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**STRATEGIC ACTION PROGRAMME FOR THE MANAGEMENT
OF MARINE LITTER IN THE MEDITERRANEAN**

FINANCIAL ASPECTS OF ITS IMPLEMENTATION

In cooperation with



WHO

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1. THE PURPOSE OF THE REPORT

The purpose of this Report is to identify, elaborate, discuss and present the 'financial implications' of the *Regional Strategy for the Integrated Management of Marine Litter in the Mediterranean* (from now on the *Strategy*). Initially, two crucial issues should be clarified: What we mean by 'financial implications', and, more importantly, why it is important to bring out and present the financial implications of this (or any other) Strategy. In short then:

- Financial implications: It is a shorthand way of describing what may also be called 'financial consequences' of the implementation of the objectives / actions of the Strategy. It also implies an interest in the (distributional) question of who (which agency/ies) will address the consequences and if they are able to pay for them.
- Why add financial implications to the Strategy Report?: Generally, Strategies are more effectively implemented when the financial implications are integrated within the Strategy and the stakeholders are aware, familiar and involved in the mobilization of resources needed for the various actions proposed / envisaged under the Strategy.

It follows from the above then that focusing attention to financial issues is essentially a tool for decision making. The Strategy (any Strategy) with all its scientific soundness and rigour, will need approval by political, administrative and business leaders and stakeholders. Decision will need to be taken based on, *inter alia*, financial issues. Thus, the financial / economic implications form an integral part of the effort to achieve important objectives for reducing / eliminating coastal and marine litter.

2. THE STRUCTURE OF THE REPORT

The Report contains 4 main Chapters:

- A brief introduction to bring out important assumptions / observations in the Strategy itself with bearing on the approach to the financial implications;
- Elaboration of the Financial Implications falling under three parts: Identification of financial implications, classification of financial implications and costing of financial implications (investment);
- Discussion of funding issues and proposals on the most suitable approach to financing the expenditures involved;
- A focus on the expected benefits of addressing the problem of marine litter.

3. INTRODUCTION

3.1 Assumptions / observations in the Strategy

This Chapter of the Report highlights points and arguments developed in the Strategy Report that identify its approach to the problem of coastal / marine litter and form the scientific / technical context in which this financial Report is developed. This Report accepts the technical approach put forward by the Strategy Report and seeks to uncover the financial implications from that.

What follows is a cluster of points rather prominently presented in the Strategy Report that are taken on as parameters in this Report.

In 2001, MED POL undertook a comprehensive assessment on the status of the management of coastal litter in the Mediterranean. The results of the assessment showed that the main sources of coastal litter in the region are run-off from rivers, tourist activities and coastal urban centres. This Strategy acknowledges that inadequate coastal solid waste management is responsible for the presence of litter on beaches. It continues on to stress that this *'is in contradiction with the fact that, almost all the Mediterranean countries have policies for the management of coastal solid waste (but) the problem is related to the enforcement of the policies which is, in general, very weak because of the poor coordination between different national and local administrations dealing with solid waste management issues and the inadequate infrastructure and understaffed services. However, perhaps the most important root problem is the absence of proper behaviour by the population which is due to lack of a waste-free culture, awareness and education. Although only few countries have specific policies related to marine litter, usually local administration and municipalities are the ultimate responsible for the management of coastal litter in the region. The role of the Ministry of Environment and/or other Ministries (Mercantile Marine, Interior, etc.) is limited to provision of guidelines and control'*.

This strategy does not focus on the construction of large scale solid waste management infrastructure, such as landfills, waste reception facilities at ports and material recycling facilities. Instead it focuses mostly on the "in situ" generated waste as well as on what may inevitably "escape" towards the beach and sea by the other two sources even if the latter are managed properly. In this sense, apart from technical solutions that will be included to effectively address source (C), the Strategy will contribute in building legal and institutional capacities of local and port authorities and other institutional stakeholders to provide software support to on-going and planned large scale SWM related investments (covered under the NAPs and other national and regional activities) in the form of public awareness, professional sectorial guidelines, policy formulation and advocacy.

This Strategy follows a precautionary approach and where appropriate the polluter pays principle will be implemented. The application of economic instruments, in particular for supporting local and national authorities to implement cost recovery programmes, is given emphasis in this Strategy.

The Strategy states very clearly that its focus is the building up of precautionary capacity for addressing the issue of marine / coastal litter, rather than a Strategy concerning the construction of costly waste management (physical) infrastructure.

Another point which is clearly evident in the Strategy is its valid observation that what is lacking is not legislation but its enforcement, a limitation originating from lack of resources and the weak position at the Municipalities at the local level where the issues appear and exist.

Although not explicitly states, the Strategy is intended to promote actions in the 'less resourceful' countries of the Mediterranean, particularly the non-EU countries.

The Strategy makes the observation that the SAP gives high, if not exclusive, priority to pollution from wastewater and the Hot Spots identified and prioritized are liquid waste Hot Spots. Little attention is given to solid waste and almost no attention to coastal litter.

The Strategy does not deal with the **institutional framework issues**. Therefore, since the Strategy focuses on the building up of precautionary capacity (rather than infrastructure construction) and the costs arise from institutional strengthening, studies, workshops, advocacy, the levels of administration and the distribution of responsibilities envisaged remain unspecified. However, for the purposes of this Report (which also does not cover such issues) it will be assumed that national agencies / authorities will need to be

strengthened to support municipal / local authorities which face the problem on their 'front yard' and will need to respond to this challenge. It is with this level of administration that the financial implications should be addressed because it is that which is known to be the most resource-poor. The Strategy should be made to address this issue, for its affordability by the local Municipalities may be the key to political acceptability and ease of implementation. It would be helpful if the Strategy Report made some reference to 'institutional issues and choices (*A Solid Waste Management Strategy for the Maltese Islands: Consultation Document*, 2009).

3.2 The Characteristics of the 'litter sector'

In this Chapter an attempt is made to bring an economic perspective to bear on 'litter' which will help in the analysis later on. In economic terms, environmental problems reveal market or policy failures, and the attention then focuses on the use of instruments to correct failures (market-creation incentives, charges, fees, etc.). If litter has any value in a market situation they would not be thrown around for others to collect and dispose. It is therefore useful to pinpoint the economic characteristics of litter (the litter sector, so to speak) as a stepping stone to moving on to the financial interpretation of the proposed activities to address coastal litter.

Any discussion of the issue of litter entails questions relating to its occurrence, persistence, reduction and gradual elimination. These questions together with the actions and responses by the various individuals and authorities involved can be called 'litter sector', the same way that there is 'transport sector', 'housing sector', etc. The 'litter sector' has certain characteristics which are important for policy-making with associated economic and financial implications. These characteristics briefly include the following:

Open spaces. Litter is more often present in open places which are public as opposed to private property. Beaches are a case in point. It is rather rare to find litter on private property such as front gardens because the owner will protect it, remove the litter or take legal action. Spaces which are 'common property' are vulnerable to littering by direct or indirect source (in the environmental economics literature it is referred to as the '*Tragedy of the Commons*', after the renowned essay by Garret Hardin 1968, *Science Vol 162, No 3859*).

