Advisors (NAT) (one in each country), three (3) Technical Policy Training Experts (TPTE) and a Project Management and Environmental Consultant (PMEC).

    a. The Chief Technical Advisor (CTA, international) or Project Manager will provide overall technical direction and guidance for the project activities. He/she will:
        i. Transfer international experience to this project;
        ii. Manage the capacity building activities and provide technical support on policy development, institutional strengthening, monitoring and evaluation, and development of a follow-on program to share experiences from this project on building capacity issues, and
        iii. Coordinate with the other components of the PCB project.
            1. The CTA will be engaged for 256 days during the building capacity activities to provide professional consultation for all project activities.

    b. The Assistant for the Chief Technical Advisor (ACTA, international) will provide overall administrative assistance to the CTA for the project activities. He/she will:
        i. Help manage the capacity building activities, and
        ii. Help coordinate with the other components of the PCB project.
            1. The ACTA will be engaged for 316 days during the building capacity activities to provide professional consultation for all project activities.

    c. Five (5) National Technical Advisors (NTA) will (one in each target country):
        i. Assist the CTA in the overall technical management of this project;
        ii. Identify key stakeholders and target audiences in each country;
        iii. Coordinate all project activities in each country;
        iv. Provide technical support to all local consulting firms / consultants and engineering companies, and
        v. Provide technical comments on the scheduling and implementation of all project activities.
            1. Each NTA will be engaged for 64 days (totaling 320 days) during the building capacity activities to provide professional consultation for all project activities in the implementing country.

d. Technical Policv Training Experts (TPTE), consisting of three (3) professionals that will contribute to this project in the areas of:
    i. PCB institutional/policy framework;
    ii. PCB generation, waste management, transport, treatment and disposal (power, waste management, metal scrappers and transport companies);
    iii. PCB environmental monitoring, risk assessment and site investigation-remediation;
        1. Each TPTE will be engaged for 37 days (international) and 200 days (all local consultants) during the building capacity activities to provide professional consultation and training for all project activities.

e. A Project Management and Environmental Consultant (PMEC) that will contribute to this project in the areas of:
    i. General planning, strategy and project management
    ii. Technical assistance (T.A.) with the development of technical reports, project and administrative documents
    iii. T.A. with the development of awareness materials such as PCBs websites in the target countries, a PCBs video and PCBs brochures
    iv. T.A. with the design and strategy of the PCBs awareness workshops.
    v. T.A. with the design and strategy of the PCBs training courses.
    vi. T.A. to propose follow-up activities to be financed by the Investment Fund
    vii. Assist to project coordination meetings, Steering Committee meetings, project subcomponent meetings and/ or any other necessary meetings
        1. The Consultant will be engaged for about 50 days during the project the building capacity activities to provide professional consultation and training for all project activities.

3. *Inception ("Awareness") Workshop for the Project*. A half-day PCB awareness workshop will be held in each target country (Albania, Egypt, Lebanon, Libya, and Syria (maybe in Croatia?) for about 100 participants from the different stakeholders involved such as governmental bodies, power companies, waste management companies, transport companies, consulting firms, academia, local communities, NGOs, other participating international agencies, etc. (one workshop in each country).

4. *Target Country Training*. Right after the development of the PCB awareness workshop, parallel training courses will be held in each target country. These parallel training courses will be directed to the key stakeholders in each target country which include at least: (i) PCB management institutions (governmental bodies and municipalities); (ii) Power companies and other industries; (iii) PCB monitoring institutions; and (iv) Companies in charge of PCB cleanup, collection, transportation and treatment (final disposal) (v) Training of Trainers (ToTs), etc. The specific training courses that will be conducted right after the awareness workshop and in parallel sessions are the following:

    a. A training course on Institutional / Policy framework for PCB management (to include the entire PCB identification, legal framework to final disposal process) training for governmental staff. Participants: mainly participants from governmental staff at the provincial, city and county levels. Training materials: These materials - to be provided by the TPTE - will cover environmental sound management principles and related fields of work at institutional/ policy level. Training course: 1,5-2,5 days course (in each target country).
    b. Two (2) training courses on PCB management (from PCB identification to waste management, transport, site monitoring-clean up and final disposal-elimination): Participants: participants from power companies and enterprises having PCB

equipment, waste management and transport companies (oil management companies, metal scrappers, etc.), site monitoring-clean up personnel and final disposal-elimination companies. Training materials: These materials - to be provided by the TPTE - will cover environmentally sound management practices for PCB equipment that are in use and stored, PCBs disposal and other related fields of the PCBs life cycle. Training courses: 1,5-2,5 days courses (in each target country).

2.3.5 National capacity to implement PCBs phase-out and disposal programmes GEF 200,000 $, Co-financing 500,000 $)

This activity will conduct on-the -job training for the personnel representing the national authority, private sectors and stakeholders during the overall disposal process. This strategy would facilitate the replicability and ensure the sustainability of the disposal activities at national level. National experts and technicians from selected national PCBs hot spots will be effectively involved in the overall disposal process. Review meetings will be organize to ensure the transfer of the know how of the disposal process and facilitate the replicability of the process beyond the demonstration sites.

Expected outcomes

- Legislative, regulatory and institutional frameworks for the environmentally sound management of PCBs of participating countries improved and compatible with national, regional and international obligations and targets;
- Maintenance and servicing of equipment containing or contaminated with PCBs managed by national electricity companies in an environmentally sound manner with reduced environmental releases;
- National electricity companies implementing risk-based phase-out plans for in-service equipment containing or contaminated with PCBs; other entities using equipment containing or contaminated with PCBs developing risk-based phase-out plans;
- Cost-effective disposal of out-of-service equipment and PCBs contaminated oils demonstrated at selected sites; replication facilitated through capacity building;
- Technical capacity for the environmentally sound life-cycle management of equipment containing or contaminated with PCBs enhanced in all participating countries;
- Awareness of risks to human and environmental health from PCBs risen amongst key decision makers and vulnerable groups
- Monitoring system for the management and disposal of PCBs as a model to be used to monitor, in general, the management and disposal of POPs.

Strategy for Implementation

The overall management of the project will be incurred to MEDPOL with the cooperation of CP/RAC and BCRC- Egypt making use of their in kind contributions. The co-executing agencies will not charge any overheads for undertaking activities.

The GEF and the in cash contributions of the partners will be used to cover the cost of the disposal, training and awareness activities.

As for the local management of the disposal activities will be under the financial technical and administrative responsibility of the national authority and the stakeholders in the framework of the in kind contribution of the participating countries.

National electrical companies in cooperation with national environmental authorities, MED POL and CP/RAC Cleaner Production Center, will implement demonstration projects.

Since the targeted countries are at different levels of preparation and implementation of NIPs in the framework of Stockholm Convention, the activities included in the demonstration projects will be launched according to different country schedules, i.e. in parallel or after appropriate capacity building or preparatory activities. The demonstration projects will be for Egypt an in important step forward in the implementation of NIP and a contribution for the preparation of the ground for the preparation of a realistic implementation of NIP in Albania, Syria and Libya. As for Lebanon, the World Bank will launch in 2008 a project aiming at building the national capacity in management of PCBs, complete the national inventory and disposal of 25 tons out of the already inventoried 42 tons of PCBs contaminated oils. Taking into consideration this fact, the current project will continue to target 42 tons of PCBs contaminated oils and equipments, 17 tons the rest of 42 tons inventoried in addition to 25 tons which will be inventoried in the framework of the worls bank project, in addition to building the national capacity in ESM of PCBs.

Moreover, considering that the cleaner production dimension in the demonstration projects is crucial, MED POL will work closely with CP/RAC which is the Regional Activity Centre of MAP related to the application of cleaner production. The Center, that possesses long-dated direct working experience with the industrial sector on capacity building, will be responsible for the organization of the project's capacity building programmes as well as the awareness programmes targeting the relevant public and the private sectors.

The Basel Convention Regional Center (BCRC) for the Arabic region, based in Egypt, will be assisting CP/RAC in the implementation of the capacity building programmes and will develop a Monitoring system for the management and disposal of PCBs as a model to be used to monitor, in general, the management and disposal of POPs.

The management and disposal of PCBs in demonstration sites will comprise 5 steps:

-Pre implementation review of the status of the sites vis-a-vis the characteristics and quantity of contaminated oils and equipments

-Preparation of the necessary authorizations and shipments and contacts with disposal companies
- Confinement of the targeted quantities
- Shipment of containers
-Disposal outside the targeted countries (in EU countries).

The activities will be directly carried out by the selected electrical companies with the attentive supervision of MED POL through international experts who will monitor and follow up their implementation and report to MED POL on achievements and bottlenecks.

The plan for implementation will be differentiated according to the level of preparedness of NIPs. The activities included in the current proposal comprise:

- Review of regulatory and institutional set ups (activity 1): it will start in all targeted countries in the first year.

-Demonstration projects and related capacity building programme (activity 2 and 5): it targets the relevant personnel in the demonstration project site and future potential sites. It will start in ALL targeted countries to prepare 5 inceptions reports in the first year. On the basis of the inception information, a fine tuning of the project implementation will be carried out with the contribution and consultation of the national authorities and partners.
Thus, the inception reports will be of utmost importance to the effective and successful implementation of the disposal process to reach the project outputs and targets. MEDPOL with the assistance of international experts will pay great attention to the credibility of the information and data , their consistency and comprehensiveness.

-Capacity building programme (activity 3 and 4) is targeting the general staff of electrical companies, public and private industries, stakeholders and civil society. It will start in all targeted countries in the first year and will be accomplished throughout the project life. It might be finalized before the end of the project. In addition, a monitoring system for the management and disposal of PCBs as a model to be used to monitor, in general, the management and disposal of POPs will be developed throughout the capacity building programme. This activity is in line with the programme of action of BCRC- Egypt which was adopted by the Arabic states parties to Basel Convention.

Risk and Sustainability

The sustainability prospects of the project's technical and policy objectives are excellent. MED POL will ensure through its biannual programme of activities the follow up and the development of additional programmes to address the issues of phasing out PCBs from the region in the framework of the LBS Protocol. In addition MED POL is currently coordinating with the European Union the implementation of the EU initiative to depollute the Mediterranean by 2020 in the framework of EU neighborhood policy which, on the medium and long-term, will directly contribute to the achievement of the project's objectives.

At national level, once NIPs are finalized and approved, GEF eligible Mediterranean Countries, on the basis of the achievements of the present project, would have more chance to access to national and international funds to ensure the phase out process.

The Sustainable finance mechanism for the long-term implementation of NAPs which is proposed as a major activity in the framework of the Strategic Partnership will help bring strategic financial planning and management into the NAP project cycle and overcome the present difficulties of implementation.

The capacities of governments and institutions of the targeted countries will be enhanced through training workshops and the exchange of knowledge and skills thus providing a framework of knowledge and expertise to promote further initiatives in favor of ESM of PCBs and implementation of NIPs.

Active participation of civil society in project activities is a key element towards sustainability. The Public Participation Strategy of this component focuses on building a firm foundation for effective intervention in the region.

Stakeholder involvement

Preparatory activities will include a stakeholder analysis to ensure all necessary stakeholder involvement in the project. Relevant ministries, local administrations, private sector and stakeholders will be engaged in project activities through a participatory approach developed for the overall partnership project.

The participatory approach would be extended to cover regional stakeholders, which have already gained experiences in the matter.

The participation of civil society organizations (with a focus on national and regional NGO networks) is expected to be a key element in achieving greater awareness of the processes and results of the project, greater acceptance and ownership of the processes and their products, increased quality of the outputs (policy documents, project results, products and outcomes), strengthened stakeholder participation and partnership in the implementation of the project and increased potential for the replication of the partnership and activities.

Baseline without GEF intervention

A peer review of the NAPs and NIPs of the targeted countries shows that the action plans described are, by far, over their regulatory, institutional and technical capacities and the capabilities.

Without GEF's financial support, the region would probably witness the current practice of long-term storage of PCBs contaminated oils and equipments without any environmental protection and inappropriate disposal of contaminated metals and oils.

Postponing the establishment of an harmonized management plan for the treatment of contaminated equipment increases the risks of new environmental contamination and of human exposure. PCBs still in use in electrical equipment are at risk of release through fires in electrical equipment; those off-line can release PCBs through leaks and spills. Stocks that are not well protected can be accessed by people wishing to utilize the oils; cases have been documented in various countries of PCB-contaminated oils being used as an "industrial hand cleaner" and for cooking. Repeated exposure to even small quantities of PCBs can cause damage to the liver and neurological and immune systems.

Inadequate handling of PCBs can also lead to emissions of other toxic substances, including dioxins and furans, that are POPs regulated under the Stockholm Convention.

Even if the use and manufacture of POPs is banned, the existence of these types of sources results in continuous releases of contaminants.

Finally, without the contribution that the project will provide, releases of PCBs and its by products into the environment and specially the Mediterranean Sea will continue, taking also into consideration that used oil including oil containing PCBs reach the Mediterranean Sea through the sewage network system and wet deposition.

The baseline cost of the project was estimated as 2.200.000 US $ which is equivalent to 88.000 US$ per year /per country over the whole life of the project (5years). This baseline represents the minimum cost of:

- Confinement process which aims at the reduction of the exposure to PCBs contaminated oils and equipments.
- Storage of equipment in old mines
- Emptying the PCBs liquid for reuse and metal recycling.
- Immobilization in concrete structure.

These practices, in the absence of ESM plan for PCBs, are very common to most of the Mediterranean Countries and their cost of 88.000$/year was estimated on the basis of on going national programmes of activities to reduce the exposure of human to hazardous waste. As a result of the preparation of NIPs countries have to completely review their policy and strategy for the management and disposal of PCBs in order to meet their commitments in the framework of Stockholm Convention. Therefore, the project will pave the road for the proper implementation of the NIPs and reduce the health and environment impacts of non-environmental and unsustainable practices.

Institutional coordination and support

Core commitments and linkages

All Participating Countries are Parties to the Barcelona Convention and are actively engaged in the implementation of the LBS Protocol, the SAP and the NAPs.

All participating countries are Parties to the Basel Convention on the control of transboundary movements of hazardous wastes and their disposal.

All participating countries and the European Commission are Parties to the Stockholm Convention.

The replication strategy adopted in the frame of the overall regional project will ensure the replicability to other GEF eligible Mediterranean countries.

The Barcelona Convention/Mediterranean Action Plan Secretariat-MED POL, responsible for the coordination and follow up of the implementation of the LBS Protocol, the SAP and the NAPs, will execute the project. The appropriate management of POPs is one of the important issues of the SAP to which countries are committed. Management of POPs is also included as a priority action in many NAPs prepared and endorsed by the countries. MED POL is in charge of the follow up to the implementation of the SAP and the NAPs and CP/RAC is also involved as to the management of hazardous wastes. The execution of this component by MED POL in cooperation with CP/RAC will therefore facilitate the implementation of the countries' commitments under the Barcelona Convention and, indirectly, the Stockholm Convention.

The Secretariat is committed through its biannual programme of activities adopted by the CPs meeting to provide assistance to Mediterranean countries to implement the legal instruments, which are in force or expected to be in force very soon. The Barcelona Convention with its amendments entered into force in 2004. 13 Mediterranean Countries have already ratified the LBS Protocol. The implementation of the project falls under the framework of the implementation of this Protocol and its SAP to address Land Based Sources of Pollution.

UNEP is committed to assist its developing country Member States in regard to the Stockholm Convention and to the other chemicals and wastes agreements. It provides support to and houses the secretariats for the Barcelona, Stockholm, Rotterdam and Basel Convention as well for SAICM. A technical branch of the UNEP's Division of Trade, Industry and Economics dedicated to addressing the sound management of chemicals globally supports the last three secretariats.

UNEP is also one the GEF implementing agencies fully engaged in work to support OP14 of the GEF. The GEF has approved Enabling Activities proposals submitted by UNEP for 58 countries, including the pilot project of work in 12 countries. In addition, proposals for Brazil and the Russian Federation that have opted to undertake NIP development via the GEF full project cycle have been approved.

UNEP is also implementing or developing a range of demonstration and capacity building projects geared to support Convention implementation. Many of these are regional or global initiatives that take up common problems of implementation or take advantage of regional working to ensure cost-effective actions and enhanced and harmonized take-up and replication potential. This proposal follows this regional approach and takes advantage of existing and well-established structures under the MAP.

UNEP has committed considerable effort to build its assistance programme for POPs. This commitment is based on a clear understanding that these activities are compatible with UNEP's mandate and corporate strategy and assist towards the Millennium Development Goals.

Continuous consultation and coordination between implementing agencies is foreseen in the framework of the overall partnership project.

Monitoring and Evaluation Programme

Monitoring and evaluation will be achieved through a process based on the performance indicators identified for each of the sub components.

Monitoring and evaluation of the implementation of the activities described under the component and subcomponents will be ensured by a two-step combined procedure.

First, the MED POL reporting obligations to the CPs in which MED POL should prepare half yearly report to be presented to the bureau meeting of Barcelona Convention in addition to the progress report which will be prepared every two years for revision, evaluation by MED POL Focal Points and approval by the meeting of the CPs.

Secondly, MED POL will establish an individual performance evaluation for each of the activities outlined in the project. It will be based on individual questionnaire, which will be distributed to the participants to training courses, workshops and manager of activities at the end of the implementation of each of the activity. Statistical analysis of data and information which will be provided by the questionnaires would facilitate the monitoring and evaluation process and would provide consistent and reliable information for on the spot tuning to increase the prospect of success of the implementation of the project.

Moreover monitoring will be achieved through the overall reporting and monitoring systems which will be established throughout the project management and according to procedures and requirements of the GEF.

Reduction of releases will be monitored through the regular updating of the National Baseline Budget of emissions and releases, included in the MED POL work programme.

Finally, monitoring and evaluation will be achieved at national level through MED POL and CP/RAC focal points and their regional experts. They will provide oversight of the implementation of the activities and will review and approve the reports on the implementation of activities before their submission to MED POL and CP/RAC Secretariats.

Component 3. Conservation of biological diversity: Implementation of SAP BIO and related NAPs

Sub-component 3.1: Conservation of Coastal and Marine Diversity through Development of a Mediterranean MPA Network

Implementing Agencies:
- United Nation Environment Program - the Mediterranean Action Plan, UNEP-MAP
- Regional Activity Centre for Specially Protected Areas, RAC-SPA in collaboration with World Wildlife Fund (WWF)-MEDPO - the Mediterranean Programme Office
- Food and Agriculture Organization, FAO in collaboration with the Secretariat of General Fisheries Commission for the Mediterranean (GFCM) and RAC/SPA

Background/Context/Rationale

The 1995 Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (the 'Barcelona Convention') combats pollution in the Mediterranean Sea. A consequence of the Barcelona Convention has been the development of two Strategic Action Programs (SAPs):

- The Strategic Action Program to Address Pollution from Land-Based Activities (**SAP MED**) – adopted by the Contracting Parties in 1997, related to the Protocol on the Protection of the Mediterranean against Pollution from Land-Based Sources Sea; and

- The Strategic Action Program for the Conservation of Mediterranean Marine and Coastal Biological Diversity (**SAP BIO**) – adopted in 2003, related to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA Protocol).

In particular SAP BIO has provided a mechanism for the Barcelona Convention for the national, transboundary and regional level conservation of the Mediterranean marine and coastal biodiversity, identifying a series of priorities. Despite the successful preparation of SAP BIO, including the preparation of some 63 National Action Plans (NAPs) in 13 countries[35], little has been subsequently implemented at national or regional level. This, together with the experience of the SAP preparation and other related interventions, provides important lessons learned for this project which is designed to assist the country partners implement the prioritised elements of the SAP BIO through the provision of a series of enabling activities at national, sub-regional and regional levels. The main lessons learned include:

- Ecosystem-based management of biodiversity conservation and sustainable use requires a transboundary approach that frequently ranks lower than immediate national priorities. This reduces the political will and funding commitment to what are considered long-term and more defuse actions, irrespective of the global and lasting benefits they might bring.