Economic value. Litter is waste material that has no immediate economic value otherwise the user would keep it for himself. Therefore, the user has **no** incentive to maintain it, on the contrary has an incentive to get rid of it without cost.

Wider effects. The impact of litter affects a much wider area than the actual spot on which it is left. Equally, cleaning a particular limited spot under the control of any individual has little effect on the quality of the surrounding public area unless the whole area is, and shows up as, litter-free. Therefore, individual action although important in preventing litter, has its limits in cleaning up relative to collective action and policy-driven responses.

Public action is crucial. Public authorities play an important role in addressing litter problems. Market solutions and prices / charges and private initiatives are crucial but most effective when supported by wider campaign effort involving collective actions and policy commitments.

Interaction with the economy. Litter interacts (favourably or unfavourably) with what is in many countries the most important sector of the economy. Tourism, as a revenue generating activity, is very sensitive to litter and its presence can affect earnings and the performance of the tourist sector. Tourism related business units, with strong incentive for clean beaches, can be an important source of finance / support for implementing activities to influence behavior, increase awareness, etc., conducive to the reduction / elimination or even removal of coastal litter.

4. THE FINANCIAL IMPLICATIONS

4.1 Identification of the financial implications

4.1.1 The main objectives of the Strategy

Generally, three important factors underlie the financial interpretation of a Strategy (project or programme): The cost, how it is financed and who bears the burden. The cost alone, although important in showing the extent of the burden, does not show much about the other side of the coin which matters particularly in the case of environmental and public sector Strategies: how the cost is financed and at which level of government or on which group in society the responsibility for paying the cost falls.

In the interpretation of the financial implications of this Strategy, in addition to the above, an important factor is the source of the costs: That which the proposed activities under the Strategy say should be done / provided, such as, a physical long lasting infrastructure, a revenue generating assets, equipment, staff and personnel, studies, seminars and workshops, etc. This is most important for the identification and classification of the financial implications of the Strategy. Thus, the framework for developing the financial implications is set. It is a four dimensional framework which will be used in this Report even briefly and generally in some parts):

- The costs
- The source of the costs
- The financing of the costs
- The burden of the cost

To anticipate possible comments, it must be stated that the question of benefits will be dealt with at a later part of this Report after discussing costs.

The first is important insomuch as the shows extent of the commitment involved. It analysis must not stop there because the financial implications should include reference to how the cost may be paid, by whom and if it is affordable. The social value of the Strategy hinges on, first, its affordability and, second, on its benefits. Answers to such questions often justify claims for increased financial support to environmental projects and indeed for coastal litter management projects that can contribute to (or undermine) coastal tourism depending on how the coastal zone is protected and managed.

The first step in this attempt to identify the financial implications of the Strategy is essentially to interpret the objectives and the proposed actions in terms that reveal the composition of the investment / expenditure effort that will materialize them. This is not usually evident at first glance because often objectives aiming towards a common result (management of the coastal environment or prevention of litter) involve diverse types of activities with different cost-creating sources ('cost centres' in the language of finance).

In this section of the Chapter the aim is to attempt to identify the financial profile of the Objectives of the Strategy, and in the following part to classify the proposed actions in terms of the expenditure cost involved (or implied).

Objective one

Enhance the proper implementation of existing legislation dealing with municipal solid waste, as well as sea based solid waste, by building or further developing legal and institutional capacity in local and port authorities, and other institutional stakeholders, to manage marine litter within an integrated coastal zone management framework.

Financial implications

Need to build and develop legal and institutional capacity in local and port authorities and other institutional stakeholders. No major infrastructural investment is envisaged.

Cost elements: Cost of studies, personnel and equipment, reporting system, in-house training, preparation of guidelines.

Objective two

Reduce, in view to eliminate, marine litter generated "in situ" (on beaches) with emphasis on plastics and smoking related marine litter.

Financial implications

Need to ensure that capacity for prevention and / or management and removal of beach litter is developed and put in place.

Cost elements: Cost of studies, personnel, placement and receptacles, removal tracks.

Objective three

Influence environmental attitudes and behaviour of residents and tourists of coastal areas in the Mediterranean Region with regards to marine litter.

Financial implications

Need to put in place an on-going effort of public awareness and information, and closer co-operation with environmental NGOs and interested stakeholders (especially hoteliers).

Cost elements: Cost of awareness campaign and information building and dissemination (seminars and publications, communication with stakeholders).

Objective four

Follow the trends of marine litter generation and distribution through the establishment of a monitoring programme for marine litter in the Mediterranean Sea.

Financial implications

Need to establish a monitoring programme.

Cost elements: Cost of studies, monitoring system (satellite, GIS, ground monitoring) and cooperation with neighbouring countries.

Objective five

Establish synergies with on-going and planned initiatives in the Mediterranean Region as they relate to waste and marine litter. In fact, this objective aims at ensuring coherence and coordination of scattered activities undertaken by various stakeholders under all previous objectives.

Financial implications Need to establish closer cooperation with regional organizations, sub-regional programmes and capacity for more effective implementation of integrated coastal zone management strategies / institutions.

Cost elements: Cost of capacity building, studies and institutional strengthening for the application of Economic Instruments and ICAM.

4.2 Classification of proposed activities

The classification of financial implications, in this particular case, entails grouping proposed activities according to National or Regional level and according to Medium or Long term perspective. This is important because will allow examination of possible priorities (within the logic of the Strategy) and the main responsibility for implementation.

4.2.1 The Approach applied

A twofold classification of Activities is applied: **(1)** Differentiating Regional from National activities, and **(2)** distinguishing between medium term and long term activities.

A comprehensive listing of all proposed activities falling under the 5 major Objectives of the Strategy is presented in the Annex of this Report.

There are in total 61 proposed activities, 25 concerning national level activities and 36 concerning regional level activities. Of the 25 national level activities 9 are medium term and 16 long term. Of the 36 regional level activities 23 are medium term and 13 long term. A summary table is shown below.

Table 1
Summary of Proposed Activities

| | Medium Term | Long term | Total |
|----------------------------|--------------------|------------------|--------------|
| National Activities | 9 | 16 | 25 |
| Regional Activities | 23 | 13 | 36 |

The classification of the proposed activities is shown in the Annex.

4.2.2 Classification of financial implications

A close review of the proposed activities immediately shows that almost all of them concern the strengthening of institutional capacity to engage effectively in precautionary actions on three main fronts:

- to undertake studies of the various aspects of marine / coastal litter,
- to mobilize private sector stakeholders, develop partnerships with NGOs and network with other countries,
- to disseminate information through seminars and workshops.

The following table presents the classification of the proposed activities according to the above three categories (institutional strengthening / staff, studies, seminars and workshops). That is to say, institutional strengthening as the overarching or background 'cost creator' activity, with subsequent direct cost activities for studies, outreach to private sector stakeholders, and seminars, workshops, etc.

A word of caution is needed here. The classification is based on and focuses specifically on that which gives rise to cost and needs financing, such as 'develop guidelines' (cost of study), 'support local authorities to promote awareness campaigns' (cost of mobilization and outreach), work with line ministries to implement incentive schemes for coastal areas (cost of technical and administrative strengthening). But, obviously to pursue these activities institutional strengthening is presupposed to put in place the administrative, management and technical capacity for the envisaged direct actions.

Table 2
Classification of proposed activities

| NATIONAL ACTIVITIES – MEDIUM TERM | |
|---|---|
| MAINLY STUDIES | |
| 1.8 | Local authorities to integrate beach clean ups into SWM systems and establish networks to improve exchange of experiences between the various national/sub-national/local management authorities |
| 1.9 | Mapping of the solid waste infrastructures and/or lack thereof on coastal zones (such as landfills, open dumps, transfer points, etc.). Assessment of the impact of waste disposal sites. Proposals for improvement and, whenever feasible, submission of projects to International Financial Institutions |
| 2.6 | Identify hot spots and conduct emergency clean-up of hotspots and beaches for demonstration and awareness. |
| 2.7 | Appropriate national authorities to develop a legal framework to introduce enforcement procedures for waste recycling activities (where national waste recycling legislation exists) |
| 3.6 | Undertake an assessment of economic, social and environmental impact of pollution from marine litter at national and local level (based on 3.1) |
| 4.8 | Countries to develop a sampling framework and conduct a baseline study of marine litter |
| NATIONAL ACTIVITIES – LONG TERM | |
| 1.11 | Work with ministries and local/port authorities who have already developed Integrated Coastal Zone Management plans to include management of marine litter |
| 1.12 | Assist competent authorities to develop SWM plans, including management of marine litter, and investment strategies for smaller towns not included in SAP |
| 1.13 | Parties to encourage sub-national and local authorities to develop proposals for financing activities |
| 2.10 | In the absence of national waste recycling legislation, local authorities should take responsibility and set targets for amount of waste required to be recycled |
| 3.13 | Work with the tourism sector in coastal areas to introduce sustainable tourism and develop concrete proposals |
| 3.14 | Assess the various financial opportunities to assist all competent local authorities and other stakeholders at national or local level to implement the aforementioned activities and replicate existing Programmes either through a cost recovery system (charging beach users and law enforcement) or grant financing for start-up activities |
| MAINLY INSTITUTIONAL STRENGTHENING | |
| 1.10 | Support institutional and technical capacity building of national and local administrations for implementation of large scale waste management projects |

| | |
|------|--|
| 2.5 | Support the International Coastal Clean-up campaigns to increase the number of countries participating in campaigns and also the number of volunteers and beaches cleaned. The campaigns and reporting on the results of the clean-up exercises will be linked to objective four |
| 4.9 | Countries to conduct routine monitoring programmes and report results to the national coordinator and MED POL |
| 2.8 | Local Authorities to work with the private sector and other actors to introduce the means to reduce marine litter on beaches with a special focus on plastic and smoking related litter |
| 2.9 | Work with conservation NGOs and fishing communities to adopt areas in the Mediterranean Sea and ensure that these areas are litter free. Similar to the concept of adopt a beach |
| 3.12 | Develop partnership frameworks with sea transport network providers |
| 3.12 | Develop partnership frameworks with sea transport network providers |
| 4.11 | Capacity building on implementing the UNEP/IOC guidelines on monitoring marine litter |
| 4.10 | Countries to conduct routine monitoring programmes and report results to the national coordinator and MED POL |
| | MAINLY SEMINARS AND ADVOCACY |
| 3.7 | Involve all line ministries and local/port authorities in the dissemination of the findings of the assessment (3.5) |
| 3.8 | Develop and implement in cooperation with stakeholders for 'Litter-free' Mediterranean Sea campaigns. Use information resulting information to support public awareness campaigns with emphasis on coastal residents and tourists. Involve the media |
| 3.9 | Promote simple formal and non-formal ESD in schools. This activity should take into consideration already existing training material. |
| 3.10 | Encourage local authorities to work with schools, NGOs and other CS groups to conduct voluntary beach clean ups |
| 3.11 | Work with line ministries to implement incentive schemes for coastal areas using appropriate standards such as the ISO 14001 standard and the EMAS |
| | REGIONAL ACTIVITIES – MEDIUM TERM |
| | MAINLY STUDIES (AND SEMINARS) |
| 1.1 | Document and make use of experience of countries in the Region which have specific marine litter policies and practices in place |
| 1.2 | Develop policy guidelines on drainage and marine litter management for high level decision makers |
| 1.3 | Prepare operational guidelines for environmentally and ecologically friendly downloading from ships and port/marina cleaning equipment |
| 1.4 | Review, update and develop training programmes to support institutional aspects of the management of marine litter |
| 2.1 | Collect good practices and provide guidelines to countries on legal and institutional aspects in effectively patrolling and imposing fines on those illegally dumping waste in coastal areas and littering on beaches |
| 2.2 | Prepare guidelines for environmentally and ecologically friendly mechanical beach clean-ups |