- An overall Mediterranean-wide regional approach may only be achieved through focusing on homogenous sub-regional areas with similar natural and cultural values. However inequalities in capacity are not so important in area selection, as this presents

[35] In alphabetical order: Albania, Algeria, Bosnia & Herzegovina, Croatia, Egypt, Lebanon, Libya, Morocco, Montenegro, Syria, Tunisia and Turkey. The Palestinian Authority will also participate in this new project.

opportunities for capacity-building from *within* regional sub-units rather than imposing this from *outside*;

- In order to be effective, project demonstration activities need to targeted at definable recipient communities within or adjacent to MPA boundaries and buffer zones where there is a higher chance of success and potential replicability.

- The SAP BIO 'provisions for follow-up' identify the importance of establishing national focal points for the key implementation themes (e.g. (i) critical area conservation and (ii) sustainable use), together with clear responsibilities for both project level and thematic monitoring and evaluation. The preparation of 'National Investment Portfolios' is recognised as a clear precursor for effective country-level support to the project and this is being facilitated by RAC/SPA over 2006/2007.

Overall Objective

The overall development objective of this project is to '*maintain the long-term function of the Mediterranean LME through the use of an ecologically-coherent network of protected areas combined with the sustainable use of renewable marine resources*' (see Logical Framework Analysis in Annex B). This will effectively expand the current MEDPAN MPA management 'network' to include the rest of the Mediterranean in a process that will provide a spatial management tool to prioritise biodiversity conservation and ensure maintenance and enhancement of environmental goods and services, which are essential objectives of integrated coastal and ocean management (ICOM)[36].

Priority action will depend upon a number of short-term measures that will be developed and disseminated through replicable demonstration activities in representative areas of the Mediterranean. Longer-term sustainability will be ensured through (i) a series of targeted capacity-building and enabling activities that will focus on both national and sub-regional levels to improve capacity for policy development and its subsequent transfer into recurrent management, as well as (ii) ensuring the financial and legislative support that underpins their implementation.

To satisfy the overall development objective, the project has two components that are designed to complement the twin thrust of the GEF Biodiversity Focus Area OP2 Program objectives:

Biodiversity Sub-Component 3.1: Conservation of coastal and marine diversity through development of a Mediterranean MPA Network.
Biodiversity Sub-Component 3.2: Promote the sustainable use of fisheries resources in the Mediterranean through ecosystem-based management approaches.

Outputs and expected results

The major expected results expected from the implementation of these two components include:

- The strengthening of the effective conservation of regionally important coastal and marine biodiversity through the creation of an ecologically coherent MPA network in the Mediterranean region; and
- Increasing the ability of coastal nations to utilise coastal and high seas resources through the adoption of the ecosystem approach to fisheries management and the application of targeted interventions to reduce bycatch and other unsustainable fishing practices.

In achieving these results, it is expected that the project will also result in:

[36] Planning of individual MPAs should be participatory and integrated within broader spatial management and economic and social development frameworks to ensure their sustainability and promote creation of functionally-connected networks of MPAs. IUCN Principle 6 (Ehler *et al*, 2004).

- Implementation of the actions prioritised by the SAP BIO project.
- Existing and proposed MPAs will coalesce to form part of a coherent network that exists at both institutional and ecological levels.
- Greater representation of the Mediterranean's vulnerable and critical coastal and marine habitats brought under statutory protection;
- Surface area under national jurisdiction covered by MPA's will be increased from 1% to 5% (starting from 982,600 hectares as zero point);
- Tools and capacity for the management of recognised Mediterranean coastal and marine bio-diversity sites improved.
- Mainstreaming of the ecosystem approach into national and sub-regional fisheries management policies and activities.
- Bycatch of iconic and vulnerable species reduced through improved fishing practises and awareness.
- Unsustainable fishing practises reduced or eliminated in regionally prioritised sites.
- The permanent coordination, monitoring, evaluation and support mechanisms for regional marine biodiversity conservation.
- Innovative approaches to the funding of regionally important existing and future marine biodiversity conservation initiatives in place.

3.1 Conservation of Coastal and Marine Diversity through development of a Mediterranean MPA network

(GEF 42,500 $, Co-financing 13,874,100 $)

The SAP BIO identified, through development of the NAPs, a series of problems that are of regional relevance:

- Management of marine conservation in Mediterranean countries is a matter for the state, with no or poor participation by the local and sub-national administrations.
- Insufficient legal system, lack of adequate legislation
- Confusion of competency, or fragmentation of responsibility (leading to problems of implementation of the existing laws)
- Lack of coordination between administrations, competencies overlap
- Interference with other human activities occurring in the coastal zone, mainly tourism
- Low or no participation of stakeholders and other agents in the decision-making process
- Poor effort to improve public awareness on marine conservation issues
- Lack of effective enforcement measures in some cases
- Lack of effective scientific monitoring
- Lack of sufficient economic resources to achieve the protection measures, so that a number of MPAs receive only nominal management and protection ("paper MPAs")
- Problems of mismanagement and deterioration caused by the limited experience of the people administrating the MPAs
- Lack of effective conservation measures to protect particular species (monk seal, sea turtles, cetaceans, etc.) and/or communities (e.g. seagrass meadows)
- Need to set up a network of MPAs, and therefore define of goals, mechanisms and management organization for such a network
- Need for integrated coastal zone planning and management.

Other identifiable general problems that affect the selection, installation, management and evaluation of Mediterranean MPAs are the following:

- The need to clearly establish the specific goals of each MPA
- Lack of scientific basis for the selection (location, habitats included, depth range, etc.) and design (size, shape, number, proportion of total surface protected, etc.) of MPAs
- Need for appropriate monitoring and evaluation of the effectiveness of MPAs, based on sound sampling designs (e.g. BACIPS, beyond-BACI…)
- Lack of empirical evidence for potentially complex effects of MPAs, e.g. spillover, indirect effect on ecosystems ("cascade" effects), effects on larval replenishment of commercially and/or ecologically important species, genetic effects, socio-economic results, etc.
- Need to ascertain the relationship of MPAs with other management tools.

Within SAP BIO, the setting up of protected areas offshore (including the high seas) to protect pelagic ecosystem and sensitive species and important yet partially unknown benthic areas such as the "white coral community", seamounts and submarine canyons were acknowledged to be a priority.

The objective of the component is to strengthen the conservation of regionally important coastal and marine biodiversity through the creation of an ecologically coherent MPA network in the Mediterranean region. Building upon the existing MedPAN network, a functional network of MPAs, with an active participation of all the categories of stakeholders, established in the 13 Mediterranean GEF eligible countries. (Box 1)

What is a network of MPAs ***BOX 1***

A "network of MPAs is a grouping of protected areas that are linked, either physically through the movement of organisms and/or water or through common management institutions and personnel"
An MPA network is a group of MPAs that, when consider collectively:
Fulfil ecological aims more effectively and comprehensively than individual MPAs can achieve on their own;
Provides for the effective protection of large-scale ecological processes and patterns and;
Effectively enhances the management effects and the social and economic benefits over a broader area.

Why there is a need for a network of MPAs in the Mediterranean

A network of MPAs in the Mediterranean may participate in developing the regional economy and protecting the landscape and biological diversity, but under the following conditions:
- to be representative of the full range of diversity, landscapes, species and habitats;
- to be designed so that the natural processes are respected and the ecosystems services are ensured in the long term;
- to be large enough to ensure the long term preservation of the landscapes, species and habitats;
- to be sustainability managed with proper institutional, financial and technical means at the MPAs level.

Existing networks of MPAs in the Mediterranean

In 1990, the Mediterranean Technical Assistance Programme (METAP) of the World Bank funded the creation of the first Mediterranean Protected Areas Network (MEDPAN). MEDPAN was conceived as a network aimed at promoting the implementation of major priority conservation activities on the ground (marine protected areas), the exchange of experiences among the managers of marine protected areas, and the development of management tools.
The MedPAN network operated from 1990 to 1996, with one thematic seminar and four publications each year focusing on the following themes:
- Analysis, assessment and monitoring of the natural resources at each site; - Public awareness and education;
- Frequentation management; - Development of methodological standards for data exchanges;
- Evaluation of the economic impact of the protected areas.
The lack of human and financial resources has left the network in a dormant state since 1996, but its value was reaffirmed by the United Nations in the spring of 1999, via the Regional Activity Center for Specially Protected Areas (RAC/SPA), based in Tunis.
The Port Cros National Park applied for a new statute for MedPAN in 1999, making MedPAN into a "Loi 1901 association" (recognized non-profit organization under French law) whose administrative offices are

in the Port Cros National Park buildings. The RAC/SPA provides secretarial services for the association, and the executive responsibilities of the network are filled by the Port Cros National Park and the Federation of French Regional Natural Parks.
The statutes of the new association clearly state the vocation of the MedPAN network:
- Enhance the contacts and experience exchanges among the managers of coastal and marine protected areas;
- Assist in the training of managers
- Make the know-how acquired by each manager available to other managers, with the vision of sustainable development
- Develop and support concrete actions for the planning, management and public awareness of a protected area or a group of protected areas
- Enhance the development of coastal and marine MPA's, depending on the skills of each MPA.
In 2001 the Port Cros National Park proposed that the WWF-France Ocean and Coasts Mission take on establishing and raising funds for the MedPAN network.
In 2005, thanks to grant of the EU INTERREG IIIC programme (which funds transboundary cooperation programmes), MEDPAN was reactivated by WWF-France to ensure its original strategic mandate. WWF-France has taken over the Secretariat of MEDPAN, previously provided by the Parc National de Port Cros, France.
As an EU INTERREG Project, though, MEDPAN is currently able to finance activities exclusively in countries of the European Union: managers and practitioners of marine protected areas from non-EU countries are formally excluded from the project.
The revived MEDPAN network, albeit extremely active and successful, is therefore falling short of one of its key mandates: that is to ensure the exchange of knowledge, know-how and good practices on marine protected areas, both for biodiversity conservation and fisheries management, among those areas that are more advanced towards those in greater need for capacity building and training.
The necessity for a network of managers and practitioners from the non-EU countries has been reaffirmed within the current MEDPAN network. Moreover, the opportunity for expanding the network of managers to the south and east Mediterranean is also integrated in the perspective of creating a global network of marine protected areas, evoked in the Convention on Biodiversity (1992) and formally reaffirmed in the Action Plan of the Earth Summit on Sustainable Development in Johannesburg (2002), as well as in the SAP BIO whose implementation is the main objective of the GEF Strategic Partnership project.
The GEF Strategic Partnership project offers thus the unique opportunity to expand the MEDPAN network to include the south and east Mediterranean MPAs, to enhance their establishment and improve their management.
Structure and rational of the sub components
Each sub-component is made up of sections that include activities compatible to the overall project timeframe. The activities identified cover a wide scope of MPAs management issues related to methodological, technical and financial aspects, which make them particularly relevant for the improvement of MPAs network in the region. Emphasis has been laid on training, exchange and regional tools, which appear to be the most essential and useful activities to be performed by the three years of duration of the project. It has also been taken into account the limited human capacity available in each country and the limited time that the managers can allocate to such activities.
As the incorporation of innovative methods for the management of MPAs at local level is of high value for all the MPAs in the region, the project encompasses a number of demonstration projects at local level, which have strong regional interest and are easily replicable in other countries of the Mediterranean region (see INFO RAC "Replication strategy"). It is also important to note that <u>common replication, communication and dissemination methodologies</u> will be developed for the entire biodiversity component through Component IV: (Project Management and Coordination).
So far, the following criteria have been applied, as much as possible, in order to select a preliminary list of adequate MPAs, at the country level, to enhance the regional benefit of the activities:
- Regional: SPAMI status of the MPA; transboundary benefit; sub-regional equilibrium; historical heritage interest;
- National: SAP BIO and NAPs priorities, willingness expressed in implementing them; local national and local interest and context (absence of conflict, low risks, synergies with NGO and other organization activities); absence of previous GEF support to the MPA (considering only the marine part);
- Ecological: Scientific interest; biogeographical complementarities to the region; ecological representativeness;
- Replicability in other MPAs: demonstration value for other countries, sub-regions and regions.

Activity 3.1.1: Establishment of coordination mechanism for regional MPA management

The Regional coordination of MPAs within the Mediterranean LME continues to operate through a resourced and functional unit.

The coordination mechanism coordinates all the activities of the Sub-Component, including joint inception, mid-term, Advisory Committee meetings and final coordination and evaluation activities: overall goal of the project is met through adequate cross-component coordination and linkages.

The Expected results are:
Regional Coordination units established and operating over the project
Overall goal of the project is met through adequate supervision, coordination and linkages
Regional coordination of MPAs within the Mediterranean LME continues to operate through the MedPAN Secretariat
Awareness raised among key stakeholders and the public in general on the values and role of MPAs in ensuring the sustainable management of marine and coastal biodiversity features.
Communication on project events, results, good practices and project opportunities ensured throughout the MedPAN network (in close cooperation with the MedPAN Secretariat and UNEP MAP INFO/RAC).

- *3.1.1.1 Establish and set operative two Project Coordination Units (WWF-MedPO – RAC/SPA)*

A project management capability will be established at the beginning of the project to ensure that the project activities will be managed in a cost-effective manner and that common management issues are addressed together. Two Coordination Units will be created, one at WWF-MedPO premises and one at RAC/SPA premises, in view to ensure project management and coordination, monitoring and evaluation. The assistance and mechanisms provided by these Coordination Units will be disseminated by a combination of workshops and reports, including inception and final ones.

- *3.1.1.2 Organize Inception, Midterm and Final Workshops (RAC/SPA with the support of WWF-MedPO*

This activity aims at ensuring the coordination, the dissemination of results and the replication mechanism of the network. It will encompass two meetings: an inception meeting will be organised at the beginning of the project (it will involve all projects' participants, about 40 people,; a final regional conference will be organised at the end of the project, in one of the 13 Mediterranean countries involved in the project, in order to present the results of the activities (80-100 participants including-decision makers, MPA managers, scientists, NGOs, stakeholders).

- *3.1.1.3 Advisory Committee and SAP BIO National Correspondents meet to supervise and advise the activities (RAC/SPA)* The development of the MPA network will receive proper advice and inputs by the Parties to the Barcelona Convention and relevant international institutions within the region. A meeting of the Advisory Committee will be implemented each year and a meeting of the National Correspondents will be held back to back with the inception, and final workshops. a midterm gathering will take stock of the progress so far made and the eventual need of adaptations to reach expected final outputs.

3.1.1.4: Develop the project communication and information tools (WWF-MedPO throughout the MedPAN network)
To strengthen the MPAs network in the 13 GEF eligible countries, to make it better known and to develop exchanges between the relevant stakeholders in the region: a communication plan will

be designed through the MedPAN association to support the networking of MPAs, a mix of communication and information tools will then be developed, and may include the creation of a new website or strengthening of an existing website, including an Extranet, the edition of an electronic newsletter on MPA management, the development of a MPA document database or clearing house mechanism, the publication of the Directory of Mediterranean MPAs and Management Contacts. The role of the website will be especially emphasized. A Webmaster will be hired. These documents will be designed to meet the needs of the various stakeholder categories (politicians, wide public, scientists and researchers, tourists, fishermen and other users) and will be easily accessible.

This activity has synergies and linkages with MedWet, IUCN/WCPA, Conservatoire du Littoral, Tour du Valat, Plan Bleu, Ramsar Convention, Emerald Network/Council of Europe, ACCOBAMS, INFO/RAC and MEDU-MAP.

3.1.1.5: Raise awareness of key stakeholders on MPAs values and importance (WWF)

This activity aims at promoting the role, of the value and the environmental, social and economic benefits of Mediterranean marine protected areas amongst all the publics concerned. A preliminary assessment will be done on the communications context and needs and the targeted audiences will be analysed. A communications strategy will be prepared by identifying the best communications tools, contents and approaches to be developed. Key stakeholders and target public identified will be awared on the values and role of MPAs in ensuring the sustainable management of marine and coastal biodiversity features through the above developed tools.

Activity 3.1.2: Identification and planning of new MPAs to extend the regional network and enhance its ecological representiveness

This activity will boost a Mediterranean MPAs network extended throughout the Mediterranean in a process that will prioritize protection to regionally important vulnerable areas in coastal areas. The process will commence with the development of an implementation plan that will be developed in consultation with the beneficiary countries. Stakeholder groups and partnerships will then be identified in candidate areas based on existing data, followed by a series of ecological and socio-economic surveys and investigations to characterize these sites. Demonstration projects will be established to carry out a detailed evaluation of their status and management needs and to identify appropriate stakeholder-driven management mechanisms.

The proccess will enhance the representation of Mediterranean vulnerable and critical habitats brought under statutory protection and integrated within a broader Mediterranean MPAs network.

Expected results:
Priority needs to be addressed for MPAs creation in 4 countries defined through on-site international consultants activities in full collaboration with authorities and other stakeholders
The current situation of potential partnership to launch a MPA creation project evaluated on site in three countries.
Existing biophysical and ecological information necessary for the proper choice of new MPAs at country level furnished
A study filling important gaps in ecological knowledge of marine ecosystems in the area, including GIS-based mapping and environmental sectoring and valuation
Existing information on small scale fisheries in the area addressed to the proper choice of new MPAs at country level furnished
Fishery study in relation to MPAs (at national or sub-national level) to fill gaps in fisheries knowledge.- establishing a preliminary description of small scale fishery presence in areas deserving protection

Prioritized list of sites worthy of being protected at the national (or sub-national) level based on the four previous outputs
On-job trained local personnel in three countries on the many aspects of ecological quantification of MPAs ecosystems and related fisheries
Ecological study to filling gap aspects performed, and GIS-based maps produced for three demonstration areas
Fisheries study on fleet locally operating in three potential MPA and surrounding areas performed
Local stakeholders participation mechanisms and consensus achievement in MPAs considered for the new MPA creation

In order to identify and plan new MPAs the following activities will be carried out:

3.1.2.1 Establishment of priority activities needed to create MPAs in Bosnia & Herzegovina, Lebanon, Libya, Montenegro and Syria.

Purpose (Expected outcomes):

- The actual needs and demands of countries concerning the creation of MPAs taken into account

The precise set of activities to be implemented in each country agreed and planned

Expected outputs:

- Report on priority needs diagnosis for MPAs creation in each of 5 countries (Bosnia & Herzegovina, Lebanon, Libya, Montenegro and Syria)

A rapid preliminary assessment is needed in order to elaborate an Implementation Strategy, in which priority activities and actions to be developed are to be decided, in agreement with national policies. International consultant(s team) will visit each of the 5 considered countriesand contact the other ones to:

- Examine, at a preliminary stage, the present national situation to create new MPAs (starting from NAPs and National Reports within SAP BIO), regarding:
  - Institutional and stakeholder / partnership aspects
  - Environmental available knowledge
  - Financial potentiality
- survey (based on interviews to institutions, and local technical workshops) national demands and needs
- Elaborate together with national officers a needs diagnosis for each of the countries

Replicability:

- The methodology put in practice is replicable at the regional level, in the case this (or similar) projects are to be implemented elsewhere.

3.1.2.2 Identification of stakeholder groups and potential partnerships in Albania, Libya and Morocco

Purpose (Expected outcomes):

- To provide the country with the elements needed to plan participation mechanisms as a desirable part of MPA-creation process (including partnership with international institutions and organisations).