| | |
|------|--|
| 2.3 | Conduct a study on the impact of climate change on de-pollution efforts, especially of flooding in relation to marine litter, in the Mediterranean Sea |
| 2.4 | Propose guidelines for introduction of environmentally friendly fishing gear |
| 3.1 | Carry out a prototype pilot assessment of the economic, social and environmental impacts that marine litter has in the Mediterranean Region |
| 3.2 | Promote a communication strategy to present the findings of the economic, social and environmental assessments |
| 4.1 | Present and adopt UNEP/IOC guidelines on monitoring marine litter |
| 4.2 | Formalise the already developed country questionnaire on "Litter management in coastal zones of the Mediterranean Basin" and offer training in administering the questionnaire |
| 4.3 | Develop and agree on a set of indicators from quantitative (baseline survey) and qualitative (questionnaire) data |
| 4.4 | Agree on a reduction of marine litter by a year to be determined, based on the national baselines taking into account the UNEP/IOC guidelines and international practice |
| 4.5 | Integrate the marine litter monitoring system into the MED POL information system |
| 5.1 | Development of pedagogical tools and guidelines for the shipping sector on marine litter, management of shipping waste and use of port reception facilities. |
| 5.2 | Work with countries to implement MARPOL Annex V through development of own legislation and policies |
| 5.3 | Develop a compendium of environmentally safe fishing gear in the Mediterranean Region |
| 5.5 | Advocate for the recent "Adaptation Fund" of UNFCCC to be available to Mediterranean Countries for use in ensuring proper measures against pollution of the Mediterranean Sea from land-based litter SEMINARS AND ADVOCACY |
| 5.6 | Highlight the issue of marine litter in the Mediterranean Region at the forthcoming Commission on Sustainable Development (CSD) meeting |
| 5.8 | Provide software assistance in education, institutional and legal capacity building and public awareness campaigns to support the MeHSIP infrastructure projects funded by the European Investment Bank |
| 5.11 | MED POL to provide technical knowledge to local monitoring programmes on the management and monitoring of marine litter (based on UNEP/IOC guidelines). NO |
| | MAINLY INSTITUTIONAL STRENGTHENING |
| 5.4 | Port authorities to set up a reporting system for abandoned and lost fishing gear |
| | REGIONAL ACTIVITIES – LONG TERM |
| | MAINLY STUDIES |
| 3.5 | Implement regional and national programmes on promoting sustainable consumption and production in cooperation with the Marrakech Process and thereafter |
| 4.6 | Consider best practices in the region and implement pilot projects on the collection of floating and sea-bed litter by following the UNEP/IOC guidelines |
| | MAINLY ADVOCACY AND SEMINARS |
| 1.5 | Develop and implement twinning programmes for cross-border capacity building within local and port authorities in the application of marine litter management knowledge and technology COOP |

| | |
|------|---|
| 1.6 | Continue the work on assessing and monitoring the operation of port waste reception facilities as stipulated under MARPOL and provide assistance to ports, harbours and small marinas to develop and implement effective waste disposal procedures COOP |
| 3.3 | Support Parties to expand or replicate existing coastal management award schemes (such as the Blue Flag and Clean Coast Index) |
| 3.4 | Encourage and coordinate in cooperation with regional NGO networks a major public awareness Mediterranean "litter free" campaign and educational programmes on marine litter reduction and beach clean-ups |
| 4.7 | Fundraising for the establishment of a full-scale marine litter monitoring programme from country contributions, bilateral agencies and international financial organizations |
| 5.7 | Engage with UNDESA and UNEP to support efforts to reduce per capita generation rates in the Mediterranean Region |
| 5.10 | Following the entrance into force of the LBS Protocol, MED POL to work with the EU to develop legally binding targets for the reduction of marine litter and align targets to Marine Strategy Framework Directive NO COST TO COUNTRIES |
| 5.12 | Parties to work with programmes such as Blue Flag and Clean Coast to replicate them in other coastal areas. |
| 5.13 | Engage with research institutes to promote research and development in the field of marine litter and provide scientific knowledge and policy direction activities described in the Strategy |
| | MAINLY INSTITUTIONAL STRENGTHENING |
| 1.7 | Facilitate eligible countries to develop proposals and apply to donors for grant financing of above activities |
| 5.9 | Jointly develop capacity building projects for local and port authorities to manage marine litter |

4.3 Approximate Estimation of costs

4.3.1 Approach and assumptions

The **first** and most important point to clarify at the outset is that for the purposes of this Report the Strategy Report is taken as given and no attempt is made to add or change its philosophy and approach. More importantly, as the Strategy Report does not identify particular countries to which the Strategy is addressed, and does not differentiate between any group of countries (despite differences with regard to environmental legislation and institutional capacity) it is assumed that the Report makes broad reference to the Mediterranean with an implied emphasis on countries that seem to aspire to achieve precautionary capacity (rather than on countries that have such capacity, and much more, in place).

Within this framework, the cost estimate presented here is not derived from country data applying to each and every country of the Mediterranean. That kind of effort is clearly beyond the scope of time and resources made available for the purposes of this Report.

Instead, based on broad knowledge of other UNEP MAP programme activities / projects (TDA, SAP, CAMP, etc.) that address several aspects of environmental management issues and proposed activities, it was decided to use such background information combined with actual information gathered in Cyprus.

Second, costs are *approximate orders of magnitude*, sufficiently sound though to serve as a broad framework to highlight the financial implications of the Strategy. In any case, discussion of the financial implications is not confined to costing but includes important considerations like who bears the costs, the capacity of that agency to access funding sources, capability to cooperate with private sector stakeholders, and institutional powers to put in place instruments for (gradual) cost recovery. Above all, under 'financial implications' reference is also made to an interpretation of costs relative to benefits.

Third, it is assumed, as made clear in the Strategy Report itself, that the aim of the Strategy is to increase capacity for marine / coastal litter reduction activities as part of beach management process operating within the broader Solid Waste Management Strategy, and furthermore within an integrated coastal zone management in each country.

The costing calculations take that into account, namely that there is already a SWM Strategy and existing responsibilities at national and local level which need strengthening to (according to the objectives of the Strategy) *“enhance the proper implementation of existing legislation, reduce / eliminate marine litter generated “in situ” on beaches, influence environmental attitudes and behaviour of residents and tourists of coastal areas, establish synergies with on-going and planned initiatives in the Mediterranean Region as they relate to waste and marine litter”*.

Fourth, as the Strategy does not contain information about the adequacy of national / local technical and other capacity for SWM, combined with the fact that there is only limited and scattered information in the regional level reports (mainly the SAP) on coastal litter, it is inferred here that the existing capacity and the existing institutional responsibilities need upgrading as clearly indicated by the Strategy Report. Hence the cost estimate refers to additional staff (as opposed to setting up an agency anew) to take responsibility and implement actions for beach management and specifically for beach litter.

Fifth, the cost estimates are derived from research and data collection for Cyprus, a country that in terms of physical and economic development can be seen as representative of many other neighbouring countries, despite of course particular differences. However, as will be explained later, an approach is adopted so that the results can be transferred to other countries.

Sixth, the costs are estimated for (a) the staff and basic equipment to strengthen the beach management capacity and enhance the outreach to private sector stakeholders, (b) studies c) seminars, workshops and training.

Table 3
Approximate Estimation of annual costs in Euro (for one country)

| Cost category | Item cost | Total |
|---|------------------------------------|------------------|
| Institutional Strengthening | Staff 325,000 Equipment 350,000 | 675,000 |
| Studies | 180,000 | 180,000 |
| Seminars, (workshops, advocacy, training, networking) | 155,000 | 155,000 |
| Estimated total (per year) | 1,010,000 | 1,010,000 |

Note: This estimate does not include the cost of acquiring and operating remote sensing system of monitoring the movement of wastes approaching the coastal area. Estimates of the University of Cyprus puts the cost of acquiring the system at e1,000,000 plus e750,000 the cost of operating land and sea based emergency response actions. This cost is not included because such a system can be shared by 3 or more countries (for example Cyprus, Israel, Egypt, likewise Lebanon, Syria, etc.) partly using resources already in place operating for other purposes (coastal guard, defense, etc.).