Expected outputs:

- A technical report will be produced on the current situation of potential partnership to launch a MPA creation project in three countries (Albania, Libya and Morocco).
- Stakeholder Engagement Plans will be drafted and agreed.

Methodology:

A technical expertise is to be developed to identify Users Groups (organised stakeholders), at the national and sub-national level, likely to participate in integrated management schemes (e.g. Fishermen Brotherhoods, Diver Associations, Tourism Associations, Agricultural Organizations, etc.); to identify possible partnership at the international and national level, in three countries, (Albania, Libya, Morocco) to provide an adequate institutional framework to the participatory mechanisms. The action will take stock of existing MedPAN stakeholder groups to eventually enhance and complement them.

Replicability:

- Methods and results produced in each case will be transposable to other areas in the region

3.1.2.3 Characterization of priority marine sites suitable to become MPAs: country coast assessment in Montenegro Bosnia & Herzegovina and Morocco.

Purpose:

- Countries (Bosnia & Herzegovina , Montenegro and Morocco) where these actions are to be performed will have a GIS-based, ecological and fishery survey of the present situation of their marine areas
- Based on these surveys, countries will have a valuation of marine areas, in order to select the best areas to become MPA, applying for that task internationally agreed ecological criteria, taking into account fisheries communities presence, and precluding wrong targeting of efforts and resources

Expected outputs:

For each of three countries (Bosnia & Herzegovina, Montenegro and Morocco):

- A report reviewing and summarizing existing biophysical and ecological information in the defined area
- A study filling important gaps in ecological knowledge of marine ecosystems in the area, including GIS-based mapping and environmental sectoring and valuation
- A report reviewing and summarizing the existing information on small scale fisheries in the area
- Fishery study in relation to MPAs (at national or sub-national level) to fill gaps in fisheries knowledge.- establishing a preliminary description of small scale fishery operating in areas deserving protection
- A report on the (prioritized) list of sites worthy of being protected at the national (or sub-national Mediterranean) level furnished

Methodology:

Technical assistance by international consulting teams, in collaboration with local teams, will be in charge of achieving environmental studies, whose overall objective is to provide criteria to selecting a marine site to become a MPA with regard to other less significant ones, at the same time that achieving on-job training of the local participants (activity linked with activities to increase technical capacity). The following actions (translated into reports) are proposed for three countries:

<u>A. Ecological survey</u>

- Reviewing and summarizing (at national or sub-national level) the existing biophysical and ecological (benthic habitats, fish and invertebrates, ecological processes important for conservation purposes, main threats and impacts to biodiversity) information in the area.
- Ecological study (at national or sub-national level) to fill gaps in environmental knowledge- establishing a preliminary description of marine areas; for all important aspects, this study will provide:
    - Large-scale (low resolution), GIS-based mapping;
    - Ecological sectoring of national (or sub-national) marine areas, in function of agreed, international criteria.

The Standard Data-entry Form for national inventories of natural sites of conservation interest (SDF), prepared by RAC/SPA and adopted by the Contracting Parties in June 2000, will be used systematically for data recording, using the reference list of marine habitats, also prepared by RAC/SPA.

B. Small scale fishery survey

- Reviewing and summarizing (at national or sub-national level) the existing information on small-scale fisheries in the area (fleet and boat characteristics, spatial and temporal distribution of fishing effort- main characteristics of fishing grounds by gear/métier, historical fishing statistics, characteristics of marine resources, onboard sampling, marketing structure and mechanisms, etc.)
- Fishery study (at national or sub-national level) to fill gaps in fisheries knowledge - establishing a preliminary description of small scale fishery, by assessing in the field all (or part of) the aspects above.

C. Advice to MPA-site selection

From the above information, a report will be produced on the (prioritised) list of sites worthy of being protected at the national (or sub-national) level, and their main environmental characteristics (in a standardised form), including size, taking into account:

- Previously stated MPA objectives and goals (including economic, social, cultural, and/or practical considerations, as well as political judgements);
- Linkage with existing or planned conservation policies;
- Emphasizing the international or national significance for being designed –or potentially included because of reaching relevant criteria, in a list of important zones (SPAMIs etc.);
- Emphasizing the possible influence of events located outside the proposed MPA (e.g. land-based pollution activities) but which might affect the MPA;
- Their adequacy to belong to a regional MPA network, based on clear and concise inclusion criteria

Replicability:

- Methods and approaches to be implemented in each case will be readily applicable to other areas in the region, and methodology and results of marine ecological valuation will be translatable to other areas were preliminary ecological and fishery information already exist.

3.1.2.4 Inception, planning, zoning and development of three new MPAs (RAC/SPA)

Purpose (Expected outcomes):

- Inception, planning, zoning and development (management, monitoring and evaluation) of newly created MPAs within three beneficiary countries (exact locations conditioned to adaptive findings) Island Katici, Platamuni and Old Ulcinj – Montenegro, Losinj Dolphin reserve area – Croatia, Karaburuni – Albania) to be based on sound scientific knowledge.

Expected outputs:

- On-the-job trained local personnel in three countries (Montenegro, Croatia and Albania) on the many aspects of ecological quantification of MPAs ecosystems and related fisheries
- Ecological study to filling gap aspects performed, and GIS-based maps produced for three demonstration areas
- Fisheries study on fleet locally operating in the three countries potential MPA and surrounding areas performed in coordination with FAO GFCM

Methodology:

Technical assistance by international consulting teams, in collaboration with local teams, will be in charge of achieving environmental studies, whose objective is to quantitatively survey the marine site used as demonstration area to become a MPA, as well as surrounding areas, while providing on-job training to the local teams to rise their capacity for their autonomous national future actions (activity linked with activities to increase technical capacity). The following actions (translated into reports) are proposed:

Ecological study (in three demonstration areas) to fill gaps in environmental knowledge - establishing a quantitative description of the marine area to be protected, as well as surrounding areas, by assessing:

- Shoreline geomorphology and land use (by boat-paths along the coast)
- Bathymetry (echo-sounder survey)
- Main seafloor substrate types (underwater aquaplane, skin-diving and SCUBA visual survey)
- Inventory and spatial distribution of benthic habitats (aquaplane surveys, semi-quantitative sampling by underwater visual transects and digital photographic quadrats); special attention will be driven to particularly valuable habitats
- Quantitative survey of fish assemblages (underwater visual census on transects)
- Potentiality of zones for supporting ecological processes important for conservation purposes (potential value for spawning, recruitment, nursery, habitat for important species, etc.), based on available knowledge
- Inventory of main sources of threats and impacts
- Fine-scale (high resolution), GIS-based mapping of main geomorphologic features, substrates, benthic habitats, potentially important areas, and main threats
- Design of indicators for ecological monitoring actions

Fishery study (in three demonstration areas) to fill gaps in fisheries knowledge- establishing a preliminary description of small-scale fishery in the area, by assessing in the field all (or part of) the following aspects:

- Fleet and boat characteristics (by field surveys using questionnaires –directly to fishermen, or in brotherhoods, administrations, etc.)
- Spatial and temporal distribution of fishing effort – main characteristics of fishing grounds (by field surveys as above)
- Analysis of historical fishing statistics (if available)
- Characteristics of marine resources (by onboard sampling and/or landing data)
- Marketing structure and mechanisms (by field surveys as above)
- Design of indicators for fisheries monitoring actions.

The activity could have possible synergies with COPEMED, ADRIAMED, EASTMED, MEDSUDMED, MEDFISIS.

Replicability:

- GIS-based maps, databases and indicator sets have to be co-ordinated at regional level to serve to networking purposes. In this sense, regional mechanisms of data storage and indicator comparability may to be set through his activity.

3.1.2.5 *Identification of stakeholder participation mechanism for the pilot MPAs in Albania, Montenegro, Croatia and Libya*

Purpose (Expected outcomes):

- A critical part of the national MPAs creation strategy defined

Expected outputs:

- A report on local stakeholders participation mechanisms and consensus achievement in MPAs creation produced (Albania, Montenegro, Croatia and Libya)
- Replicable stakeholder participation toolkits developed

Methodology:

A technical expertise is to be developed in the 4 MPA-sites to:

- Identify stakeholders (individuals and organised groups) to participate in the MPA-creation process; Survey needs and demands from stakeholders; Propose participatory mechanisms tailored to each new-MPA demonstration area, considering:
  - Balancing power between partners (stakeholder groups and relevant authorities)
  - Balancing vertical linkages (top-down *vs*. bottom-up) in a nested approach
- Establishing management structures to frame partnership

Replicability:

- Participatory mechanisms and institutional arrangements planned at this stage are going to be transposable to other MPA projects in the region.

3.1.2.6 MPA creation guidelines and teaching packages: practical methodologies to create sustainable MPAs available to managers and practitioners

A considerable number of documents have been already produced worldwide to assist MPA managers and practitioners to favouring, assessing, creating, zoning, planning, evaluating and monitoring MPAs. Nevertheless, it is not the case when approaching the Mediterranean specificity, and even more if we consider existing language obstacles. Capacity building to create new MPAs in the Mediterranean region is to be reached by publishing detailed, practical monographs on relevant topics, authored by well-identified persons and/or teams in the Mediterranean context, through the following actions:

- Review on existing bibliography at the international and Mediterranean level, dealing with MPA issues
- Regional publications are to be produced, and translated into English, French and Arabic, in topics not covered by international / Mediterranean literature, such as: handbook for the management of Mediterranean MPAs; formative kits on MPAs as tools for fisheries management; guidelines for regional coordination – transboundary MPA systems; guidelines to installing material: new systems for enforcement (e.g.

satellite tracking, webcams, etc.); buoys; panels and warns; informative leaflets; etc.); guidelines to organising volunteers staff.

A bibliographic review will be performed during the first year of the project. During the whole duration of the project, 5-10 methodological monographs will be edited and published – and translated to English, French and Arabic (mainly online), by selected well-recognised authors

3.1.2.7: Demonstration Project - Libya: The environmental case for a national network of MPAs in Libya (WWF-MedPO)

Libya is Party to most of the relevant international conventions and agreements related to the conservation of marine resources. Among others, in July 2001, Libya ratified the Convention on Biological Diversity (CBD). Libya has also participated in the drafting of the SAP BIO of the SPA Protocol (Barcelona, 1995). During the 13th Meeting of the Contracting Parties to the Barcelona Convention (Catania, November 2003), Libya stated that the western and eastern regions of Libya are priority for the second stage of implementation of the SAP BIO. Moreover, Libya's National Report, elaborated within the SAP BIO, identified the following major problems in the designation, establishment and management of new marine and coastal protected areas: lack of the basic information required to design, implement and maintain MPAs, lack of capacity on how to design MPAs, no capacity to run monitoring and evaluation systems and perform economic evaluations. The Report underlines the lack of a legal framework, as well as policies and conservation tools, to designate and manage the MPAs as key factors hampering the establishment of new MPAs. Nevertheless, under the SAP BIO, Libya has committed to develop and implement the following National Action Plans (NAPs):

- National Action Plan on proposed new marine and coastal protected areas and national parks, which aims at proposing a legal framework to enhance MPAs establishment, running pilot tests of policies and actions in pre-selected areas and selecting new sites.
- National Action Plan for the conservation of marine turtles and their habitats, which aims at developing and enforcing ad hoc regulations, establishing a national management, research and monitoring program, establishing marine turtle protected areas, promoting education and capacity building, conducting public awareness and information programs as well as strengthening regional and international cooperation.

In 1998, WWF MedPO has placed the coast of the western and eastern regions of Libya among the "last 10 paradises" in the Mediterranean[37]. However, these areas may easily join the ranks of the lost paradises without proper protective measures as urban sprawling, unregulated industrial, agricultural and mass tourism development and intensive fishing activities pose mounting threats on these fragile marine and coastal ecosystems. In July 2004, EGA and the Marine Biology Research Centre (MBRC) of Tajura (Libya), together with WWF MedPO, carried out the first rapid biodiversity assessment of the coastal area of the eastern region of Libya[38]. The survey revealed not only that long stretches of this coast are granted with outstanding biodiversity and unique environmental values (including nesting ground and feeding habitats of important endangered marine species, such as sea turtles and monk seals), but that they are still almost pristine and undisturbed. This is a unique situation in the context of the Mediterranean basin. However, the complete lack of solid waste management systems and waste water treatment plants, the mounting urban sprawling, the uncontrolled extraction of sand from the beaches for construction purposes, the intensive fishing activities (bottom trawling, use of explosives, etc.) and the development of mass tourism are undermining the quality of the coastal waters and shores. Urgent action is therefore needed to establish a representative system of coastal and marine protected areas.

[37] WWF The Mediterranean Marine Gap Analysis (www.panda.org/mediterranean).
[38] WWF/EGA/NBRC (2004) The Marine and coastal resources assessment of the Eastern Region of Libya Background study for the preparation of a Conservation Plan. Environmental General Authority of Libya, National Biology Research Centre of Libya and WWF Mediterranean Programme Office, Rome-Italy.

In September 2005, EGA, MBRC and WWF MedPO co-organized a National Conference on "Marine Protected Areas and Sustainable Human Development in the Eastern Region of Libya" to present the findings of the rapid biodiversity assessment. All relevant local authorities, international organizations, such as UNEP/MAP, RAC/SPA, IUCN, UNDP, and several Governmental Aid Agencies attended the Conference. The Conference convenors recommended the Libyan authorities to give follow up to the international commitments and to the national plans for the conservation of biodiversity by launching an initiative for the creation of a system of Marine and Costal Protected Areas along the coast of Libya, in a context of Integrated Coastal Zone Management (ICZM), to function as the basis for the conservation of biodiversity, sustainable development of fisheries and tourism and rural development. Following the National Conference, in early 2006, EGA, UNEP MAP RAC/SPA, IUCN MED and WWF MedPO signed a Memorandum of Cooperation aimed at supporting Libya in undertaking several actions relative to biodiversity conservation. Within the context of such a MoC, a biannual work plan will be established by the Parties. The agreed work plan for 2006-2007 focused on the following activities: i) launching the process for creating two marine and coastal protected areas; ii) strengthening the legal framework for environment preservation in Libya ; iii) compiling an inventory of marine sites of conservation interest and elaborating a programme for establishing a national network of marine and coastal protected areas - criteria for site identification; iv) the development of a national strategy on waste management ; v) the promotion of sustainable tourism.

In November 2006, the Environmental General Authority, the General People's Committee of Tourism, the Libyan Tourism Development Authority – TDA organized, in cooperation with WWF MedPO, IUCN Med, RAC/CP and with the support of the Embassy of Switzerland in Tripoli, the first workshop on sustainable tourism. Some 60 international and national participants representing government agencies, NGOs, scientists, business, international organisations and research institutions active in conservation, tourism and development shared good practice initiatives from many countries, identifying the necessary steps for implementing an effective sustainable tourism strategy and action plan. Practical measures for protecting the rich biodiversity of Libya, including the protection of areas of special importance were also discussed. Tourism management in coastal and marine protected areas was a main focus of the workshop, as these areas are expected to experience the highest level of structural development. With the Libyan landscape featuring a high diversity from desert environments to coastlines, it could be a major asset for a tourism development that would benefit local communities and conservation aims, as many experts highlighted. The workshop generated specific recommendations addressing inter-agency and inter-sectoral cooperation, institutional capacity building, planning and implementation processes, and public awareness needs.

This demonstration project stems from the above mentioned recommendations and several meetings with the Director and staff of relevant Libyan authorities. The objective is to provide EGA with a strong (economic and ecological) argument in favour of the establishment of a system of coastal and marine protected areas along the Libyan coasts.

Activities

A marine and coastal biodiversity assessment:

- Organize an initial meeting (EGA, NBRC and other scientists and WWF experts) to discuss objectives and current availability of data, and elaborate a plan for fieldwork
- Compile available existing data to be used in producing a map of the communities and habitats of the Libyan coast
- Field assessment to be conducted by the team during an intensive field trip. This trip will involve data collection using standard underwater survey techniques using SCUBA diving

- Develop a GIS database with biological information and a MPA-sitting model run to recommend options for the location of MPAs
- Elaborate a report and a map of the system of MPAs, including areas suitable for low-impact tourism development

The project will provide EGA and NBRC with the baseline information needed to make a strong argument in support to the establishment of a national system of MPAs and the development of sustainable tourism to the benefit of both the MPAs system (financial sustainability) and the local communities.

This project will deliver map of the major ecological communities and habitats of the Libyan coast, focusing on near shore emerged habitats and underwater habitats to 30 m depth. Spatial database on abundance and diversity of major groups of species on the shallow marine ecosystems of the Libyan coast. A Geographic Information System (GIS) database of marine and coastal ecosystems.

Activity 3.1.3: Improved management of marine protected areas

In order to establish a functional exchange network of MPAs in the 13 GEF eligible countries, by engaging managers, practitioners, relevant authorities and stakeholders in the MPAs management process, providing them with the knowledge and tools to effectively manage the protected areas and connecting them with MPAs managers and practitioners of the MPAs in European Union countries.

Expected results:
The capacity of MPAs managers, practitioners and relevant authorities on issues related to the management of MPAs is enhanced through the development of innovative MPA management tools adapted to the specificities of the MPAs in the south and east of the Mediterranean, the sharing of best practices, lessons learned, know-how and experiences, and through on-site technical assistance. A replicable Mediterranean-wide MPA capacity building programme (including yearly regional training workshops (clinics), twining programmes) and a regional database of experts and best practices will be established to last beyond the life-span of the project.

The following detailed activities will be undertaken:

3.1.3.1 Organize 3 Mediterranean MPA Regional Training Workshops for MPA managers, practitioners and relevant authorities of existing MPAs based on the around specific themes, selected among the most recurrent, highest ranked CB needs obtained from a region-wide preliminary capacity building needs assessment (WWF-MedPO)

This activity will start with an assessment (6 month from the beginning) of training needs among MPAs participating in the regional component. The three workshops (around 10 days, 35 participants) are part of a region-wide capacity building (CB) programme, which aims to strengthen the capacity and skills of MPA managers, lead staff, practitioners and officials of relevant authorities/administrations, in the eligible countries, by providing them with the tools and know-how needed to improve the daily management, monitoring & evaluation and financing of the existing MPAs in their country.A Mentor Programme has been developed to strengthen the skills and capacities of selected officers and/or experts from relevant institutions of the countries of the project so they can become professional trainers for MPA staff in the Mediterranean.. A feasibility study to assess different options to institutionalize the regional CB programme will be implemented during the last year of the project and discussed with Mentors, participants to the programme and project's partners.The organization of the thematic workshop will be done in close cooperation with the managers of MPAs of EU countries.