4.3.2 Calculation Notes

Cost of staff: The cost for staff is based on 1 Officer-in-charge at the level of the responsible Ministry (Ministry of Interior or Environment, for example) plus 2 responsible professional officers in each coastal District (in the case of Cyprus Famagusta, Larnaca, Limassol and Paphos). In total 9 persons X e2,000 monthly plus e1,000 social benefits X 12 = 324,000 (say 325,000). These professionals will be expected to monitor and report on the quality of the beach and possible threats to it by litter (Such institutional issues are not elaborated in the Strategy).

Cost of equipment: 2 collection tracks e50,000 each, 50 receptacles e300 each, 3 beach cleaning vehicles per District X e100,000 each = 1,315,000 due for replacement on average every 4 years / 4 = 328,750 (say e330,000) except receptacles every year plus e15,000 total 345,000, say 350,000.

Cost of Studies: 36 Studies (18 national and local level and 18 regional level with national participation) = 18 X e20,000 = e360,000 + 18 X e20,000/2 = e180,000 Total e540,000 once every 3 years, therefore e540,000 / 3 = e180,000.

Cost of Seminars / Workshops: 5 national responsibility workshops held at District/ Municipal level twice a year (e100,000) + 21 regional level held every other year e10,000 each co-funded by central Ministry (21 X e10,000 / 2 / 2 = e52,500 (say 55,000). Total e155,000.

4.3.3 Calculations for transfer of cost estimate results

To allow the transfer of the estimated annual cost to other countries, the above cost of e1,010,000 should be related to a **physical unit of area (or cost indicator)** so that, as much as possible and with appropriate adjustments, it can be applied to the relevant area of another country and to the country itself more broadly.

Given that the cost of the Strategy related directly to the reach area, particularly the beach area used for recreation and tourism (although the data can be applied to the coast more generally), the cost indicator to be used is the **cost per kilometer of coast and square meter (m²) of beach area**. Below the relevant figures for Cyprus are cited showing how an indicator is derived:

Table 4
Derivation of cost indicator for Cyprus

| Length of developed part of the coast 80 km | | |
|--|-----------------------|---|
| Cost estimate applying to area | Cost indicator | Calculations |
| per km of useable coast area | e13,000 | e1,010,000 estimated cost / 80 km = e12,625 (say e13,000) |
| per m ² of beach area | e 0.63 | 80,000m x 20m = 1,600,000 m ² of beach area / e1,010,000 |
| Cost per beach user | e 6.3 | 1,600,000 m ² / 10m ² per person = 160,000 persons full capacity occupancy e1010,000 / 160,000 = e6.312 |

However, the above cost indicators will become far more meaningful when compared with the revenue-generating performance of the beach (which in many Mediterranean countries is a major source of revenue).

Table 5
Tourism revenue generation in Cyprus (mainly from coastal tourism)

| Revenue generated by tourism expenditure (primarily for beach related activities) | | |
|---|----------------|----------------------------|
| Description of revenue | Revenue per m2 | Calculation |
| Tourism revenue per m2 of beach | e1,562 | e2,500,000,000 / 1,600,000 |

The above indicators provide a good basis for assessing the affordability of the objectives and proposed actions of the Strategy. If a country earns so much from coastal tourism (mainly due to the quality and 'health' of the beach and coastal) it is certainly affordable to finance a litter strategy **provided that the revenues accrue to the level of government that is charged with the responsibility to finance the activities.** This issue can only be stressed here. The institutional side of finance needs specialized study.

More generally, concerning the 'cost of inaction' when countries delay the implementation of litter / prevention / reduction activities, UNEP Reports (*Marine Litter, A Global Challenge*, 2009) have listed several social impacts with cost consequences that each country should strive to avoid, such as:

- Loss of economically important wildlife
- Damage to fisheries, boats and fishing gear (up to 30,000 Pounds St. a year)
- Damage to boat propellers (the cost of boat rescue is put at 900,000 Pounds St. a year – Royal National Lifeboat Institute)
- Damage to tourism activities. (*Marine Strategy Framework Directive Task Group 10 Report Marine Litter, JRC Scientific and Technical Report, April 2010*)

4.3.4 Adjusting the estimated cost for other countries according to the length of the coast – examples

Based on the per km of coast cost of e13,000, the corresponding cost for Albania, for example, would be e1,300,000 (13,000 X 100 km.), for Malta e650,000 (13,000 X 50 km.) for Slovenia e 611,000, for Syria e1,040,000 and so on.

The length of the coast to be adopted for purposes of cost estimate should be based on the coast zoned for development according to the Coastal Zone Management Strategy Study. For example, for Croatia, with a length of coast of 1,777, should not mean that the cost would be e23.0 million (13,000 X 1,777 km.) because not all the coast is used for recreation and tourism or falling within an urban settlement. The same applies to Turkey, Greece and the other countries. However, the cost indicator may be used more widely depending on the needs of policy making.

The above estimates assume the all the countries have the same prices and costs, which may or may not be the case. This should be clearly acknowledged. To account for this a second parameter of adjustment may be used, that of the GDP per person.

This Report, although acknowledges the influence of price and cost differences between the countries of the region on the cost, does not recommend cost estimate adjustment primarily because the relevant components of costs (professional personnel, studies, equipment, seminars, etc.) tend on average to be rather uniform. For the sake of illustrating the point, the figure of e13,000 per km of coast derived based on cost estimated obtained for Cyprus would be adjusted as follows: The GDP-adjusted cost estimated for Syria, with GDP per capita at 22% relative to Cyprus, would be e2,860 (e13,000 X 0.22) if in the implementation of the Strategy only national personnel will be used. For Greece, for example, the GDP-adjusted estimated cost per km of coast would be e19,240 (13,000 X 1.48).

This point is mentioned mainly to clarify that it is not ignored in the analysis but not adopted as relevant as the financial implications of the Strategy entail mainly international costs rather than national costs (equipment, light machinery, staff, seminars, consultant studies, etc.).

5. FUNDING ISSUES

5.1 The private sector

A large part of the cost of the Strategy as estimated above is capable of attracting funding not only from IFI and Regional Organizations but from a much closer source, the domestic private sector. Usually, IFI lending or granting funds for environmental programmes build into the programmes the need to increase national and local capacity for mobilizing domestic funds (such as establishing capacity for applying user charges, deposit funds, levies, polluter pays penalties, etc.). This is stressed here because for the financing of this Strategy, which focuses on precautionary actions, there is no proposal for building capital intensive infrastructure that would require external capital grant financing.