3.1.3.2 Organize specific technical assistance and exchange/twining programmes to provide on-site assistance to new MPAs managers, practitioners and relevant authorities (RAC/SPA)

Purpose (Expected outcomes):

- Capacity of new-MPA staff and practitioners enhanced, including on fisheries aspects (all countries)
- Relationships among local MPA people strengthened

Expected outputs:

- Visits and exchanges celebrated
- Minutes, reports, and joint conclusions elaborated
- Training workshops om MPAs relevance and management held
- Training material prepared, including formative packages on fisheries aspects of MPAs

Methodology:

A way to facilitate the acquisition of these knowledge and skills to new-MPA managers and practitioners is through the organisation of exchanges activities at the regional level, to take advantage of the existing experience in already well-functioning MPAs in the Mediterranean. Also, a regional training course is proposed to introduce MPA practitioners to the use of this important management tool. Further to that, another training course will address the important issue of fisheries management and MPAs. The following actions are proposed:

- Two Training visits in existing MPAs: organising visits of management staff and managers of newly created MPAs (3 people from each ongoing MPA, 20 people, 1 week) to already existing and well-managed MPAs, to knowing in situ challenges, problems and solutions in specific case studies
- Staff exchanges (1-2 people from each ongoing MPA or other new MPAs, 1 week)among newly created MPAs at the sub-regional level to share common experiences and challenges
- One regional training course (20 people, 2 weeks), to be celebrated in one of the eligible countries, to introduce MPA managers and practitioners from selected countries on MPA selection, creation and management issues
- One regional training course (20 people, 2 weeks) to specialise managers on fisheries conservation aspects of MPAs management

The activities will include:

- 2 training visits of management staff and managers of new MPAs (about 3 people from each ongoing MPA = 18-20 people) during 1 week to existing MPAs (to be decided; e.g.: Parc national de Port-Cros; Parque Natural Marítimo-Terrestre de Cabo de Gata-Níjar; Ustica Marine Reserve; etc.)
- Staff exchanges: 1-2 people from each ongoing MPA to other new MPAs (1 week)
- Regional introductory training course: 18-20 people during 2 weeks (it could be combined with one of the visits above)
- Regional training course on fisheries and MPAs: 18-20 people during 2 weeks (it could be combined with one of the visits above)

Replicability:

- Methodology and materials easily applicable elsewhere in the region on the basis of the experience and learning gains. The packages and toolkits will allow a further use in training courses, universities specialisations, etc.

3.1.3.3 Organize specific technical assistance and exchange/twining programmes to provide on-site assistance to MPAs managers, practitioners and relevant authorities (WWF-MedPO)

Targeted technical assistance through the Implementation Agreements (IA), which is part of the follow-up programme of the CB Programme. The IA provides a plan of strategies and activities that each participant to the Regional Training Workshop intends to implement for his or her respective MPA or institution during the 6 – 12 months following the Workshop. The IA is a contract where, on one hand, the participants are committing to implement the agreed activities. On the other hand, the MedPAN South Project commits to provide the necessary technical assistance to the participants to achieve the agreed objectives. Participants can also ask for an Incentive to implement their IA. Incentives can be: i) Technical Support, through experts, exchange programmes, field visits, etc. or ii) Small Grant. Each agreement should help to increase the management effectiveness by resolving concrete problems. A wide variety of operational tools will be developed and used - and eventually adapted - according to the specific CB needs of the participants to the CB Programme.

3.1.3.4 On-job-training for managers, practitioners and relevant authorities in identified demonstration areas, on planning, management and ecological aspects of MPAs (RAC/SPA)

The following actions are proposed:

Organising local workshops (with MPA staff, stakeholders, and external advisors) on planning and zoning the MPA to reach the intended specific objectives and goals, to launch: legal establishment of boundaries; zoning (including defining no-take areas); detailed site planning (by zones); regulation of activities (by sectors of activity–professional fishing, recreational fishing, diving, tourism, education, etc.); day-to-day management (including monitoring and sustainability economic aspects); mechanisms to review and revise management.

Technical assistance: starting from existing experience in well-working MPAs around the Mediterranean, and from the results of the above workshop, giving advice to new MPA staff to:

- Define and develop objectives and goals specific to the selected area to become a MPA
- Properly zoning the MPA, following the steps below: initial information gathering and preparation; public participation and/or consultation - prior to the preparation of a plan (see local workshop, action 2 below); preparation of a draft plan; public participation and/or consultation – review of draft plan; finalisation of the zoning plan

3.1.3.5 Demonstration Project - Turkey: Concerted plan for the management of the marine part of the Kas-Kekova SPA (WWF-MedPO)

Framework

The Kekova SPA lies in southwest Turkey, in the Antalya province, and is located between the coastal cities of Antalya and Fethiye. Starting from Uluburun located east of the town of Kaş and extending to the plains of Demre, it covers a coastal and marine area of 26,000 ha, comprising many islands. The area has an outstanding archaeological value as it was within the borders of the Lycian civilisation which settled around south-west Turkey in 100 BC before it fell under the control of the Roman Empire around 300 AC. Typical Lycian tombs, some located in the sea and the remnants of a sunken city gives the area an historical value out of the common. Besides its

status of SPA established under the jurisdiction of the Authority for Specially Protected Areas (EPASA), established under the Ministry of Environment and Forestry, the area is protected by First Degree Archaeological SIT and First Degree Natural SIT status established under the newly merged Ministry of Culture and Tourism.

Part of the first comprehensive marine survey was carried out in Turkey by WWF-Turkey along a 300 km coastline. The islands and rocks off the coast of Kas and located west of the Kekova SPA were identified as a marine area of extreme richness. Kas is a village known to be one of the most important centres of diving in Turkey. Consultations, both at the governmental and community level, led WWF Turkey to propose the extension of the Kas area to the Kekova SPA, to APSA. The Authority sent the extension application to 13 different government entity having jurisdiction over the marine realm. Approvals were received from all parties. The application is currently waiting for the Council of Ministers' official approval.

The development of a management plan for Kas-Kekova SPA, including mechanisms to insure its financial sustainability is a priority of EPASA. A management plan, developed through a participatory process involving all stakeholder groups, will contribute to the development of the local economy and to the conservation of the landscape and biological diversity of this MPA.
This demonstration project has a special regional interest as it addresses one of the most common issues of MPAs in the Mediterranean: the use of an MPA by scuba divers and other tourists. The project aims to build a partnership among the diving clubs and assist them in developing diving guidelines through a participatory process. The partnership between the diving clubs will be strengthened through a protocol and the establishment of a "Responsible Diver" flag and logo, which will be displayed by all the participating clubs. Once the partnership is established the clubs will develop together the diving guidelines. These guidelines will initiate a management process for the utilization of the area by divers, and will include the design of diving sites, species lists and installation/development of a buoy system. Similar guidelines will be developed to provide a management scheme for daily-tour boats, yachts and artisanal fishermen. A zoning map proposing the limited use of some areas to specific recreational activities will be developed to safeguard some areas.

The project will be supported by a socio-economic analyze highlighting the comparative value of diving in the overall tourism activities of the village. The result will be used to highlight the value of diving for the overall economy and will be used to sensitize the local people for the conservation of the unique marine habitats and biodiversity of the diving sites.

A financial mechanism supported by local stakeholders, involved in various tourism activities, will be developed to ensure the sustainability of the project and create the resources needed for its monitoring.

WWF Turkey is committed to assist the Authority for Protecting Special Areas (EPASA) established under the Turkish Ministry of Environment and Forestry, in developing the management plan of the newly extended area (Kas component) of the Kas-Kekova SPA. As the main users of this area are currently scuba divers, major focus will be given to the management of diving activities. The demonstration project is therefore conceived to develop, through participatory process, guidelines and protocols for scuba divers, which will become a component of the overall management plan of the Kas-Kekova SPA. Similar guidelines will be developed for other recreational activities (e.g. recreational boats, yachting, daily-tour boats, artisanal fishing etc.) undertaken in the area. The development of diving and recreational use guidelines will be done with the technical assistance of the managers of other MPAs in EU countries (twining programme).

Implementation arrangements:

The project will be implemented by WWF-Turkey together with national and local relevant organizations and, particularly, WWF-Turkey will act under the supervision of the Environmental Protection Agency for Special Areas (EPASA), the Turkish authority responsible for the implementations of SPAs.
A Steering Committee was recently established to contribute to the development and implementation of the management plan. The Steering Committee includes representatives of EPASA in Antalya and the headquarters in Ankara, of WWF-Turkey and of each concerned professional sector in the area. The project aims also to develop a partnership with the coastguard to ensure the patrolling of the area.

Project Activities:

- Complementary studies of the marine area of Kaş-Kekova (socio-economic study, a carrying capacity assessment, and complementary marine surveys)
- Development of a GIS database
- Development of the Management Plan through participatory process
- Placement of a mooring systems on vulnerable locations
- Monitoring Plan for flagship species and critical habitats and species
- Planning a system of buoys
- Creation of underwater snorkelling trails
- Capacity building on Management Planning, Business Planning, Snorkel trails, and Monitoring
- Communications activities and awareness campaigns targeting tour operators, fishermen, and local administrations

3.1.3.6 *Demonstration Project - Algeria: Concerted plan for the management of the marine part of the Taza National Park in Algeria (WWF-MedPO)*.

Framework
The marine reserve of the Banc des Kabyles is situated inside the Taza National Park, approximately at 3.4 miles from the nearest coast, and located under national jurisdiction. This MPA include both a land and a marine area. Covering a surface of about 600 ha, the Banc des Kabyles is an underwater mountain hosting all underwater natural habitats, which gives it a primordial scientific interest. Its seascape and biological diversity are outstanding and especially attractive for tourism activities, diving in particular – it has been said that a diving observer feels as though s/he is in a vast aquarium, and essential for fisheries. The Banc des Kabyles is indeed a spawning ground for fish, a nursery for most of them and a refuge area for breeders.
The Banc des Kabyles is included in the List of Specially Protected Areas of Mediterranean Interest (SPAMI List). This list, established under the 1995 Protocol Concerning Mediterranean Specially Protected Areas and Biological Diversity in the Mediterranean, includes sites which 'are of importance for conserving the components of biological diversity in the Mediterranean; contain ecosystems specific to the Mediterranean area or the habitats of endangered species; are of special interest at the scientific, aesthetic, cultural or educational levels'.
The Banc des Kabyles is still in good condition and not placed under major risks of pollution. The area's management problems are linked to fishing, commercial as well as sport fishing and, though this MPA is still spectacular, the seascape and biological richness have lost part of their magical character and interest, as shown by evident signs of local impoverishment.
According to the local authorities (Ministry of Planning and Environment/National Littoral Committee), a conservation approach would consist in the future, in diversifying the role of the Banc des Kabyles, making a wiser use of its outstanding seascape and biological qualities by developing tourism in a sustainable way and avoiding the detrimental effects of mass tourism and unsustainable fisheries exploitation.
This MPA will benefit from the development of a concerted management plan with the local community of users (specifically, the artisanal fishermen) and from the exchange program (twining programme) with the management team of one (or more than one) of the MPAs of the European Union countries.

Objectives:

The pilot project in Algeria aims to support the National Park of Taza (NPT), in the province (Wilaya) of Jijel (north-east of Algeria), in the development of a management plan of the marine area adjacent the Park. The project will assist the Park in producing all necessary documents (dossier de classement) for the official designation of the marine protected area. The project will also promote the involvement of local communities in the development of the management plan and its future implementation. While waiting for the official designation, the management of the marine area adjacent to the Park will be based on the application of existing laws and the voluntary commitment of the stakeholders.

Implementation arrangements:
The local Coordination Unit is hosted by the NPT, which is under the Direction Général des Forets and includes a Chef de Projet, a Project Coordinator and a Technical Assistant. A marine expert was hired to provide technical support to the staff of the park.
A Steering Committee was recently established, including all responsible institutions and stakeholders (i.e. Department of Fisheries Resources, and Tourism, Coast Guard, fishery associations, etc.). Other coastal National Parks and MPAs of Algeria will be involved and benefit of the project's activities and trainings. In addition, the project will contribute to enhance the collaboration between the Direction Général des Forets (Ministry of Agriculture and responsible for National Parks) and the Commissariat du Littoral (Ministry of Environment and responsible for marine and coastal management).

Project Activities:

- Completing required studies for the designation of the marine protected area:
- Complementary analysis of the marine and coastal biodiversity (target fish species, coralligenous and intertidal rocky shores community, seagrass beds, marine birds, littoral vegetation)
- A general socioeconomic assessment of the area with a focus on tourism sector and artisanal fishery
- Creating thematic maps and a GIS database
- Revision of the zoning of the marine area
- Participatory management planning through a series of thematic workshops involving the users of the marine area
- Creation of a centre for cetacean monitoring
- Defining and setting up a system for the monitoring of key marine species and habitats
- Drafting the Plan of Management
- Drafting the technical report for the proposal of PNT as new MPA (dossier de classement
- Communications and media work

3.1.3.7 Demonstration Project - Croatia: Management and M&E plans for the existing MPAs (WWF-MedPO)

The pilot project in Croatia aims to assist the managers of 5 MPAs in developing their management plans. The MPAs involved are:

- National Park Brijuni
- National Park Kornati
- National Park Mljet
- Nature Park Lastovo Archipelago
- Nature Park Telascica

As the Croatian MPAs have similar ecological features, problems, needs and capacity gaps, as well as they share most of the key stakeholders, a common planning approach has been agreed and will be applied. This will ultimately contribute to the creation of a MPA network in Croatia. The project will facilitate the consultation process at site level, provide technical assistance and

build the capacity of the MPAs managers on specific issues such as artisanal fishery management, tourism entrance fees, etc.

Implementation arrangements:
The Pilot Project in Croatia is implemented by the Association for Nature, Environment and Sustainable Development (Sunce) under the lead and supervision of the MedPAN South Project Focal Point appointed by the Ministry of Culture (responsible for protected areas).
A Steering Committee was recently established, including all responsible institutions and stakeholders, and is fully engaged in the project.

Project Activities:

- Information gap assessment for the development of the MPA management plans
- Technical assistance to MPAs managers in the step-by-step development of the management plans through thematic workshops or training on:
    - Legal framework of MPAs
    - Site characterization
    - Stakeholders involvement
    - Defining management targets, threats and actions
    - Monitoring and evaluation plan
    - Business plan and financial mechanisms
- Participation to other relevant training workshops
- Drafting of the Plan of Managements
- Development of final restitution document (guidelines) with the results of the project and the best practices and lessons learned from the development of the management plans of the 5 MPAs
- Networking of the Croatian MPAs managers and relevant institutions and their integration in the MedPAN and AdriaPAN networks – the network of MPA Managers of the Adriatic Sea.

Activity 3.1.4: Ensure the financial sustainability of regional and national MPA networks

In order to secure the financial durability of Mediterranean MPAs through the strengthening of MPAs managers' capacity and skills on financial and institutional issues related to MPA management, the following activities will be carried out that will result in:

Expected results:
Funding processes and mechanisms identified to ensure the sustainability of MPAs. MPAs managers, practitioners, relevant authorities have the capacity to develop business plans and are better acquainted with the financial options for their MPAs. The new MPA of Cap Serrat – Cap Negro has a business plan and a plethora of financial mechanisms identified to ensure its long term sustainability. A national system of MPAs identified in Libya.

3.1.4.1 Financial analysis for the establishment of new MPAs: financial sustainability of new MPAs to be created with a better understanding of fund-raising approaches and opportunities (RAC/SPA).

Purpose (Expected outcomes):

- Financial sustainability of new-MPA to be created supported by having an clear understanding of the financial availability, and planning and exploring additional financial sources in all countries

Expected outputs:

- A report on financial issues affecting MPA-creation and development will be produced

Methodology:
A technical expertise is to be developed to: Identify financial needs and opportunities to create a new MPA; Analyse existing financial tools to allow sustaining newly created MPAs; Planning alternative (or complementary) financial mechanisms to support new MPAs. It is one-year activity by national consultants and/or external advisors to perform the proposed action.

Replicability:
- Methods and results produced in each case will be transposable to other areas in the region

3.1.4.2 Demonstration Project: Tunisia: Establishment of the management unit of the Cap Negro-Cap Serrat MPA, development of the Business Plan and identification of sustainable financial mechanisms for the MPA (WWF-MedPO).

Framework
The Agency for the Protection and Management of Coastal Areas (APAL) has the competence for the creation and management of marine protected areas in Tunisia. The creation and management of MPAs is currently mainly financed through projects, whether financed at national or international level. This activity aims at securing long-term financing for the core activities of MPA management of the Agency.

Business Planning Approach will be adopted. This implies the following actions:
- Defining the financial needs of the Cap Negro-Cap Serrat MPA (business plan)
- Identification and presentation of the conservation finance options to the concerned national authorities
- Two-level coarse screening of the options and identify those that are most likely to be viable (Screen for "elimination" criteria, Screen for goods and services connected to "customers")
- To conduct feasibility studies (financial, administrative, social, environmental, etc.) for one or more mechanisms identified
- To establish and implement one or more mechanisms determined to be priorities

3.4.1.3 Demonstration Project: Demonstrating financial sustainability mechanisms for new MPAs in three different areas (RAC/SPA)

Purpose (Expected outcomes):
- Financial sustainability of the specific MPA project is to be strengthened, by planning financial issues based on the actual national (or sub-national) as well as local situation
- MPA-staff is to be conveniently trained to reach financial and management objectives

Expected outputs:
- A report on financial planning of the ongoing MPA produced
- A training course celebrated, and training material produced and furnished to local MPA practitioners

Methodology:
The most quoted reason for MPA “in situ” failure or ineffectiveness is the lack of financial sustainability. This activity aims to improve the capacity to ensure the availability and cost-effective use of financial resources through identifying and developing options such as environmental trust funds, public/private partnerships and other financial mechanisms. These activities will be conducted through a formal training course and other activities in three Adriatic countries, as follows:

- Identifying potential source of financial incomes to create and launch a new MPA: International sources; National, sub-national and local sources; Private sector; NGOs; People groups; Market-based incomes (fees, etc.)
- Establishing a Financial Plan based on the information above, to establish: Foreseen costs (establishment, administration, employment, monitoring, enforcement, indirect, etc.); Sustainability in the long term
- A training course to MPA staff in financial issues, to be held in situ.

Replicability:

- Financial sources of revenues to fund MPA activities are to be explored, and likely to serve (especially the international mechanisms), in other ongoing MPA projects in the region

Sub-Component 3.2. Promote the Sustainable Use of Fisheries Resources in the Mediterranean through Ecosystem-based Management Approaches

Fishing in the Mediterranean typically involves high numbers of small-scale coastal vessels using trawls, seine, long-line and banned drift nets. Fishing on the high seas targets a more restricted number of resources, particularly straddling and often highly migratory stocks such as tunas and swordfish. Two key issues are attached to fisheries, these being (i) direct over-exploitation of commercial species and (ii) indirect ecosystem effects of fishing.

The direct effects of over-fishing on the target species: the increasing demand for seafood products from Europe in particular has resulted in over-fishing of a number of key commercial species. Many fish species are overexploited (*Anguilla anguilla*, *Epinephelus marginatus*, *Sciaena umbra*, *Thunnus thynnus, Xiphius gladius*, etc.). Those also regularly cited are the cartilaginous fishes, particularly sharks due to their low fecundity and longevity as well as invertebrates species such as sponges, red coral (*Corallium rubrum*) and some crustacean species (such as *Homarus gammarus*, *Palinurus elephas*). However the task for target stock management is considered to be a key baseline activity and is thus not considered as a priority for this project. The only exception to this is where species are considered particularly vulnerable or represent ecological keystone species as considered by the CBD or the SPA Protocol.

Indirect effects of fishing: fishing can impact both target and non-target species through:

- Incidental capture (by-catch), discarding, of ghost fishing by lost gear, etc;
- Increased effort on less valuable resources at lower trophic levels, due to a decrease in the abundance of valuable species higher in the food chain;
- Cascade effects on the trophic structure of the marine ecosystem by the harvesting of top predators, either pelagic (tuna, etc.) or demersal (groupers, sea bass, etc.) species; and
- Habitat disturbance or destruction (with special emphasis on particular habitats, such as *Posidonia oceanica* meadows and maërl beds).

The project's overall development objective is to '*maintain the long-term function of the Mediterranean LME through the use of an ecologically-coherent network of protected areas combined with the sustainable use of renewable marine resources*'. This will effectively expand the current MEDPAN MPA management 'network' to include the rest of the Mediterranean in a process that will provide a spatial management tool to prioritise biodiversity conservation and ensure maintenance and enhancement of environmental goods and services, which are essential objectives of integrated coastal and ocean management (ICOM).