The outreach to the private sector will be one of the primary responsibilities of the professionals recruited for 'institutional strengthening'. Without capacity building within the national and municipal administration the mobilization of private sector participation will be difficult. In most countries banking organizations, the Chamber of Commerce, the Association of Hoteliers, etc., undertake initiatives for beach cleaning, provision of equipment, awareness campaigns, etc. In this connection, gradually action should be taken to incorporate the use of Economic Instruments (EI) (*UNEP/MAP-PAP/RAC, Economic Instruments for Coastal Zone Management, 2000*), and for the application of the *Polluter Pays Principle*. This is clear and is strongly recommended. However, the application of EI and PPP, requires tracing the polluters who are many and diverse involving high administrative collection and legal expenses.

This Study recommends that much easier to reach and mobilize in the first instance, until the litter Strategy is incorporated within an Integrated Coastal Zone Management Process, is the **beneficiaries** of clean beaches which is the tourism hotel and tourist enterprises sector. Recall the characteristics of the litter sector referred to at the beginning of the Report (4.0) that litter affects tourism directly.

Based on the practical principle of '*beneficiary pays*' the hotel and restaurant sector in coastal areas is a potential source of funding at least for seminars, workshops, awareness and cleaning campaigns, even small scale studies.

Banks are known to finance beach cleaning events when their name is associated with the initiative and shown on the T-shirts and container bags.

5.2 Environmental finance: particular type of investment

Looking forward to a cluster of longer term activities to streamline a beach / coastal litter Strategy within the overall Integrated Coastal Zone Management Strategy (which is the ultimate objective of the Strategy), a set of basic issues of environmental finance will be useful to present for future reference. It is the view of this Report that the 'financial implications' should be a part of the initial study design so that the formulation of proposals may be calibrated and go together with the implementation design. Although this Strategy makes it clear that the objectives concern capacity building and institutional strengthening for precautionary readiness to prevent marine / coastal litter, it is important to mention that the implementation of Strategies, generally, is likely to be more effective when the financial / economic assessment (financial implications) are considered together within the same study effort with the technical / scientific assessment. Usually, like in this case, the financial implications are taken up at the tail end.

For future reference and with a view to promoting the objectives of the SAP and the NAPs, it should be adopted and shared by all the actors concerned that the protection of the marine environment from pollution from land based sources, at least, entails complex objectives and combined actions which cannot be achieved with conventional assumptions that investment resources will be made available as a matter of course to match the estimated costs. 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 and gradually eliminate pollution. Particular type of finance is required according not only to the type, size and risk of environmental investment considered but also according to the administrative, legal and social context within which the investment will be undertaken, operated and utilized. The specific characteristics of each financing source need to be taken into consideration when developing the financial packages for implementation. For example:

- Long term finance for major infrastructure is not envisaged in this Strategy. Such capital funding is suitable for high cost and long lasting infrastructure and requires government guarantees. Even when capital funds are made available from IFI they may be insufficient without national co-financing (public and private), or, without provisions made for ensuring at least partial cost recovery charges over time.
- Private sector participation is unrealistic without administrative and legal provision for recovery charges collected from the beneficiaries.
- Commercial finance is most suitable for bridging revenues and expenditure flows, requiring prior financial planning and assessment of the administrative and legal capacity for repayments.
- Donor funds are mostly intended for start-up actions until domestic financial strategies and legislation are in place rather than available on a continuous basis.
- Most importantly, national budget funds needed for continuous activity may not be made available without demonstrating the socio-economic significance of such activities in terms of the benefits for the local and national and regional economy and environment.

5.3 The issue of Benefits from Environmental Investment (and why consider benefits?)

As mentioned earlier, estimated costs cannot be used for decision making in isolation from other factors. Two such factors are of most importance: The assessment of the size of the cost relative to the extent of what it will prevent or create (benefits), and, the type and composition of the cost relative to potential funding opportunities. Funding opportunities have been alluded to earlier. Private sector mobilization is essential and national funds earmarked out of tourism revenue. When larger capital projects are called for then higher level regional and international sources will need to help because of transboundary effects and the importance of the quality of a shared coastal and marine environment (what economists call 'externalities').

To fully grasp the importance of considering the benefits accruing from environmental expenditure / investment it is necessary to explain why often benefits are not translated into cash money allowing governments to misinterpret that environmental expenditure is without revenue return.

Marine and coastal resources have a dual role; they are an integral part of both the coastal and marine ecology and the coastal economy. The protection and improvement of the quality of marine resources generate, in addition to ecological benefits, diverse and long-term economic and social benefits. Such benefits are often underestimated due to **partial information** arising from the fact that many are indirect, long-term and are not fully reflected in market prices. Thus the identification and, as far as possible, measurement of benefits is necessary to ensure that decision-making for the implementation of the Strategy and associated activities takes into account all information concerning all or most of the expected positive outcomes of Strategy implementation. Such positive outcomes accruing from implementation costs concern (a) avoided damages to the environment which would occur without the Strategy and (b) positive improvements to the environment in terms of added quality and productivity for a variety of social and economic activities (tourism, recreation, fisheries, human health, agriculture, community education, biodiversity research, etc.).

5.4 Incorporating benefits in strategy implementation

The following simple table may offer an illustration of the classification of the different categories of services and benefits described above.

Table 6
Benefits of Strategy Implementation

| Main elements of Strategy | Type of potential benefits | Without strategy implementation (dis-benefits) | With strategy implementation (benefits) |
|--|-----------------------------------|--|--|
| The Objectives comprising the Strategy | Economic | - Pollution damages and accumulated costs - Damages to economic activities dependent on marine, coastal quality (fisheries, agriculture, tourism, recreation) - Health costs | - Prevention of marine pollution and avoided costs - Growth in economic sectors (fisheries, transport, trade, tourism) - Reduction of health hazards and productivity increase |
| | Social | - Depletion of coastal resources limiting recreation and enjoyment opportunities to society | - Management of coastal resources providing diverse opportunities for recreation, leisure and cultural activities |
| | Environmental | - Destruction of environmental integrity, biodiversity and life-support ecological functions | - Integrity of the coastal environment and biodiversity as a natural system |

5.5 Examples of the Value of Benefits in the Mediterranean

Table 7
Summary of findings of cost-benefit studies in the Mediterranean

| Study | Estimated annual value of benefits from coastal protection (million USD) | Comments on benefits monetized |
|--|---|---|
| Study of Izmir Bay Turkey (1992) | 286.0 | Tourism, property values |
| Study of the island of Rhodes Greece (1992) | 21.0 | Tourism, property values and human health |
| Study of the coast of Israel (1999) | 244.0 | Tourism and recreation benefits |
| Average | 184.0 | Generalized for the southern Med region |
| Possible value of annual benefits in the Mediterranean 'south', excluding France, Italy and Spain | 3,128 (billion) | Possible annual benefits for the countries of the Mediterranean 'south' |
| Estimated Annual Cost of the Implementation of the Prevention / Response marine Pollution Strategy under review (2005) | 25.3 (Scenario 1) 10.5 (Scenario 2) | Possible benefits many times higher than estimated costs |

Sources: Balkas T.I. & Juhasz F. 1993, Constantinides, G. 1993, 2005, Zenovar Consultants, 1999

The above findings illustrate the high value of economic, social and environmental benefits accruing from the protection of the coastal and marine environment. Such monetization of benefits is not often attempted depriving environmental investment from their proper justification in economic terms that Finance Ministries appreciate. More recently the METAP programme has undertaken several economic benefit valuation case studies but then again mainly dealing with wastewater management.