Priority action will depend upon a number of short-term measures that will be developed and disseminated through replicable demonstration activities in representative areas of the Mediterranean.
Longer-term sustainability will be ensured through (i) a series of targeted capacity-building and enabling activities that will focus on both national and sub-regional levels to improve capacity for policy development its subsequent transfer into recurrent management, as well as (ii) ensuring the financial support that underpins their implementation.(iii) liasing with parallel actions through the Barcelona Convention and its partners to improve the legal governance frameworks of marine protected areas

As In order to address these two broad problem areas, the component 2 is to be divided into two Sub-Components that are coherent with the GEF Operational Policy OP#2:

The objective of the Sub-Component is to increase the ability of coastal nations to sustainably utilise coastal and high seas fisheries resources through the application of the ecosystem approach to fisheries and the application of targeted interventions to reduce bycatch and unsustainable fishing. The activities under this sub-component will be implemented by FAO, in cooperation with GFCM.

There are three issues of special relevance regarding organization of fisheries research and management: 1) the harmonization of national fisheries policies with regional and international obligations as it concerns the ecosystem approach to fisheries management, 2) the degree of integration (=coherence) of biodiversity conservation policies and fisheries management policies, affecting policy and decision-making structures, and 3) the degree of effective stakeholder involvement in conservation initiatives related to fishing. These are critical to governance of marine biodiversity conservation, related as they are with the integration of policies, whether horizontally, as in the second case, or vertically as in the first and third ones.
Current research and management structures could be major shortcomings in the integration into national legislation of regional international obligations relative to reduce the impact of fisheries on marine biodiversity and ecosystems. It may be necessary to propose adjustments for the performance of national research and management structures to deliver on the reduction of the impact of fisheries on marine biodiversity and ecosystems, with especial relevance to the structural and functional features of national fisheries and environmental agencies and the integration of fisheries management and environmental protection policies.
Non-compliance with current fisheries regulations is a major and widespread problem in the region. This is a high-level issue underlying many of the problems related to the impact of fishing on biodiversity and critical habitats. Its root causes range from general overfishing and insufficient means for enforcement, to education deficits. Existing legislation is in any case incomplete to ensure the protection of biodiversity and critical habitats. However, it is clear that better legislation alone, without ensuring compliance, will not be an effective deterrent. A multilevel approach to the problem is therefore required. This strategy focuses on improving legislation and compliance-related issues; education being both relevant here, and a major issue, it is specifically addressed by sub component 2.3.2. It must be admitted too that lack of compliance is a general problem in conventional fisheries management, rather than specific to the environmental dimension of fishing. To update legislation and develop mechanisms to ensure its implementation and enforcement in order to protect marine biodiversity and critical habitats from fishing.
This strategy is intimately linked to the conclusions drawn up from the other strategies under other Component 2 activities. If the current strategy is to be implemented effectively, joint working groups addressing this and the other strategies should be created, so that it deals with a specific agenda of relevant problems. These joint working groups should be mandated to identify as well any shortcomings in compliance, enforcement and legislation, preventing the successful implementation of the different strategies. Proposed solutions (including more efficient monitoring, control and surveillance; MCS) should take stakeholders' interests into account and must be designed so as to maximize their active involvement.

Activity 3.2.1: Application of the Ecosystem Approach to Fisheries

In order to assist the countries to improve the capacity development and research, management, governance and legislation for ecosystem approach to fisheries, the following activities will be carried out:

3.2.1.1 Identify needs and priorities for mainstreaming the Ecosystem Approach to Fisheries into fisheries research and management in four countries (Tunisia, Turkey, Croatia, Montenegro)

Consultations with national relevant stakeholders knowlegeable of fisheries assessment and management will be organized to share their information, experiences and views about the needs and priorities for the application of the Ecosystem Approach to Fisheries (EAF) . These stakeholders will include selected focal officials from national fisheries, environmental and science agencies, as well as national scientists and key international experts on EAF. The current fisheries management systems (including research) will be analysed, and needs and priorities for the application of EAF will be identified.

3.2.1.2 Develop capacity and raise awareness for the application of the Ecosystem Approach to Fisheries in four countries (Tunisia, Turkey, Croatia, Montenegro)

The work plans of the relevant fisheries institutions in the target countries will be reviewed. Consultations with these institutions will be organised with the view to reach agreement on priorities for EAF in the work plans, and proposals to explicitly include activities directed towards the implementation of the EAF will be drafted. Also, the institutions will be supported in defining their EAF-related training needs, and training actions on EAF directed at key staff of these institutions will be organized, to increase their capacity to effectively apply the EAF principles to their regular work. Dissemination materials for the EAF will be prepared.

3.2.1.3 Identification and proposal of improvements to legal and management systems to ensure the conditions for application of the Ecosystem Approach to Fisheries in four countries (Tunisia, Turkey, Croatia, Montenegro).

The current fisheries and environmental legislation will be analysed to identify the real shortcomings in legislation at a national level for application of the Ecosystem Approach to Fisheries Management, including the protection of marine biodiversity and habitat integrity from the effects of fishing. Legislation needs will be related to both the improvement of existing legislation and any identified gaps in national legislation, and will be established accounting for (and tailored to) externalities affecting compliance To this end, accompanying measures, including compensatory measures or incentives to enhance stakeholder compliance will be duly considered as appropriate. Proposals for reforms of the legal or management framework will be drafted, as necessary, to address the shortcomings identified.

Activity 3.2.2: Addressing bycatch of regionally important species

In order to create the conditions for reducing the levels of bycatch mortality inflicted by fishing fleets on populations of particularly vulnerable species of fish and invertebrates and on marine mammals (including cetaceans and the monk seal), turtles and sea birds, the following activities will be carried out:

Fisheries are a major threat for protected and endangered species in the Mediterranean. Currently the main goals of the organizations and ministries dealing with fisheries are the assessment and management of exploited fishing resources, usually employing the so-called TROM (target resource-orientated management) approach. Recent developments raise the necessity to generalize this approach to the exploited ecosystem, consequently the EAF (ecosystem approach to fisheries), is being developed and implemented in accross the world.

Despite some attempts to apply various EAF principles to the Mediterranean (particularly by GFCM), the situation is far from being satisfactory.
The direct commercial exploitation of especially vulnerable fish species (such as chondrichthyans in general, dusky grouper *Epinephelus marginatus* or eel *Anguilla anguilla*), causes important conservation problems, as reported in many of the SAP BIO national documents and stressed by IUCN. This is true of other vulnerable species taken as bycatch such as non-target cartilaginous fish, sea horses *Hippocampus* spp., certain gobies of genus *Pomatochistus*, etc. According to the information available, cartilaginous fish deserve priority protection from the effects of both direct fisheries and bycatch. Whilst regional protection under Barcelona Convention has been achieved for the basking shark (*Cethorhinus maximus*), great white shark (*Carcharodon carcharias*) and giant devil Ray (*Mobula mobular*), IUCN highlights particular concern for sawfishes (*Pristis* spp; critically endangered status), sand tiger sharks *(Carcharias taurus* and *Odontaspis ferox*; critically endangered status) and gray skate (*Dipturus batis*; endangered status). The effect of fisheries on eel, dusky grouper and sea horses (listed in annexes II and III of SPA Protocol of Barcelona Convention; the two latter taxons listed in IUCN Red List as well) is also of particular concern.
Vulnerable invertebrates are also subject to commercial exploitation throughout the Mediterranean, as are red coral, some sponges and the endangered mollusks noble pen shell (*Pinna nobilis*) and sea date *Lithophaga lithophaga,* the two latter being already protected under the SPA Protocol of Barcelona Convention (several endangered sponge species are also enlisted in Annex II). In some cases the very survival of individual populations of these species may be at stake. Given that the survival of individual populations is in many cases intimately linked to the conservation of associated critical or vulnerable habitats, the different strategies or Components should be closely interwoven.
Vulnerable, non-target species of cetaceans, turtles and seabirds are victims of unselective fishing practices involving a large array of different fishing gears in the Mediterranean. Marine mammals, sea turtles and seabirds are not harvested commercially in the Mediterranean. Although direct fishing effects (bycatch mortality) are the immediate factors affecting populations of vulnerable non-target species, it is also true that indirect effects, particularly those related to changes in trophic availability, also influence the chances of survival of some groups and species.It is important to mention that fishing effects on cetaceans, sea turtles and sea birds are relevant issues at the pan-Mediterranean level. This is not the case, however, for the monk-seal, for which the fishing-related impacts on its population are a real issue only for Turkey given its restricted current distribution in the Mediterranean.
This component fully addresses the integration of biodiversity conservation and fisheries management policies.

3.2.2.1 Risk assessment to prioritise fishing threats to vulnerable fish and iconic vertebrate species in two countries (Morocco, Tunisia).

One or two fishing métiers per country will be selected for further work. The main vulnerable and iconic species affected by these métiers will be identified, from the GFCM priority groups/species list.
The main patterns of bycatch of these species in the selected metiers will be identified and described, including the areas probably concentrating the bulk of evidences of fishing impacts (hot spots).
Finally, this information will be analysed to identify potential threats to the selected species from commercial fisheries. The importance of each threat will be evaluated with respect to the viability of the impacted populations, including the estimated total annual catch, the size of the population, the protection status of the species, its biological vulnerability and other criteria, as necessary.

Basic information will be obtained from bibliographic reviews and expert knowledge, supplemented where necessary by a field survey to be developed along selected countries' coastal areas concentrating the bulk of accumulated evidences of fishing impacts on the species identified. Where necessary, more detailed estimates of the main temporal and spatial patterns of this bycatch will be obtained through a 1-year survey based on information supplied by the fishing sector, through agreements with fishermen organizations and selected fishermen, supplemented with regular field monitoring.

In this work, particular attention will be given to make the most use of information already being collected by other organizations like RAC/SPA, ACCOBAMS or national research institutions.

3.2.2.2 Develop and test demonstrable solutions to bycatch mitigation for protected / endangered species of fish and invertebrates and/or for iconic vertebrate species in one country (Tunisia).

A particular area and métier(s) will be selected, based on the results of the previous activity. A site-based demonstration project for the reduction of the bycatch levels will be designed for this area-fishery combination and tested for at least one full fishing season. Spatial and temporal fishing restrictions in critical areas will be particularly considered, together with technical measures, if they are judged appropriate for the particular métiers analysed. Adequate dissemination actions and materials will be planned and organised as an integral part of the work.

The demonstration project will be implemented through an adaptive approach with the involvement of directly concerned stakeholders, in close cooperation and basing itself on the results already obtained by research programmes being carried out or planned in the country, as adequate in cooperation with other existing regional initiatives. The national fisheries staff will be supported by appropriate international consultants, if and as necessary, to achieve the objectives of the activity.

Activity 3.2.3: Supporting fisher's participation in monitoring and management of coastal MPA's

In order to reduce unsustainable fishing still present in some Marine Protected Areas (MPA's) of the Mediterranean, to raise fishing stakeholders' awareness on negative effects of excessive fishing on the ecosystem biodiversity and productivity and to enhance their capacity to participate in fisheries management activities, especially at sites declared as coastal MPA's, the project will carry out the following activities:

Most of the fishing activity in the Mediterranean is classified as artisanal and/or small-scale, that deploy an important fishing effort in the coastal areas. Most (all??) of the areas classified as Marine Protected Areas (MPAs) in the Mediterranean are located in the areas exploited by these fisheries, often with a high degree of overlap. This situation leads to frequent conflicts on the use of these areas, with a particular emphasis on intensive fishing activity conflicting with conservation purposes. It is now widely recognized that MPA's can only be successful if directly affected stakeholders, especially fishing communities operating in the area, effectively support the measures, and participate in its management.
However, to date attempts to involve fishers in the support and management of MPA's have provided mixed results, and most attempts have not produced positive results. Enhancing fishing stakeholder's participation in the management and protection of these MPA's requires understanding the drivers behind fisher's decisions, and of which conditions could drive fishers to support the operation of these MPA's, and devising approaches adequate to these drivers.
Apart from specific education contents, this strategy should deal with educational approaches tailored to the shared social and cultural features of fishing stakeholders (especially fishermen) in the Mediterranean. A critical and socially and culturally sensitive analysis of the effectiveness of previous attempts to engage stakeholders in good practices in the field of fisheries is essential.
Stakeholder involvement in fisheries-related 'good practices' is not only an issue of environmental protection but also an element of conventional rational fisheries management. Deficits in awareness and capacity extend to wider aspects of relevance to target-resources fisheries management too.

A specific coastal MPA will be selected for carrying out the work, taking care to select one where there is already good contact of the FAO projects, or of the national fisheries institutions, with the fishing communities.

3.2.3.1. Participation of the fishing communities on the monitoring of fishing activities.

The first element in building confidence in the fishing community is supporting their participation in the monitoring of their own fishing activity. This must be done progressively, to ensure buy-in, and will be done by the MPA management team, with project support.
The purpose and main aspects of the activity will be presented to the community, individual fishers who can participate in the actual monitoring will be identified. A group of experts will, in collaboration with the community, elaborate guidelines, technical manuals, training content and appropriate survey material.
After the selected fishers have received training and the necessary toolkit, an expert team will support the fishers to test the system and make any necessary improvements.
A regular system of gathering input and data analysis will be updated on the basis of the existing system.

3.2.3.2. Diffusion of the scientific results

An essential element to ensure community buy-in is the regular restitution of the research results to the community, so that it is possible to see the utility of the process. The format of the summarized data to use for this restitution will be defined, and after the data are processed, a team will be composed to present the results to the community. From the second year and with a yearly basis, the results will be presented and appreciated jointly by fishers and scientists in a workshop.

3.2.3.3. Concertation mechanism for the elaboration and implementation of management measures

During the third and fourth years, a yearly workshop (with the participation of representatives of fishermen, research, fisheries institutions and representatives of the AMP) will be organized to identify and develop proposals for sustainable management of fisheries in AMP. Proposals will also be developed on the participation of fishers in the implementation, monitoring and control (MCS) of identified measures.

Finally, a team of experts will analyze the results of the workshops and the legislative context at the MPA and national level, to develop proposals for the creation and recognition of a specific MPA management advisory committee, including fisher's representatives.

Risk and Sustainability

Risks

The long-term durability of regional scale MPA network programmes depends on the political willingness of participating countries to cooperate and to continue activity programmes and approaches after the life of the GEF intervention.

The situation will be appraised regarding three aspects:

Financial aspects: The overall management of the biodiversity activities will be assumed by WWF MedPO, (which is part of WWF International), as well as by RAC/SPA and FAO/GFCM. These organizations have the capacity and the skills to manage project activities in order to reduce risk to the donors. Their internal systems of finance management, budget control and accountability are fully transparent and have shown a high professionalism over the years.
Institutional aspects: WWF MedPO, RAC/SPA and FAO/GFCM are committed in the activities embedded in SAP-BIO and regularly cooperate with the Mediterranean countries, the three have a solid institutional core which guarantees a high standard of administrative organization.

Technical aspects: The links between the three institutions and the national partners in this project are very close and have a long history of mutual cooperation. Moreover, RAC/SPA and WWF-MedPO show a high level of expertise in PA management at international level, the former at Mediterranean scale, which is the focus of this component, the latter also elsewhere in the world. The activities proposed will certainly take benefit of the scientific and technical experience of the WWF network, the RAC/SPA and FAO roster of international consultants and partner scientific institutions. Lastly, this project help to enlarge the existing cooperation between the same partners, on the subject of MPAs, as well as with the other international organizations working in the field of MPA management in the Mediterranean region;

Moreover, each participating country has developed a legal and institutional framework for nature conservation and is Party to various international conventions (See Section 1.2) to protect biodiversity, marine resources, international waters and wetlands, among others. Their commitments are reflected in national policies and legal arrangements.

The MPA activities will focus on developing capacity at the regional level from which other ongoing activities can be launched and will nurture existing frameworks. It will also concentrate on the development of sustainable financing mechanisms, economic instruments, and the possible creation of innovative financing tools to help achieve sustainability of the MPAs financial needs in the selected countries and consequently keep the level of the risks as low as possible.

The success of the application of the ecosystem approach to fisheries strongly relies on the real political willingness of national governments to perform an internal critical assessment of the efficacy of national management structures (both dealing with fisheries and environment protection) in the limitation of the impact of fisheries on marine biodiversity and ecosystems. This includes the always-sensible issue of internal coordination among different governmental structures. The major risk is clearly political reluctance to such a genuine internal assessment. The same applies to the effective involvement of stakeholders, a major risk being a poor interest of national governments on sharing policy and management responsibilities with civil society.

The actual level of compliance with fisheries regulations and the identification of major shortcomings in monitoring, control and surveillance (MCS) mechanisms are also key aspects to the success of the activities.

The effective involvement of fishermen is essential to the success of bycatch reduction, including for the initial identification of the priority metiers requiring immediate remedial action. A successful stakeholder engagement approach is critical. The adequate design of mitigatory and diversification measures for affected fishermen are also a crucial element. Besides, the fishing performance (with respect to target fish species) of technically improved fishing gears to reduce bycatch of vulnerable species will also be key to the success of the approach.

For the effective reduction of harmful fishing practises, the full engagement of fishermen is essential.
This is key to identify the main hot spots regarding the use of particularly harmful fishing practices and also to understand the main socioeconomic elements necessary to implement a successful remedial intervention (phase out plans, etc.). The success of phase out policies will depend on the adequate use of MCS mechanisms, at least during the initial implementation phase of the strategy, and on the adequacy of phase out plans from the point of view of the socioeconomic reality of the target coastal communities (i.e. including livelihood diversification measures for an interim transitional period as necessary).

The approach developed for the identification of priority areas is critical for the successful development of this action. In this sense, the involvement and full cooperation of stakeholders (fishermen) and the adoption of a rapid appraisal approach (adapted to a data-poor situation) for the cartography of hot spots regarding the impact of towed gears on critical habitats is particularly

crucial. The latter is particularly important to ensure a cost-effective and practical low risk approach.

Furthermore, GEF financing for the full sized project will facilitate to reach a “critical mass”, facilitating the engagement of countries and other donors to contribute to the implementation of priority SAP BIO activities, which had not been yet financed after the adoption of that SAP back in 2003.

A strong indicator of the regional commitment is also based on the contribution of the other regional programs and initiatives to the MPAs promotion (MedMPA, MedWet, IUCN Mediterranean programmes, etc). Contacts and exchange have been taken with most of them during the preparatory phase and synergies have been sought so as to avoid duplications and to optimize the results.

In conclusion, the level of risk of this GEF-initiated program and activities related to it’s ending after the life of the project is also seen as low.

Sustainability
Sustainability of MPAs networking will be enhanced by a progressive transfer of project leadership, overall project management and outcome production directly to the MedPan coordination unit which will be designed to exist and running at the end of the project with wide stakeholders’ participation. Stakeholder participation has been recognized as an integral part of the project preparatory phase and will continue to be emphasized during the development phase of it. Most of the activities will need the close participation of the managers and other stakeholders committed directly or indirectly in the MPAs management. In addition, the following comments can be made:

- A substantial proportion of the proposed project activities on MPAs are designed to raise national and local capacities for MPA management.

- It is anticipated that the project activities will strengthen the influence of the involved ministries and hence encourage great opportunities to increase budgets and the concern of the departments in the future. So, it can be reasonably expected from the project, a sustainability of activities and components beyond the life of it.

- Each of the participating countries has developed a legal and institutional framework for nature conservation, and is signatory of international conventions to protect biodiversity, international waters and wetlands, among others. These international commitments are reflected in national policies and legal arrangements. All have adopted the SAP BIO programme.

- The Project falls under the broad policy guidance of the Barcelona Convention through the MAP. It coordinates its objectives and activities with the mandated institutions in place (e.g. the Ministries of Environment).

- Subcomponent 1.1 is focused specifically on setting up a regional MPA coordination and facilitation centre that is self sufficient once the project inputs cease.
- The project activities will not try to substitute the national and local capacities, but to identify these opportunities and mobilise these capacities towards the achievement of the project objectives. A substantial proportion of the proposed project activities themselves are designed to raise national and local capacities for MPA management. It is anticipated that the

project activities will strengthen the influence of the involved ministries and hence encourage substantial opportunities to increase budgets and the concerned departments in the future.

With regard to fisheries, sustainability of improvement in governance at a national level will always depend on political willingness, as it concerns high-level political issues such as internal coordination among agencies. However, once the resulting legal and managerial reforms envisaged in this strategy are adopted they will likely last in the long-term.

The socioeconomic sustainability of bycatch reduction plans in the hot spots will be crucial for the long-term sustainability of the project, as it will be the degree of environmental awareness of fishermen and the firm commitment of the national authorities (including the adequate implementation of MCS actions as appropriate) to avoid the return of the undesirable impacts. The legal protection status of many of the species covered by this strategy and the international requirement (under FAO IPOA-SHARKS) to develop national action plans to protect sharks will no doubt contribute to keep the commitment of national government to the sustainability of this strategy.

The sustainability of the strategy to address harmful fishing practises relies on the adequate completion of phase out plans, especially vis-à-vis the consolidation of alternative income sources, as well as on the degree of engagement of stakeholders in the process. At a higher level, it depends on the political willingness of national governments to comply with international legislation; the consolidation and strengthening of GFCM and Barcelona Convention will no doubt contribute reinforcing this commitment.

Sustainability of improvements in governance at national level will always depend on political willingness, as it concerns high-level political issues such as internal coordination among agencies.

Regarding financial sustainability, although the annual financing needs for MPAs in the 13 selected countries have been estimated at around USD 300 million, the existing allocations cover around 20-30 million a year, roughly 10-15 million from national budgets and other 9-15 million from international donations (see details in Annex C). However this situation may seem weak, ODA Agencies may be particularly interested in matching more long-term, programmatic and networking proposals as SAP BIO, particularly when highlighting the ecosystem services and linking to sustainable development and poverty alleviation targets on coastal zones. On their side, market-related sources are also a major opportunity in this region, with over 120 million annual visitors to its coastal areas, being coastal/marine PAs a highly valuated asset; most particularly the recreational diving is showing successful self-financing examples from Egypt and from southern EU countries.

A substantial proportion of the expected co-financing by governments is derived from the existing staff and recurrent budgets of the involved ministries, mainly the Ministries of Environment, and other governmental departments. All in all, the chances for matching this Project needs and for sustainable financing must be considered high given the total GEF Full Project contribution for MPAs is much less than what the 13 beneficiary countries are already spending through their recurrent allocations to protected areas. The main funding opportunities are national budgets from the Ministries of Environment in the beneficiary countries. National governments may tap on their national Environmental Funds.

On the other hand, each country can produce proposals to either the Governmental biodiversity foundations in France *(Conservatoire du Littoral)*, Italy *(Federparchi)* and Spain *(Fundación Biodiversidad)* or to the ODA Agencies traditionally supporting the biodiversity conservation in the Mediterranean (France, Germany, Greece, Italy, Spain, Switzerland and the EU).

Linkages with other programmes and initiatives

There are already a wide number of activities at both national and regional levels to promote the conservation and sustainable use of marine and coastal biodiversity. These include, in no particular order, the following initiatives:

EC Natura 2000: European ecological network composed of sites hosting (i) natural habitat types listed in Annex I of the Habitats Directive and (ii) the species listed in Annex II. This is currently limited to coastal sites but is expected to be expanded offshore in the near future.
Emerald Network: a *de facto* extension of Natura 2000 to non-Community eastern Mediterranean counties, designs 'areas of special conservation interest' (ASCIs) and was launched by the Council of Europe as part of its work under the Bern Convention.

EuroParc: is the umbrella organisation of Europe's protected areas. It unites national parks, regional parks, nature parks and biosphere reserves in 38 countries, with the common aim of protecting Europe's unique variety of wildlife, habitats and landscapes.

Pan-European Ecological Network: PEEN essentially links core Natura 2000 and Emerald Network areas physically through the restoration or preservation of corridors.

Network of Managers of Marine Protected Areas in the Mediterranean: MedPan is an EU Programme Interreg programme (2005–2007) co-ordinated by WWF-France. It brings together 23 partners from 11 countries around the shores of the Mediterranean, of which 14 partners are European (from France, Italy, Greece, Malta, Slovenia, and Spain) and 9 partners from non-European countries (Morocco, Tunisia, Algeria, Croatia, and Turkey) to manage more than 20 marine protected areas and are working towards the creation of several new sites. The basic aim of the network is to facilitate exchange between Mediterranean marine protected areas in order to improve the efficiency of the management of these areas.

Fisheries management is also essentially a recurrent baseline activity. At national level, fisheries administrations seek to manage their fisheries through basic single stock management, effort control and technical measures with varying degrees of enforcement. Fisheries research echoes this, with a focus on the basic biological parameters of key commercial stocks, but rarely widens this to the ecosystem level. On a regional basis, the **General Fisheries Commission for the Mediterranean** (GFCM) seeks to (i) promote the development, conservation and management of living marine resources, (ii) formulate conservation measures, (iii) and encourages training cooperative projects. The GFCM regularly organises workshops and working groups within four sub-committees on (i) stock assessment, (ii) ecology and environment, (iii) socio-economics and (iv) statistics. There is no direct budget for scientific research but the GFCM coordinates and facilitates work conducted by research institutes belonging to member states, who will allocate their own funds to programmes of mutual interest. Within the Mediterranean, various sub-fisheries management projects have been implemented with FAO technical support, including **COPEMED** (Morocco, Algeria, Tunisia[39]), **EastMed** (Egypt, Lebanon, Syria, Turkey, Israel), **AdriaMed** (Albania, Bosnia, Croatia, Serbia & Montenegro, Slovenia) and **MedSudMed** (Libya, Tunisia). Activities being carried out through these projects are aimed at improving the capacity of countries for carrying out sustainable fisheries management according to the Ecosystem Approach to Fisheries, acting mostly on the improvement of national capacity for collecting and analysing fisheries statistics (catch, effort & landings), for carrying out biological investigations and for capacity-building efforts at national and sub-regional levels.
It is important to note that whilst standard catch/effort and biological investigations are recurrent activities being undertaken by the coastal nations, at present they rarely include the wider Ecosystem Approach to Fisheries management. Having formulated the Code of Conduct for

[39] Non-eligible countries excluded from listing

Responsible Fisheries, FAO is a global leader in the development of the ecosystem-approach to fisheries management and – together with its sub-regional projects and partnership arrangements - is ideally placed to provide technical and institutional assistance to the project. GFCM will provide a coordination mechanism of these activities, which will largely be implemented through the activities of the sub-regional fisheries projects with co-funding from GEF.

Component 4: Project Co-ordination, Replication and Communication Strategies, Management and M&E

Sub-Component 4.1: Project Co-ordination, Management and M&E (GEF 2,851,000 $, Co-financing 2,540,000 $)

This sub-component includes activities related to the SP project coordination and management, M&E activities and the involvement of stakeholders in project activities and demonstrations. It will establish effective project implementation and coordination at both regional and national levels to ensure that the projected outputs are delivered and the overall objectives achieved. It will also include mechanisms and activities designed to:

- facilitate and foster synergies between the two components of the project and ensure that the Strategic Partnership as a whole is implemented in parallel;
- ensure country ownership of partnership processes;
- ensure policy reforms in participating countries, through the use of existing and well established Barcelona Convention and MAP structures and mechanisms;
- ensure that a resource mobilization strategy/financing mechanism is developed;
- ensure effective monitoring and evaluation throughout the lifespan of the project; and
- make use of Information/Communication and Replication Strategies as well as Knowledge Management products to influence policy changes in participating countries.

Three basic management and coordination structures will be created for the duration of the project: a Project Management Unit (PMU), a Strategic Partnership Project Steering Committee (SPSC), and a Coordination Group (SPCG). All three structures have specific responsibilities and tasks within the project with important linkages between them. A brief, but more specific, description of the activities in this sub-component is provided in the following sub-sections.

4.1.1: Program Management Unit (PMU) (GEF 1,281,000 $, Co-financing 626,000 $)

A Program Management Unit (PMU) will be established and personnel will be recruited by UNEP/MAP as defined in the **Implementation Arrangements** (see below). The PMU will comprise a Project Manager, a Mediterranean marine and Coastal expert who will dedicate part of his/her time to assist the Project Manager and one financial assistant.

Activities of the PMU will include the following:

- to closely follow the implementation of project activities, handle day-to-day project issues and requirements, coordinate them and ensure a high degree of transnational and inter-institutional collaboration (international and regional organizations and donors).
- to organize of SPSC, SPCG and interagency meetings, and any other ad-hoc meetings that may be required,
- to finalize project and meeting reports i.e. annual project reports, half-yearly progress reports and expense reports. It will also assist the GEF Independent Office of Evaluation in preparing the mid-term and final evaluations of the project. The PMU will report to the other three management and co-ordination structures set up within the project, namely the SPSC, and the CG;
- to ensure that through the numerous M&E related activities an adaptive management approach is adopted to the implementation of the project.

- the development of environmental status indicators, in collaboration with all executing and co-executing agencies, reflecting SAP targets and agreements, which will be identified at the beginning of the project along with specific arrangements for their long-term monitoring during and beyond the lifespan of the project (with the support of MAP).

The lifetime of the PMU will extend for a period of six months beyond project life to enable finalization and closure of all outstanding issues, including financial matters under the various MOUs.

4.1.2: Strategic Partnership Project Steering Committee (SPSC) (GEF 275,000 $, Co-financing 35,000 $)

The Strategic Partnership Project Steering Committee (SPSC) will act as the main policy body overseeing project execution and will meet annually. The SPSC will comprise SP national focal points from all GEF-eligible countries, representatives of the implementing agencies (UNEP and the WB), representatives of the executing agency (UNEP/MAP), the GEF Secretariat, FAO and UNIDO, the co-executing agencies (FAO/GFCM, UNESCO, MEDPOL, METAP, SPA/RAC, PAP/RAC, INFO/RAC, CP-RAC, WWF, MIO-ECSDE) and the EU, the Project Manager, the President of the Bureau of Contracting Parties to the Barcelona Convention, major donors (France, Italy, Spain) and one NGO representing a network of NGOs in the Mediterranean. The SPSC will be co-chaired by the President of the Bureau of the Barcelona Convention and the Coordinator of UNEP/MAP.

The presence of SP Focal Points from the participating countries will ensure continuous ownership and national level support. The SP Focal Points will be identified by the respective governments and will bring to the SPSC the perspectives of each country and views of the GEF and MAP Focal Points respectively.[40]

The participation of the EU in the SC is important because it will represent the non GEF-eligible Mediterranean countries while ensuring links and coordination with existing EU initiatives such as the "*2020 Initiative for de-polluting the Mediterranean*" adopted in the framework of the Euro-Mediterranean Partnership.

The presence in the SPSC of the President of the Barcelona Convention Contracting Parties and the UNEP/MAP Coordinator will ensure that both the Barcelona Convention and MAP are at the heart of the Strategic Partnership. It will also ensure that Contracting Parties are the beneficiaries of all the activities in the same way that these Contracting Parties have benefited from previous GEF initiatives in the area.

Specific functions of the Project Steering Committee will include:

- Review of the recommendations of the Investment Fund Advancement Report, including project ideas identified by the World Bank and the Coordination Group (see below) and the review of the status of Investment Fund Demonstration Projects that will include results indicators and the status of replication activities at national level.
- Annual reviews of status reports submitted by each partner to the regional project and the summary status report of the regional project prepared by the PMU. The latter will focus specifically on progress in achieving: replication at the regional level; the use of targets and indicators; satisfactory overall coordination of activities in the Mediterranean region; and measures adopted in response to previous recommendations of the SPSC.

[40] During the present PDF-B Phase of the project, letters have been sent to all GEF Operational Focal Points asking them to appoint national Focal Points for the SP. A complete list of SP focal points for all participating countries is now available.

The SPSC will be responsible for the periodic review of the partnership project's performance, assisted by an independent evaluator (TOR to be defined) who will carry out an annual assessment of progress in the Strategic Partnership and report to the SPSC. The SPSC is responsible for endorsing any changes to the work plan or budget that are deemed necessary and is also responsible for ensuring that the Strategic Partnership remains on target with respect to projected outputs.

While UNEP and the WB will be fully accountable to the GEF for all project activities and related matters, the Strategic Partnership will require a strong coordination mechanism. This will be engendered through the SPSC.

4.1.3: Strategic Partnership Coordination Group (SPCG) (GEF 210,000 $, Co-financing 530,000 $)

The Coordination Group will be responsible for the overall coordination of the Strategic Partnership, in particular ensuring effective exchanges and synergy between the regional component and the investment fund. Its membership will comprise:

- The MAP Coordinator (chair);
- Representatives of the GEF Secretariat (IW and POPs);
- The Project Manager of the regional project of the SP;
- Representatives from the FAO and UNIDO
- A representative of INFO/RAC responsible for the Replication and Communication Strategy
- A representative of the UNEP/GEF Coordination Office;
- World Bank-GEF Regional Coordinators (ECA and MENA); and
- World Bank Task Managers.

In addition to the World Bank Task Managers responsible for Fund projects, project personnel and representatives of participating countries, external experts and co-executing agency representatives will be invited to attend meetings depending on the matters under consideration.

The Coordination Group will monitor the linkages between the two components, so that potential synergies can be exploited. It will also ensure that consistency with agreed rules, targets, and indicators is achieved. It will oversee the design and implementation of replication strategies and provide advice on the IF pipeline.

One of the main tasks of the CG will be the review of ideas and opportunities for projects under the IF. Exchanges on project ideas will occur informally among agencies, particularly the World Bank and UNEP MAP. The results of these exchanges will then be consolidated and the recommendations presented annually to the CG by the World Bank, including priorities based on replication potential and the eligibility criteria established for the IF. The CG will discuss, and make its recommendations regarding IF pre-pipeline and project concepts. Such recommendations, as well as the minutes of exchanges at partnership level, will be attached as a mandatory annex to the proposal (concept) submitted to the GEF for approval together with the WB response.

Another key role of the CG will be the review of the regional replication strategies of IF projects and the monitoring of the basin-wide replication activities. In this context, the CG will be

particularly supported by INFO-RAC[41], the partner responsible for the design and organization of regional replication activities. INFO-RAC will prepare, in consultation with the World Bank, reports on replication to be presented to CG meetings. The CG will be expected to provide relevant feedback and guidance.

In addition, the CG will review, and approve for submission to the SC, the following advancement reports:

- Advancement Reports of the Investment Fund and the status report of demonstration projects under implementation;
- Status reports submitted by each partner in the regional project; and
- Annual Project (APR) and Half-yearly progress reports (HPR) of the regional project.

The CG will meet at least once a year at the MAP office in Athens, preferably in conjunction with regular MAP meetings of the parties but in advance of annual SPSC meetings. The CG will maintain regular communication via teleconference, and meet on an ad-hoc basis wherever required.

Strong co-ordination between the two components of the Strategic Partnership is essential to the success of the Partnership, and has been noted to be inadequate in previous partnerships. Therefore to ensure the WB involvement in the partnership, a budget is allocated to the WB for personnel and expenses for their participation in SPSC, SPCG and M&E activities and in particular their contribution to the Replication and Communication Strategy of the SP[42]

Activity 4.1.4: Sustainable financing mechanism for the long term implementation of NAPs (GEF 400,000 $, Co-financing 230,000 $)

Implementing Agencies:

The Programme for the Assessment and the Control of Pollution in the Mediterranean Region (MED POL) of UNEP/MAP and the UN Environmental Programme/Mediterranean Action Plan (UNEP/MAP) with support from Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (UNEP-GPA), METAP and World Bank

Background/Context/Rationale

The implementation of the NAPs is the main vehicle for the reduction of pollution from land-based sources in the countries of the Mediterranean as set by the targets of the SAP. Following the preparation and the formal endorsement of the NAPs by the national authorities, the task is now to confront the challenge of implementation through which to achieve concrete, and hopefully lasting, results on the ground. Attention must now be directed towards the establishment and strengthening of the framework necessary to support the implementation of the NAPs. Central in this framework is the issue of environmental finance.

Although the need for financial resources and the importance of including an Investment Portfolio have been stressed to various degrees in the NAPs, the creation of the supporting institutional and legislative conditions to facilitate and realize the flow of the required amount and type of finance most suitable for the actions envisaged by the NAPs remains a major and specialized

[41] INFO-RAC will be responsible, among others, for the design and implementation of the Partnership website, in collaboration with IW LEARN's tools and web based resources relating to IW Strategic Partnerships (Black Sea, African Fisheries, East Asian Seas Pollution , and the Mediterranean, see also below Sub-component 4.2)
[42] See the budget for further details

challenge within the whole process of ensuring the reduction of the land based sources of sea pollution in the Mediterranean.

The protection of the marine environment from pollution from land based sources entails complex objectives and combined actions. These objectives cannot be achieved with conventional assumptions that investment resources will be made available to match the estimated costs at current or even increased availability of finance. In order to match the financial needs detailed investment planning is needed to show the particular nature, duration and operational characteristics of the environmental asset, infrastructure or intervention called for to reduce pollution over the next 20 or so years. Particular type of finance is required according not only to the type, size and risk of environmental investment considered but also to the administrative, legal and social context within which the investment will be undertaken, operated and utilized.

In short, environmental finance is a mixture of finance corresponding to the diversity and timeframe of environmental problems and the institutional structure responsible for their prevention, management, and solution and monitoring.

A straightforward interpretation of the NAPs prepared reveals several issues of concern from the environmental finance point of view. Primary among them is the sheer size of the implied financial requirement presented as needs corresponding to the problems at hand. There is very little prospect that such amounts will be forthcoming. As stressed in the MED POL Guidelines used by the countries for the preparation of the NAPs, the pollution reduction interventions were to be identified within the context of a wider national development plan. There are however some cases where the NAPs present a listing of financing needs which has been done outside the context of a sound strategic financial strategy. Whenever this occurs, this approach combined with the enormous amount of reported financing needs is in fact a recipe for inaction and a course towards the continuation of pollution to the detriment of national and regional sea and marine resources. This approach is unsuitable as an implementation vision and has to change.

In the few cases when Inter-Ministry Committees were not established, the observed separation of the financial needs presented in the SAP and the NAPs and the hard reality of the implementation process is the fact that the preparation of the NAPs reflected the work of specialists within the responsible Environmental Departments or Ministries, or within specific units in those agencies. Collaboration with, and exposure to, Finance or Economic Ministries necessary to tackle implementation related issues was not always achieved. In some cases, the concentration of the NAPs on the ‘science’ of pollution overshadowed the equally important concern for the ‘economics’ of tackling pollution.

The effective implementation of the NAPs assumes the full integration of both tracks such that would highlight more sharply the priorities for action and the adjustment of the reported financing needs in terms of financial demand and financial supply considerations. While finance experts do not always grasp the environmental pollution risks, equally environmental experts may not by themselves appreciate the process of activating financial resources tailored to the needs of what they describe.

The role of MAP as part of the UN System with strong and active links with all countries of the region has a comparative advantage in networking, as part of its mandate, on behalf of the countries with International Lending Institutions and other financing sources whose orientation or programme outreach might otherwise exclude or limit access to particular countries, national economic ministries or nationally prioritised environmental investments. MAP with its established legitimacy as a centre for the environment in the Mediterranean and ease of communication and access to all stakeholders in the region can give added value to the effort required for the mobilization of financial resources over and above the already on-going programmes.