The point to stress here is that the cost of tackling beach litter is certainly minute relative to the benefits that will accrue (directly and indirectly).

Of course, if the burden of the financial costs will fall on impoverished local Municipalities which receive, irregularly, small grants from higher level administration (Regional Governments / Ministries) the need to reach out to the private sector becomes more urgent. But this cannot be the ultimate solution because Municipalities must be given both technical capacity and finance to operate. This is an important point to communicate in the context of this Strategy.

5.6 Market forces and sustainable finance

In addition to the incentive function of economic instruments (EI) (to correct externalities) their financial function is of direct interest to both public sector and private stakeholders. It establishes a source of sustainable finance for national, local and port authorities for financing actions that would otherwise take much longer to realize, thus delivering both private sector gains from the prevention of marine pollution as well as public sector benefits from the capacity to fulfill regional and international obligations. User charges collected for polluters, for example, tend to ensure flow of funds for investment and capital and running cost recovery.

Most important, going back to Chapter 3.2 on the Characteristics of the 'litter sector', ultimately the reduction / elimination of coastal litter will depend on the extent to which a market is created for clean beaches, a market connected with tourism and coastal recreation. In this context 'market creation' means that the hoteliers and restaurant owners, whose income depends on clean beaches, should realize that the beach is part of their economic space to be cleaned up and in fact protected like their interior hotel and restaurant spaces. Market creation is one of the main aims of Economic Instruments and Integrated Coastal Zone Management. (Theodore Panayiotou, Instruments of Change).

Again, despite the importance of applying EI, Municipalities must acquire and enhance in-house capacity for operating EI and ICZM and this is the responsibility of national governments with the support of region-wide organizations. Therefore, financial resources must be handed down to the Municipalities at least to do tasks that private sector stakeholders cannot do or finance, such as regular reporting of analyses of beach quality, inspection of 'offenders', etc.

ANNEX

National Activities Medium Term (9)

| | |
|------|--|
| 1.8 | Local authorities to integrate beach clean ups into SWM systems and establish networks to improve exchange of experiences between the various national/sub-national/local management authorities |
| 1.9 | Mapping of the solid waste infrastructures and/or lack thereof on coastal zones (such as landfills, open dumps, transfer points, etc.). Assessment of the impact of waste disposal sites as point sources of marine litter. Proposals for improvement and, whenever feasible, submission of projects to International Financial Institutions |
| 1.10 | Support institutional and technical capacity building of national and local administrations in order for large scale waste management projects to be developed and implemented |
| 2.5 | Support the International Coastal Clean-up campaigns with aim to increase the number of countries participating in campaigns and also the number of volunteers and beaches cleaned. The campaigns and reporting on the results of the clean-up exercises will be linked to objective four |
| 2.6 | Identify hot spots and conduct emergency clean-up of hotspots and beaches. Once the area is clean, it is more likely that people will refrain from littering, especially if this is followed by an awareness campaign as outlined in objective three |
| 2.7 | Appropriate national authorities to develop a legal framework to introduce enforcement procedures for waste recycling activities (sorting of waste, provision of recycling disposal points) where national waste recycling legislation exists |
| 3.6 | Undertake an assessment to ascertain the economic aspects of, social and environmental impact of pollution from marine litter at national and local level (based on 3.1) |
| 4.8 | Countries to develop a sampling framework and conduct a baseline study of marine litter |
| 4.9 | Countries to conduct routine monitoring programmes and report results to the national coordinator and MED POL |

National Activities Long Term (16)

| | |
|------|--|
| 1.11 | Work with ministries and local/port authorities who have already developed Integrated Coastal Zone Management plans to include management of marine litter |
| 1.12 | Assist competent authorities to develop SWM plans, which include the management of marine litter, and investment strategies for smaller towns (i.e. of populations less than 100,000 which are classified as urban) which were not included in SAP |
| 1.13 | Parties to encourage sub-national and local authorities to develop proposals for financing activities under the EU LIFE, EU Neighbourhood Policy, African Development Bank, GEF and other International Financial Institutions |
| 2.8 | Local Authorities to work with the private sector and other actors to introduce the means to reduce marine litter on beaches with a special focus on plastic and smoking related litter |

| | |
|------|--|
| 2.9 | Work with conservation NGOs and fishing communities to adopt areas in the Mediterranean Sea and ensure that these areas are litter free. Similar to the concept of adopt a beach |
| 2.10 | In the absence of national waste recycling legislation, local authorities should take responsibility and set targets for amount of waste required to be recycled |
| 3.7 | Involve all line ministries and local/port authorities in the dissemination of the findings of the assessment (3.5) |
| 3.8 | Develop and implement in cooperation with all willing stakeholders national and local 'Litter-free' Mediterranean Sea campaigns. Use information from above activities to support public awareness campaigns with emphasis on coastal residents and tourists. Involve the media, particularly TV channels and radio stations, in active promotion of the "Litter free Mediterranean Sea" campaigns |
| 3.9 | Promote simple formal and non-formal ESD in schools on the multiple impacts of marine litter and what can be done to prevent it. This activity should take into consideration already existing training material. The activity should include a component on training of teachers |
| 3.10 | Encourage local authorities to work with schools, NGOs and other CS groups to conduct voluntary beach clean ups |
| 3.11 | Work with line ministries to implement incentive schemes for coastal areas using appropriate standards such as the ISO 14001 standard and the EMAS |
| 3.12 | Develop partnership frameworks with sea transport network providers to ensure waste-wise behaviour onboard and adequate disposal of waste on and off-board |
| 3.13 | Work with the tourism sector in coastal areas to introduce sustainable tourism. Develop concrete proposals of how the tourism industry becomes more eco-friendly and protect the environment from littering |
| 3.14 | Assess the various financial opportunities to assist all competent local authorities and other stakeholders at national or local level to implement the aforementioned activities and replicate existing Programmes either through a cost recovery system (charging beach users and law enforcement) or grant financing for start-up activities |
| 4.10 | Parties to establish and implement national marine litter monitoring programmes on the basis of regional agreements |
| 4.11 | Capacity building on implementing the UNEP/IOC guidelines on monitoring marine litter |