Description of activities

The enabling policy framework for sustainable environmental finance, focusing on capacity strengthening and knowledge transfer necessary to support the activities of countries towards the implementation of SAP and NAPs, should be put in place and operate within the following programme activities:

- Over the life of the project: Recruit one mid-level staff at MAP to serve as resource person and networking focal point for NAPs' finance. The staff would compile and maintain data on funding sources and also compile data from the World Bank, UNIDO, METAP and other co-executing agencies and other sources that s/he would identify. The staff would also be responsible for the preparation of policy briefs and guidelines described below. MAP will develop capacity to support SAP implementation post-project, thus helping to ensure the long-term sustainability of the program.
- Over the life of the project: Highlight NAP priorities in ongoing country dialogue with Ministries of Finance, encourage inclusion of selected NAP actions in national development plans and Country Assistance Strategies (CASes) or Poverty Reduction Strategy Programs (PRSPs).
- During the first 2 ½ years: Through the preparation of policy briefs and guidelines for public sector investments and privates sector participation, review existing financial resources and programmes currently in use from official budgets, committed donor funds, sub-regional assistance funds, etc., identify and quantify possibilities for increased financing from existing tax sources or charges related to the environment, identify and quantify possibilities for transferring funds from other programmes or from projects delayed or redesigned, identify and quantify possibilities of forthcoming reductions in subsidies which may release funds for the NAP.
- During the first 2 ½ years: Select 3 NAPs, one each from an advanced, medium and low capacity country (criteria for selection will include countries/projects not covered by other international financing mechanisms) for prioritization of interventions based on a "do-ability" assessment done in cooperation w/the key national counterparts and stakeholders. Develop a prioritization matrix to evaluate the following factors for each NAP: SAP relevance, transboundary aspects as relates to TDA; cost; environmental impact; health impact; urgency; cost-benefit assessment; "do-ability" factors; replication potential; availability of financing (including partial and in-kind co-financing); etc. Do-ability includes ease of implementation – aspects such as capacity, political/stakeholder support, and institutional, legal and technical feasibility. Based on prioritization, assist each country to secure financing for implementation of the top-ranked project. (
- During the second 2 ½ years: Focussing on evaluating lessons learned, convene 2-3 national and regional workshops to increase countries' capacity to prepare financial strategies.

Objective

To ensure strategic financial planning and management within the NAPs execution cycle and overcome the present difficulties of implementation.

Expected results:

- Collation and diffusion of information on available and currently used financial practices diffused in all countries
- Collation and diffusion of information on private sector environmental investments and interface with public sector
- Existing trends in environmental expenditures, sources and investment methods (domestic funds) assessed
- Key problems identified and reform actions proposed
- Increased capacity of country environmental finance experts/officers

- Current sources of international and regional environmental finance assessed
- Sustainable financing mechanism/ platform established in the region
- Priority interventions of selected NAPs identified and assistance to secure their financing provided to countries

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Linkages with other programmes and initiatives

Almost all NAPs addressed the issue of the financial aspects. Many countries consider the availability of financial tools to cover the cost of NAPs as very critical to the overall process of the implementation of NAPs. The implementation of this project component will necessary link with other regional and international initiatives having the same objectives such as the EC Horizon 2020 initiative and the related involvement of EIB.

4.1.5: Long term Sustainability of Activities Beyond the Lifetime of the SP.

It is important that the activities initiated and undertaken by the SP will live on after the end of the 5 year period of the GEF intervention. The institutional framework for such a target, is obviously the Mediterranean Action Plan and the Barcelona Convention. It is proposed that the Steering Committee and the Co-ordination Group of the SP, in close co-operation with MAP and the Barcelona Convention system, will set up the basis of a framework that will ensure the continuation and sustainability of the SP activities in the years to come. To that end, MAP will bring together all partners/donors/countries working in the Mediterranean, and ensure that there is a common vision and direction of efforts in present and future projects.

Note: This activity has no budget allocation since it will be executed within activities 4.1.2, 4.1.3. and 4.1.4.

4.1.6 Inter-agency meetings

(GEF 0 $, co-financing 35,000 $)

The project involves a large number of co-executing agencies and in order to effectively co-ordinate their activities and demonstrations there is a need to communicate on a regular basis. In additional to regular emails and conference calls, all the co-executing agencies (UNESCO, GWP-MED, METAP, MIO-ECSDE, WWF, GFCM, SPA/RAC, PAP/RAC, INFO/RAC and CP/RAC) and representatives from GEF and UNEP/DGEF, FAO, UNIDO, MAP and the Project manager will meet annually, most likely in conjunction with the Steering Committee meeting to discuss all technical issues related to project activities and demonstrations, linkages with the IF, replication and communication and M&E. The purpose of these technical meetings is to

maximize interagency collaboration and to prepare consolidated information regarding the RC to assist the work of the Co-ordination Group and present to the Steering Committee.

4.1.7: Mid-Term Stocktaking Meeting

(GEF 0 $, co-financing 71,000 $)

A mid-term stocktaking meeting will take place in the second or third year of implementation. of It will be convened a few months prior to a Barcelona Convention COP. Participants will include: all Steering Committee members; representatives of the Executing Agencies, co-financing agencies and appropriate GEF focal areas; and the managers of all Investment Fund projects both ongoing and in preparation. The GEF Independent Office of Evaluation will also participate and present the independent mid-term evaluation of the project. The Regional Project and the Investment Fund will prepare and submit a consolidated progress report, describing the results achieved in the context of established indicators, and containing recommendations for any mid term project revisions. This meeting will provide an opportunity to bring project progress to the attention of the Barcelona Convention COP.

4.1.8: Monitoring, Evaluation, Auditing and Reporting

(GEF 275,000 $, co-financing 73,000 $)

As described earlier the Strategic Partnership consists of the Regional Component and the Investment Fund. Both components will be monitored and evaluated throughout project implementation. The M&E Plan for the RC is described in the current document under 'Monitoring Evaluation and dissemination' and details of all indicators, reports and budgets are given in Annex E. Environmental status indicators will be identified at the beginning of the project which reflect SAP targets and agreements. The targets related to these indicators will most likely be achieved beyond the life-span of the project and therefore will require specific arrangements for their long-term monitoring. MAP will be responsible for the long-term monitoring of these indicators which will be developed by the PMU with the executing/co-executing agencies and will be presented and reviewed by the Steering Committee during the Inception Meeting. The M&E plan for the IF is described in a separate Project Brief submitted by the WB. The Project Management will be responsible for the monitoring and evaluation of the overall outcomes/outputs for the combined IF and RC, the Strategic Partnership. The outcomes/outputs and indicators for the SP are presented in the Log-frame Matrix (Annex B1) details of the monitoring of indicators and reporting are given in Annex E.

4.1.9: Country Support Programme (SPCSP)

(GEF 260,000 $, co-financing 390,000 $)

Full country participation and ownership is crucial to the success of the SP. The participation of country representatives in the SPSC is essential but not, in itself, sufficient.

To further increase support to participating countries and enhance country ownership, the PMU will develop a **Country Support Programme** (SPCSP) along the lines of the GEF Country Support Program to Focal Points (CSP). Limited funds will be available to strengthen the capacity of the SP focal points to carry out their mandates for the support of SP activities effectively in their respective countries. One of the major and most important tasks of the country representatives (SP Focal Points) will be the establishment and functioning of inter-ministerial committees.

An amount of up to US$ 4,000 will be provided annually to each country for the purposes of the SPCSP for the total duration of the Strategic Partnership (*i.e.,* up to US$ 20,000 in total).

Memoranda of agreement between UNEP/MAP and each country will be prepared and signed to facilitate the transfer of funds to an appropriate national agency.

SP Focal Points will submit to the SPSC for approval an annual workplan outlining activities to be undertaken. At the end of each year, the SP Focal Points will submit an annual expenditure report and an annual progress report together with the workplan for the following year.

Activity 4.1.10: NGO mobilization
(GEF 150,000 $, co-financing 550,000 $)

Implementing Agency

- The Mediterranean Information Office for Environment Culture and Sustainable Development, MIO-ECSDE
- Non Governmental Organizations, NGOs
- Community Based Organizations CBOs

Background/Context/Rationale

The key role of civil society involvement in building successful projects has been acknowledged and documented in many countries and contexts around the globe. NGO and CBO involvement in GEF regional projects (e.g. on pollution reduction measures, awareness raising, education, training, management and monitoring) has increased over time and has in the past few years evolved and grown more versatile. Meanwhile, both SAP MED and SAP BIO clearly identify access to information, public awareness and public participation as essential components for the sustainable development of the region and for the reversal of current environmental degradation trends and therefore as key elements for the achievement of their targets. The governments participating in the SAPs have also committed themselves to promoting meaningful citizen participation.

The activities foreseen within this project component are expected to significantly contribute to the overall transparency of the implementation of the SAPs and to the enhancement of the level of commitment of civil society and of other stakeholders, while promoting effective public access to environmental information and public participation in environmental decision making in the Mediterranean region. The participation of civil society organisations (with focus on NGO networks) in the “Strategic Partnership” is expected to be a key element in achieving a higher awareness level of the processes and results of the project; higher acceptance and ownership of the processes and their products; increased quality of the outputs (policy documents, projects, products, etc.); strengthened stakeholder participation and partnership building in the implementation of the project; increased possibilities of the replication of the partnership and its results.

Description of activities, including demonstration and pilot projects

Within the scope of contributing to the achievement of the targets established by SAP MED and SAP BIO, this component aims for: the effective involvement of Civil Society in the “Strategic Partnership” through the enhanced NGO role in the decision making, implementation, monitoring and evaluation.

The activities will:
o Ensure effective NGO involvement in the project itself on the basis of the NGO Involvement Plan (final draft version attached in annex)
o Feed into and complement the Communication Strategy designed by INFO/RAC with NGO specific elements, deliverables, etc.
o Propose NGO/CBO related modalities that may eventually contribute to the effective implementation of the NAPs and achieve the targets of the SAP-MED and SAP-BIO.

The NGO Involvement Plan will contribute to achieving the above objectives by way of:
1. identifying obstacles and challenges for public participation in the region
2. identifying potential NGO involvement in the various components and sub-categories of the project;
3. indicating specific types of NGO involvement in the implementation of the project and existing expertise of specific NGOs;
4. presenting guidelines for mobilizing this involvement and mechanisms for consultation, coordination, monitoring and evaluation;
5. ensuring the necessary coordination and synergy with the GEF SGP;
6. indicating how resources can be mobilised through NGO actions within the project.

Outcome 1: Facilitated NGO and CBO participation in all processes of the "Strategic Partnership" components through awareness building among the NGO networks and the public, information sharing, joint decision making, and monitoring and evaluation.

Output 1.1 Increased awareness of stakeholders and the public on the objectives and components of the "Strategic Partnership."
- Support each project component to develop and implement NGO and Public Involvement Plans
- Use existing NGO, Journalism and other Networks effectively
- Coordinate effectively with INFO/RAC

Output 1.2 NGOs and CBOs share their insights and on the ground experience in the consultative and decision making bodies of the "Strategic Partnership."
- Support the components in implementing the related methodologies and guidelines in the "NGO Involvement Plan"

Output 1.3 NGOs and CBOs participate in the decision making processes within the "Strategic Partnership" components.
- Support the components in implementing the related guidelines in the "NGO Involvement Plan"

Output 1.4 NGOs and CBOs are involved in monitoring and evaluation processes of the "Strategic Partnership."
- Support the components in implementing the related guidelines in the "NGO Involvement Plan"

Outcome 2: Enhanced role of NGOs and CBOs in the region through participation in the implementation of the SAPs and NAPs

Output 2.1 NGOs and CBOs are appropriately informed on SAP and NAP implementations, are actively involved and contribute their opinions, concerns and expertise.
- Facilitation of access to related information as well as exchange of experiences among NGOs and CBOs of the region,
- Strengthening NGO and CBO capacity needs and promotion of the measures needed to enhance their involvement in the SAP and NAP implementation,
- Networking

Output 2.2 Small Grant Projects address the environmental concerns of the SAP MED and SAP BIO in Morocco, Tunisia, Egypt, Palestinian Authority, Lebanon, Syria, Turkey and Albania.

- Make strategic contacts with the SGP National Coordinators so that project proposals of NGOs and CBOs aligned with the objectives of the "Strategic Partnership" are forwarded for National Steering Committee (NSC) decision.
- Follow progress of these GEF SGP grantees through the SGP Monitoring and Evaluation System.
- Facilitate a network of these SGP grantees and integrate this network into the wider Mediterranean network.
- Document case studies from projects identifying lessons.

Outcome 3: NGO and CBO involvement in the region strengthened through capacities development, lessons learnt, and best practice knowledge products.

Output 3.1 Knowledge products for enhanced role and involvement of NGOs and CBOs in the region.
Output 3.2 Knowledge products including lessons learnt and best practices based on the implementation of the SP

Risk and Sustainability

The component ensures carefully planned NGO and CBO awareness, involvement and capacity building programmes horizontally linked through all components and sub-categories, aiming to achieve the overall objective of the project while taking into consideration other on-going regional initiatives in the Mediterranean (EMP, ENP, Horizon 2020, MSSD, other GEF and WB projects running in MENA and SEE countries, etc.). Knowledge products, lessons learnt and best practices generated by the project component will be widely disseminated to inform local, national and international sustainable water management actors and policies and larger development processes.

The project component has been designed and will be implemented in synergy and close partnership with the other Strategic Partners, key leading regional and national environmental NGOs in the region. Inclusive efforts will be complemented by substantial outreach toward the wider NGO and CBO community, as well as with other stakeholders. MIO-ECSDE's strong working relationships and collaborative processes with environmental officials and other stakeholders throughout the Mediterranean region combined with a close relationship with the GEF SGP modality will help to ensure that the progress achieved through the project is sustained over the long-term.

There is a risk that NGO and CBO involvement measures developed by the project may encounter political or other obstacles in some countries that may eventually affect implementation. Many Mediterranean countries face significant challenges in developing the legal, institutional and practical infrastructures needed for effective public access to environmental information and public participation in environmental decision making. In addition, differences between the Mediterranean countries' laws, institutional arrangements, and political and social realities may increase the challenges of developing common approaches to public involvement. The project component will work to minimize these risks, which are identified and analysed in the *NGO Involvement Plan*, by carefully considering from the outset the unique circumstances of each country, and the differences between them.

Linkages with other programmes and initiatives

- All the activities are linked with the all Partners project activities, particularly with INFO/RAC

- MIO-ECSDE NGO network, other relevant regional and sub-regional networks and international organizations, national and local NGOs and CBOs
- Networks of journalists working on environmental issues (e.g. COMJES)
- Other stakeholder networks (e.g. Mediterranean Parliamentarians – COMPSUD)
- MCSD
- On-going EuroMed processes (EuroMed NG Platform, RMSU, etc.)
- On-going ENP processes (e.g. National Actional Plans, Regional Med Strategy, Horizon 2020, etc.), EU and GEF SEE processes
- UNEP/MAP activities
- National authorities/focal points related to NAPs implementation
- GEF SGP NCs, NSCs
- SGPMED grantees.

Monitoring and Evaluation

The *NGO Involvement Plan* provides guidelines and mechanisms on how each project component should monitor and measure the effectiveness of NGO involvement throughout the implementation of the component. At the end of each phase of the project components and also mid-way and at the end of the "Strategic Partnership", a qualitative analysis will be conducted on how effective NGO involvement has been, based on how each project component has been strengthened by NGO participation and on how the project component has contributed to the progressive strengthening of the role of civil society in the region. The inclusion of cost assessment parameters of efficient public participation in the various components of the project will be a very useful and innovative exercise as well. The related to the SP SGP implementation will follow the M&E process of GEF SGP and also "the impact assessment guidelines".

Once the project is concluded a "manual of good participation practices" including a review of all the different techniques and methodologies used for providing information and preparing public participation plans and consensus-building procedures and a brief summary of the obtained results will be produced in various Mediterranean languages, and widely disseminated. The manual will be a case study for other regional transboundary projects in the region and worldwide.

Key performance indicators for evaluating the component's outcomes

For outcome 1: Facilitated NGO and CBO participation in all processes of the "Strategic Partnership" components through awareness building among the NGO networks and the public, information sharing, joint decision making, and monitoring and evaluation:

1. NGOs and CBOs have participated in at least two stakeholder consultation meetings in each component by the end of the "Strategic Partnership."
2. NGOs have one or more members in advisory bodies of the "Strategic Partnership" components.
3. The managing/decision-making bodies of the "Strategic Partnership" have at least one or more NGO seats from year 1 of the "Strategic Partnership".
4. NGOs and CBOs have been involved in at least one monitoring and evaluation activities in each component by the end of the "Strategic Partnership".

For outcome 2: Enhanced role of NGOs and CBOs in the region through participation in the implementation of the SAPs and NAPs:

1. NGOs and CBOs are involved in monitoring and control activities of NAP implementation in all countries.
2. Networking activities are fully developed by end of year 3.

3. GEF SGP NSCs in 7 countries have approved NGO and CBO projects in each country conforming to the SP objectives in every year of the project's duration.
4. Some of the above small grants projects have been visited by MIO-ECSDE or SP partners during their implementation and access to the monitoring reports has been attained.
5. All of related SGP grantees have become part of the Mediterranean wide network and have had interchanges with other networks by the end of year 4.

For outcome 3: NGO and CBO involvement in the region strengthened through capacities development, lessons learnt, and best practice knowledge products:

1. The final NGO involvement plan has been published in paper and electronically and all stakeholders have received a copy 6 months into the "Strategic Partnership."
2. A "Manual of Good Participation Practices" will be published, based on experiences and overall participatory mechanisms adopted by different components of the "Strategic Partnership" and related to the SP GEF SGPs and distributed to 800 stakeholders as well as the Global SGP network by the end of the "Strategic Partnership."
3. At least 2 thematic lessons learnt and best practices publications have been produced in paper and electronic format and distributed to 500 NGOs and CBOs as well as the Global SGP network by the end of the "Strategic Partnership."

Supplementary information

The *NGO Involvement Plan* will contribute to achieving the above objectives by way of:
- Identifying obstacles and challenges for public participation in the region
- Identifying potential NGO involvement in the various components and sub-categories of the project;
- Indicating specific types of NGO involvement in the implementation of the project and existing expertise of specific NGOs;
- Presenting guidelines for mobilizing this involvement and mechanisms for consultation, coordination, monitoring and evaluation;
- Executing a Strategic Guidance Paper for the *SGPMED;*
- Indicating how resources can be mobilised though NGO actions within the project.

Sub-component 4.2 and 4.3: Information and Communication Strategies and Replication Strategy

Draft Replication Strategy

Identification of Replication Objectives

1. In the frame of the Replication Strategy, a new approach based on the identification of **Replicable Practices (RPs)** will be developed, as a viable option to the replication of the overall investment, demonstration and/or pilot projects, whereas the practices could be easily replicated in other existing projects. Aim of the MedPartnership Project will be therefore to identify project elements/components that could represent *potentially* **Replicable Practices (RP),** e.g.: the various wastewater treatment technologies to be tested as part of the Coastal Cities Project in Croatia, or the irrigation practices aimed at reducing groundwater salinization to be experimented in the Neretva delta area by the Neretva Basin Management project. Therefore the **focus** of replication efforts will be on selected RPs because of the following reasons:

- Replication of practices has more chances for implementation during the lifespan of the project. On the other hand, "practice" doesn't exclude "project" in the traditional sense of the definition, but it would be less realistic to expect that a project generated through this project will have a chance to be replicated within 5 years, i.e the lifespan of the MedPartnership project.