Regional Activities Medium Term (23)

| | |
|-----|---|
| 1.1 | Document and make use of experience of countries in the Region which have specific marine litter policies and practices in place |
| 1.2 | Develop policy guidelines on drainage and marine litter management for high level decision makers |
| 1.3 | Prepare operational guidelines for environmentally and ecologically friendly downloading from ships and port/marina cleaning equipment |
| 1.4 | Review, update and develop training programmes to support institutional aspects of the management of marine litter |
| 2.1 | Collect good practices and provide guidelines to countries on legal and institutional aspects in effectively patrolling and imposing fines on those illegally dumping waste in coastal areas and littering on beaches |

| | |
|-----|---|
| 2.2 | Prepare guidelines for environmentally and ecologically friendly mechanical beach clean-ups |
| 2.3 | Conduct a study on the impact of climate change on de-pollution efforts, especially of flooding in relation to marine litter, in the Mediterranean Sea |
| 2.4 | Propose guidelines (eventually in cooperation with other competent international bodies) including incentive schemes for introduction of environmentally friendly fishing gear |
| 3.1 | Carry out a prototype pilot assessment of the economic, social and environmental impacts that marine litter has in the Mediterranean Region in order (a) to assign a financial value to clean beaches and (b) assess the cost of inaction if littering continues inhibited. This assessment and its methodology may act as a blue-print for relevant national assessments |
| 3.2 | Promote a communication strategy in order to present the findings of the economic, social and environmental assessments and marine litter surveys undertaken as part of this strategy (see 3.1 etc.) and provide periodic updates on marine litter hotspots and the general environmental situation of Mediterranean Sea |
| 4.1 | Present and adopt UNEP/IOC guidelines on monitoring marine litter. Stakeholders in this process include, universities, research institutions, other development agencies, representatives of local and port authorities, national statistics offices, NGOs and other civil society organisations |
| 4.2 | Formalise the already developed country questionnaire on "Litter management in coastal zones of the Mediterranean Basin" and offer training in administering the questionnaire. It should be sent for completion to the countries every four (4) years |
| 4.3 | Develop and agree on a set of indicators from quantitative (baseline survey) and qualitative (questionnaire) data |
| 4.4 | Agree on a reduction of marine litter by a year to be determined, based on the national baselines developed by each country, taking into consideration the fluctuation of litter between two time horizons with consensus amongst all the partners taking into account the UNEP/IOC guidelines and international practice |
| 4.5 | Integrate the marine litter monitoring system into the MED POL information system. The system will include the baseline information, indicators and will be used to track progress in reducing marine litter. In-putting of data will be a continuous process |
| 5.1 | Development of pedagogical tools and guidelines for the shipping sector on marine litter, management of shipping waste and use of port reception facilities. This activity can replicate the best practices of NGOs on training and motivating crew and ship owners to take a more active role in the environment |
| 5.2 | Work with countries to implement MARPOL Annex V through development of own legislation and policies |
| 5.3 | In collaboration with other competent international organizations and private sector develop a compendium of environmentally safe fishing gear in the Mediterranean Region |
| 5.4 | Port authorities to set up a reporting system for abandoned and lost fishing gear |
| 5.5 | Advocate for the recent "Adaptation Fund" of UNFCCC to be available to Mediterranean Countries for use in ensuring proper measures against pollution of the Mediterranean Sea from land-based litter |
| 5.6 | Highlight the issue of marine litter in the Mediterranean Region at the forthcoming Commission on Sustainable Development (CSD) meeting, 2010 -2011 cycle which focuses on solid waste |

| | |
|------|---|
| 5.8 | Provide software assistance in education, institutional and legal capacity building and public awareness campaigns to support the MeHSIP infrastructure projects funded by the European Investment Bank |
| 5.11 | MED POL to provide technical knowledge to local monitoring programmes on the management and monitoring of marine litter (based on UNEP/IOC guidelines). |

Regional Activities Long Term (13)

| | |
|------|--|
| 1.5 | Develop and implement twinning programmes for cross-border capacity building within local and port authorities in the application of marine litter management knowledge and technology |
| 1.6 | Continue the work on assessing and monitoring the operation of port waste reception facilities as stipulated under MARPOL and provide assistance to ports, harbours and small marinas to develop and implement effective waste disposal procedures |
| 1.7 | Facilitate eligible countries to develop proposals and apply to donors for grant financing of above activities |
| 3.3 | Support Parties to expand or replicate existing coastal management award schemes (such as the Blue Flag and Clean Coast Index). |
| 3.4 | Encourage and coordinate in cooperation with regional NGO networks a major public awareness Mediterranean "litter free" campaign and educational programmes on marine litter reduction and beach clean-ups |
| 3.5 | Implement regional and national programmes on promoting sustainable consumption and production in cooperation with the Marrakech Process and thereafter |
| 4.6 | Consider best practices in the region and implement pilot projects on the collection of floating and sea-bed litter by following the UNEP/IOC guidelines |
| 4.7 | Fundraising for the establishment of a full-scale marine litter monitoring programme from country contributions, bilateral agencies and international financial organizations |
| 5.7 | Engage with UNDESA and UNEP to support efforts to reduce per capita generation rates in the Mediterranean Region |
| 5.9 | Jointly develop capacity building projects for local and port authorities to manage marine litter |
| 5.10 | Following the entrance into force of the LBS Protocol, MED POL to work with the EU to develop legally binding targets for the reduction of marine litter and align targets to Marine Strategy Framework Directive |
| 5.12 | Parties to work with programmes such as Blue Flag and Clean Coast to replicate them in other coastal areas. |
| 5.13 | Engage with research institutes to promote research and development in the field of marine litter and provide scientific knowledge and policy direction activities described in the Strategy |

COUNTRY INCOME PROFILES

| Country | Length of coast km | GDP capita (PPP) USD | GDP capita relative to average % | GDP capita relative to Cyprus % |
|----------|--------------------|----------------------|----------------------------------|---------------------------------|
| Albania | 362 | 6,400 | 35% | 31% |
| Algeria | 998 | 7,100 | 39% | 34% |
| Croatia | 1,777 | 17,500 | 97% | 83% |
| Cyprus | 648 (296)* | 21,000 | 116% | 100% |
| Egypt | 2,450 | 6,000 | 33% | 29% |
| France | 3,400 | 32,600 | 181% | 155% |
| Greece | 13,676 | 31,000 | 172% | 148% |
| Italy | 7,100 | 30,000 | 166% | 143% |
| Israel | 273 | 28,400 | 157% | 135% |
| Lebanon | 225 | 13,200 | 73% | 63% |
| Malta | 256 | 24,300 | 135% | 116% |
| Slovenia | 47 | 27,700 | 154% | 132% |
| Syria | 183 | 4,600 | 25% | 22% |
| Tunisia | 1,148 | 8,200 | 45% | 39% |
| Turkey | 7,200 | 11,400 | 63% | 54% |
| All | | 269,400 | | |
| Average | | 17,960 (18,000) | 100% | |

* Coast under the control of the Republic of Cyprus, Source: World Bank, World Economic Indicators, 2009

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