- The splitting of the investment, demonstration and pilot projects in their subcomponents will have another advantage. It is possible that not all the parts of a project have the same replication potential and extrapolation of the more replicable ones could increase chances for final success.
- Single replicable practices can be more easily developed and inserted in other existing projects and more easily accepted from target groups.

2. The following are examples of fields where RPs might be selected, as a result of the evaluation of the investment/demonstration/pilot projects:

- legislation; (e.g. setup of protected areas);
- organizational setup; (e.g. organization of ecological corps);
- policies; (e.g. promotion of sustainable tourism);
- infrastructures; (e.g. low emissions transports);
- technologies; (e.g. renewable energy);
- behaviours. (e.g. water saving), etc.

3. Of course, if possible, the replication of the whole investment, demonstration or pilot project will be taken in account as a final objective, but generally the MedPartnership Replication Strategy will mainly promote the best RPs that have been demonstrated and successfully tested.

Replication Context

4. The Replication Strategy will apply to the existing portfolio of Sustainable MED (formerly Investment Fund) sub-projects (see Section 2 and Table 1) and to all demonstration and pilot projects to be implemented as part of the various components of the Regional Project (coastal aquifers, TEST, POPs, MPAs, ICZM and others). This strategy will require a high level of **flexibility and adaptation** to the different MedPartnership Project components, in particular with respect to the replication mechanisms to be adequately refined and contextualised when used for other initiatives, other countries, other areas/sites. It means that Replicable Practices once identified will be developed and reshaped to fit with the new context. Choosing a similar matching area to start the replication doesn't mean to find the same replication parameters. Every aspect of the replicable practice selected will be adapted to new reality.

5. While maintaining the necessary focus on the technical aspects of environmental Replicable Practices, the strategy will build on three main pillars:

- improved **communication and awareness building** among key partners, stakeholders and the wider community, to build the maximum consensus, essential to make RPs feasible;
- improved **information management** at many levels (e.g. decision makers, technical experts, replication teams, general public, schools) that helps the decision making process;
- set up and evolving formal working **(multi-sector) partnerships**, main actors in the on-site replication to implement in a cost effective way the RPs.

Replication as a "guided process"

6. In order to obtain a full success of the process, replication has to be considered as: an integral part of the MedPartnership Project, involving all its components at different level;

included in each phase of the MedPartnership Project, from the beginning to the end. The replication process has to be considered as a guided process in which every single step is scheduled and planned from the early stage of the project and monitored all the time. The replication process has to be conceived as a *networking process* in which the following different components are tightly joined. The **replication network** is composed of the **Project Replication Team** (PRT) with technical and coordination role, a **Replication Advisory Panel** (RAP) with consultative functions, and several **Local Project Replication Groups** (LPRG) with local operative functions. The replication network components are described below.

7. **The Project Replication Team (PRT).** Given the complexity and the wide spectrum of competences needed for the assessment and the customisation of the MedPartnership demonstration and pilot projects (Regional Component), and considering the expected increase of the Investment Fund sub-projects (now Sustainable MED Program), the PRT team has been enlarged in order to improve the replication potential of the MedPartnership project. The PRT core team is composed of INFO-RAC experts in relevant disciplines. It will carry out the activities in close cooperation with the World Bank that is expected to provide the PRT with guidance and know-how. Members of the core team are:

- the PRT Coordinator (INFO-RAC);
- one expert in project development and socio-economic aspects (WB/Sustainable MED Program);
- relevant technical experts of thematic components related to investment, demonstration and pilot projects in particular marine biodiversity conservation, pollution reduction issues/monitoring, etc. (INFO-RAC);
- one expert in information and communication (INFO-RAC).

The main tasks of the PRT are:

- design of the overall replication strategy and its components;
- start up of the replication network;
- ensure that each investment/demonstrations/pilot project developed under the MedPartnership has a valid replication component (or strategy) integrated into the project from the initial stage of concept design;
- coordination and monitoring of replication phases of investment, demonstration and pilot projects;
- monitoring and facilitation of all replication aspects to ensure the success of MedPartnership replication strategy, including specific measures of progress, risk assessment and expected benefits and impacts, thereby applying feedback and ensuring that project adjustments are made as and when required.

8. The PRT will organise, and actively participate in, the **Replication Meetings** (RM), to be conducted in parallel to the Steering Committee Meetings, and the **Regional Conference**. The PRT will meet regularly to fine tune, agree, coordinate and evaluate the replication actions. PRT meetings are intended as occasion for discussion and presentation of the results achieved; however, most part of the work will be done on internet basis, during bilateral meetings among PRT members themselves and with external partners, according to the different phases of the Project. The final outcomes of PRT activities will be submitted to the **PMU** for the necessary coordination. The progress report of PRT activity and outcomes will be presented in the occasion of the Coordination Group/ Steering Committee meetings, at least twice a year. A more detailed description of the role and *modus operandi* of the PRT will be specified in the terms of reference (ToRs), to be drafted after the kick off meeting, and presented for adoption in the Coordination Group/Steering Committee meetings.

9. **The Replication Advisory Panel (RAP).** The RAP is intended as a consultative group working on need basis mainly via internet. It is composed by one member of each executing Agency (preferably engaged in investment, demonstrations and pilot projects) and technical experts coming from the eligible Countries. These technical experts will be identified by MedPartnership National Focal Points and selected in relation to the necessary professional needs according to the different project phases. They will play an important role in supporting the selection of matching areas for the replication. Its members will:

- integrate and support PRT technical work on specific issues ;
- advise and revise the PRT methodology, ToRs, reports etc.;
- contribute and disseminate PRT results mainly in the final phase of replication;
- act as replication contact points.

10. RAP results will be reported to PRT, PMU and all executing Agencies during SPSC and SPCG meetings.

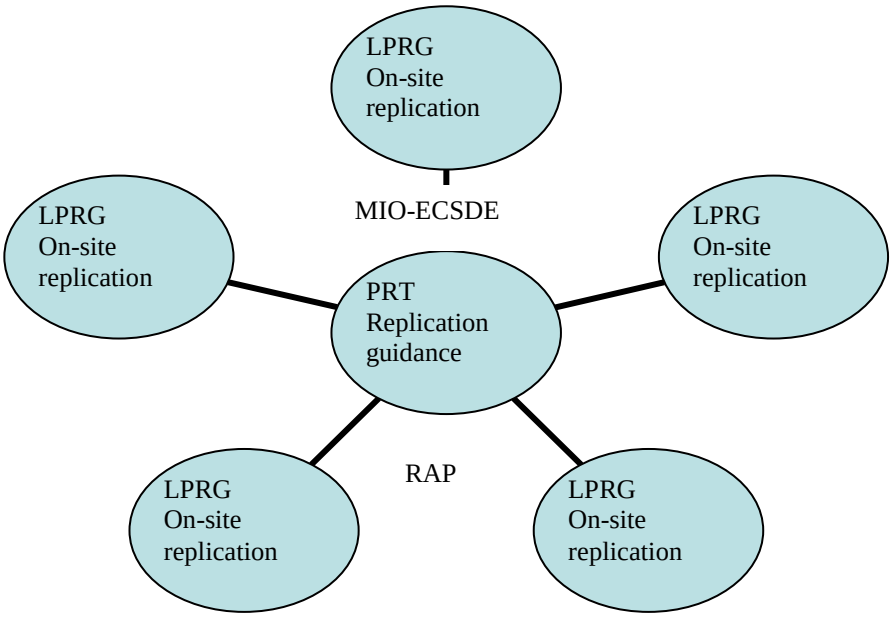
11. **The Local Project Replication Groups (LPRG).** The LPRGs are intended to act as an interface and reference point for the PRT and Partners during local replication process, in order to:

- support the elaboration of the specific ToRs;
- provide initial inputs to the development of an adaptation strategy to use the RPs approach and lessons learned from similar sites/projects in order to adapt to local realities;
- promote the exchange of experience on successful RPs through the use and consultation of the database and other channels as opportune;
- promote partnerships and cooperation among key stakeholders and interested parties at project level;
- support practices/projects with the initial elaboration of procedures for promoting public information and participation.

12. The local replication teams will be established in selected countries to start on site replication process. Obviously most of team members could be recruited among the experts running the investment/demonstration/pilot projects. LPRGs are **key elements** in the replication network and their establishment will be promoted in the second phase of Project, after the screening of Replicable Practices have been made. Cooperation between PRT and LPRGs should be very tight both on internet basis and by frequent local meeting to foster the knowledge of social-economic context and local partnership.

13. A great contribute is expected from **MIO-ECSDE** and its NGO network. Through MIO-ECSDE involvement, in fact, the partnership building will promote the participation of civil society organisations (with focus on NGO networks), as a key element in achieving a higher awareness level of the processes and results of the project; higher acceptance and ownership of the processes and their products; increased quality of the outputs (policy documents, projects, products, etc.); strengthened stakeholder participation and partnership building in the implementation of the project; increased possibilities of the replication of the partnership and its results.

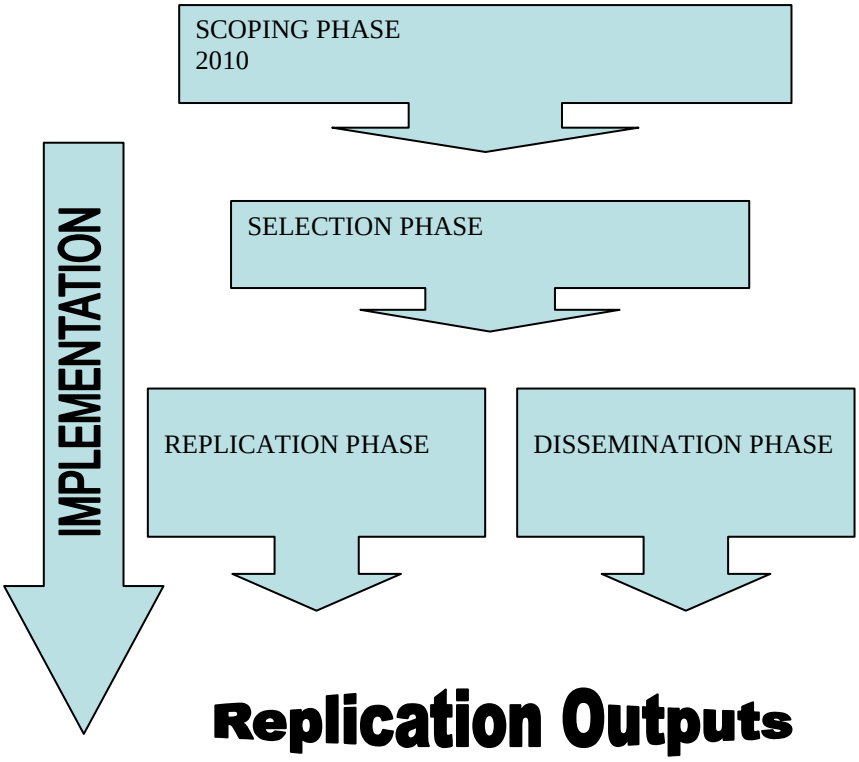
Figure 5. The Replication Network



Replication Process

14. Replication will be guided and monitored throughout the lifespan of the MedPartnership Project and will be articulated into main phases as represented below:

Figure 6. Replication Process



Scoping the Replication Initiatives

15. Given the complexity and the wide spectrum of the components of the MedPartnership Project, the first year (2010) program will be concentrated on the **scoping analysis**, with the objective – *inter alia* – of developing and agreeing upon the methodology of the replication. Hence, as a first step, the investment/demonstration/pilot project portfolio will be analyzed as a whole, then each sub-project individually, in order to:

- provide **an overall assessment** of the portfolio from the perspective of replication, pointing out coverage, strengths and gaps, adherence to the Partnership founding criteria and principles, etc.;
- identify those project elements/components that could represent **potential RPs**.

16. Following identification, each RP will be characterised on the base of the following elements:
if feasible, during preparation, providing elements for the strengthening of project components dealing with the specific RP;

- informing the design of the Replication Strategy at the national level (under responsibility of the World Bank Sustainable MED Program);
- defining a preliminary regional replication context, identifying main opportunities for replication throughout the Mediterranean basin, and providing a tentative initial assessment of the actions needed to catalyze actual replication regionally.

17. Phases and key actors of the scoping analysis

- **INFO-RAC/WB:** PRT establishment
- **PRT:** elaboration of ToRs to specify the PRT modus operandi

- Agencies/Eligible countries: RAP establishment
- **PRT:** collecting all available technical, financial and economic information about projects
- **PRT:** organization of the Project Repository
- **PRT:** establishment of the Replication Clearing-house
- **PRT:**check that each investment/demonstrations/pilot project developed under the MedPartnership has a valid replication component (or strategy) integrated into the project from initial stage of concept design
- **PRT:** first screening of the nature of projects and grouping projects into thematic categories
- **PRT:** definition of selection criteria to evaluate replicable projects according to their themes
- **RAP:** consultation on proposed criteria
- **PMU:** approval of PRT ToRs, methodology of replication and selected criteria

Figure 7 Scoping the Replication initiatives

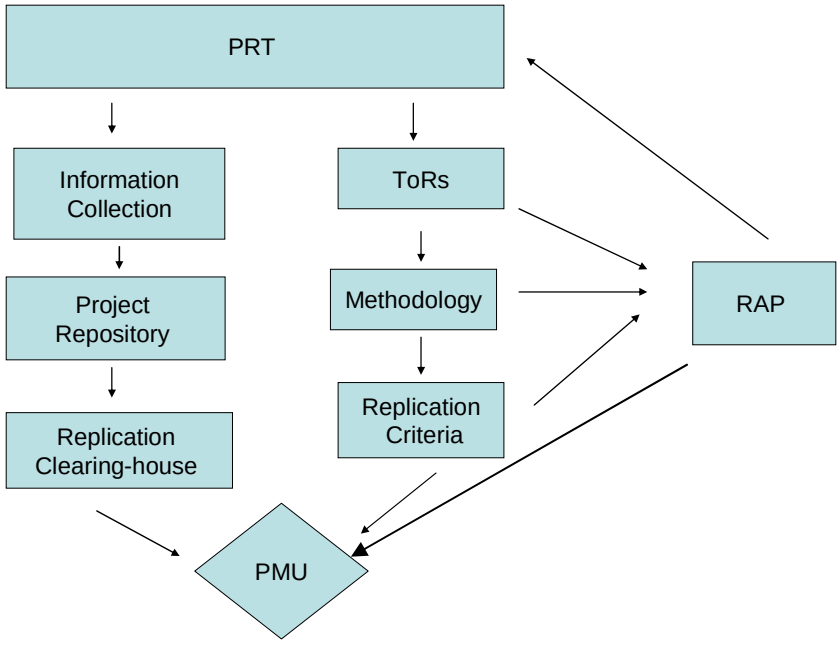
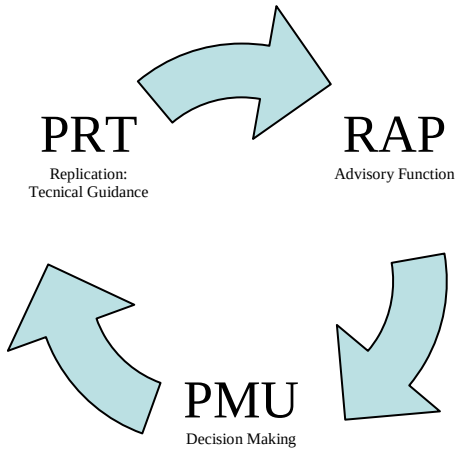


Figure 8 The role of the main actors



Implementing the Replication Strategy (2011-2014)

18. After the completion of the scoping analysis, and building on the agreed methodology and preliminary results, the replication will move into the implementation phases. The foreseen steps and key actors listed below are the current proposal, pending the results of the scoping analysis.

Selection phase

- **PRT:** analysis of conceptual design of investment, demonstration and pilot projects, and elaboration of an explicative scheme for each one
- **PRT:** identification of main **Replicable Practices** (e.g. technologies, policies, etc.)
- **PRT:** proposal of a list of priority potential Replicable Practices
- **RAP:** consultation on proposed list of priority RPs
- **PMU:** approval of final list of priority RPs
- **PRT:** technical identification of **Potential Matching Areas** (PMAs)
- **PRT:** compilation and proposal of a short list of PMAs
- **RAP:** consultation on proposed short list of PMAs
- **PMU:** approval of final short list of PMAs
- **PRT:** verifying matching between selected priority RPs and PMAs
- **PRT:** proposal of 20 priority RPs and related PMAs
- **RAP:** consultation on the 20 selected priority RPs and related PMAs
- **PMU:** approval of the final 20 priority RPs and related PMAs

Replication phase

- **PRT:** exploring possible funding availability to evaluate feasibility of 20 priority RPs - to address towards replication process
- **PRT:** exploring of partnership availability to build LRPGs
- **PRT:** proposal of a short list of 5 feasible high priority RPs candidate to replication
- **RAP:** consultation on the proposed 5 high priority RPs
- **PMU:** approval of proposed 5 high priority RPs
- **PRT/MIO-ECSDE:** capacity building in selected Countries
- **PRT/RAP:** establishment of countries LRPGs
- **PRT/RAP:** awareness raising through specific training courses
- **PRT/MIO-ECSDE:** stakeholders' involvement
- **PRT:** elaboration of 5 conceptual design of investment, demonstration or pilot RPs to replicate
- **RAP:** consultation on 5 conceptual design of investment, demonstration or pilots RPs to replicate
- **PMU:** approval of 5 conceptual design of investment, demonstration or pilot RPs to replicate

Promotion and Dissemination phase

- **PRT:** replication Meeting and Regional Conferences
- **PRT:** promotional activities
- **PRT/Replication Contact Points/LPRGs:** dissemination of the whole replication documentation

- **PRT/Replication Contact Points/LPRGs**: establishment of Demo Centres

19. All the steps described will be carried out in close cooperation with the WB/Sustainable Med Program, that will play a key role in the implementation of the Replication Strategy. It is essential, in fact, that "National Replication Strategy" and "Regional Replication Strategy" have the maximum of interactions. WB/Sustainable Med Program experts participating in the PRT are expected to provide periodic updates on sub-project execution, including timely information on project events that might be of interest for capacity building, replication and communication activity at regional level.

Table 14 Expected Outputs

2010 Outputs	Project Outputs
Replication network established	Project countries engaged in replication activities
Definition of ToRs (PRT, RAP, LPRGs)	Demonstration Centres for capacity building established in selected sites
Data collection and organization (Project Repository, Replication Clearing-house)	Replication reports on all priority RPs
Screening of investment/demonstration/pilot projects	Final Regional Report on Replication, including scenarios and economic evaluations
Definition of a replication methodology and selection criteria	Proposal of 20 priority replicable practices and related PMAs
Clear and detailed definition of future activities (2011-2014)	Elaboration of 5 conceptual design of investment, demonstration or pilot RPs to replicate

20. It is outlined that the success of the replication strategy is strongly connected to the information and communication initiatives, throughout the entire replication process. The dissemination of best Replicable Practices is key to the success of the replication component and therefore the Communication Strategy should clearly serve replication. As observed from other projects, it is not enough to produce proposals in order to achieve replication, but instead it is better to ensure also really high visibility of each investment/demonstration/pilot project and their best Replicable Practices to promote successful replication. The web-based knowledge platform developed under the Information and Communication Strategy will provide the necessary knowledge support for the implementation of the replication strategy. The objective is to develop an *ad-hoc* **Clearinghouse portal**, taking into account good practices in this field (e.g. the IW-Learn portal and the SMAP-RMSU Clearinghouse). This platform would also support the **e-learning function**, for the benefit of training activities. More details on the I&C relevant activities can be found in the Information and Communication Strategy.