UNEP

UNEP/GPA Series on Finance and Legislation

Financing for the Environmental Conservation of the Red Sea and the Gulf of Aden (PERSGA)

A report on available options for increasing sustainable financing for the implementation of PERSGA activities at all levels

© Mohamed Youmis / PERSGA

January 2006

This report was prepared by the Regional Seas Coordination Office, and the Coordination Office of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (GPA) of the United Nations Environment Programme (UNEP), in cooperation with the Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA).

Project team: Niels Konstantin Jensen (Consultant/Senior Analyst, Danish Export Credit Agency)
Ulrik Dan Weuder (Programme Officer, UNEP/GPA)
Editor: Brandy Vaughan

UNEP
P.O.Box 30552
Nairobi, Kenya
Tel: +254 (0)20 7621234
Fax: +254 (0)20 7623927
Email: cpiinfo@unep.org
Web: http://www.unep.org

For bibliographical purposes, this document may be cited as:
UNEP 2006: Financing for the Environmental Conservation of the Red Sea and Gulf of Aden (PERSGA)

Financing for the Environmental Conservation of the Red Sea and Gulf of Aden (PERSGA)

A report on available options for increasing sustainable financing for the implementation of PERSGA activities at all levels

UNEP 2006

Table of Contents

Table of Contents i
List of Abbreviations: iii
Preface 1
1.0. Introduction 3
1.1. Rational for and scope of the study 4
2.0. PERSGA 7
2.1. Demand for environmental financing in PERSGA 7
2.1.1. Financing demand for PERSGA Secretariat costs 8
2.1.2. Financing demand for the PERSGA Programme of Work 10
2.1.3. Financing demand for national implementation of PERSGA 10
2.1.4. Overall demand for PERSGA environmental financing 11
3.0. Fundamentals of environmental financing 13
3.1. Types of financing 15
3.2. Financing sources and strategies 17
3.2.1. Donors 17
3.2.2. International Financial Institutions (IFIs) 23
3.2.3. Commercial banks 30
3.2.4. Economic instruments 32
3.2.5. Subsidies 37
3.2.6. Public private partnerships 39
3.3. Considerations for the selection and implementation of instruments and mechanisms 42
3.3.1. Finding the appropriate financiers. 42
3.3.2. Finding the appropriate economic instruments. 44
4.0. Financing for the protection of the marine environment from land-based sources 49
4.1. Financing the PERSGA Secretariat 50
4.2. Financing the programme of work 52
4.3. Financing and implementation at the national level 54
4.3.1. Developing the programme of action 55
4.3.2. Financing the national programme of action 57
4.3.3. Project cycle for investment projects. 59
5.0. Prioritisation of PERSGA action and addressing financial constraints 63
5.1. Strategic planning 64
5.1.1. Legislative review 64
5.1.2. Challenges to implementation 65
5.1.3. Environmental financing strategy 65
5.1.4. Domestic resource mobilisation 66
5.1.5. Strengthening efficiency in managing public environmental expenditure 67
5.2. Overview 68
References: 69

Table of Annexes

Annex 1 Environmental Challenges and Environmental Action Priorities for the Red Sea and Gulf of Aden *71*
Annex 2 Possibilities of Public Private Partnerships *75*
Annex 3 Legislative Review and Transposition *77*
Annex 4 Financing Strategy Process *79*
Annex 5 Review of the Potential of Market Based Instruments *80*
Annex 6 The World Bank: Further Description of Programs and Lending Institutions *82*
Annex 7 10 Keys for local and national action on municipal wastewater *83*
Annex 8 Types of Environmental Funds *85*
Annex 9 List of criteria to evaluate the potential effectiveness of environmental taxes and charges *87*
Annex 10 Development, Recipient Aid Charts *90*
Annex 11 The process of working with KfW Development Bank *94*
Annex 12 Financing Mechanism for Marine Conservation *96*

List of Abbreviations:

AfDB: African Development Bank
BOO: Build Operate Own
BOT: Build Operate Transfer
CAC: Command And Control
CAS: Country Assistance Strategy
EAP: Environmental Action Programme
EBRD: European Bank of Reconstruction and Development
EC: European Commission
ECA: Export Credit Agency
EECCA: Easter Europe, Caucasus and Central Asia
EF: Environmental Fund
EFS: Environmental Financing Strategy
EI: Economic Instrument
EIB: European Investment Bank
EPF: Environmental Protection Fund
EU: European Union
FC: Financial Cooperation
FSL: Fixed Spread Loan
GDP: Gross Domestic Product
GEF: Global Environment Facility
GNI: Gross National Income
GPA: Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
IBRD: International Bank of Reconstruction and Development
ID: Islamic Dinar (currency)
IDA: International Development Association
IDB: Islamic Development Bank
IFC: International Finance Corporation
IFI: International Financial Institution
IMF: International Monetary Fund
KD: Kuwait Dinar (currency)
KFAED: Kuwait Fund for Arab Economic Development
KfW: KfW Development Bank
LBS: Land-Based Sources of Pollution
LE: Egyptian Pounds (currency)
MBI: Market Based Instrument
MDB: Multilateral Development Bank
METAP: Mediterranean Environmental Technical Assistance Program
MIGA: Multilateral Investment Guarantee Agency
NGO: Non-Governmental Organisation
NPA: National Programme of Action
NTF: Nigerian Trust Fund
ODA: Official Development Assistance
OECD: Organisation for Economic Co-operation and Development
PA: Programme of Action
PAC: Pollution Abatement and Control
PADH: Physical Alteration and Destruction of Habitats
PERSGA: Programme for the Environment of the Red Sea and Gulf of Aden
PIP: Public Investment Programme
POP: Persistent Organic Pollution
PPC: Project Preparation Committee

PPP: Private Public Partnership
PPP*: Purchasing Power Parity
PW: Programme of Work
RPA/LBS: Regional Programme of Action for the protection of the Red Sea and Gulf of Aden from Land-Based Sources
SAP: Strategic Action Programme
SEE: South East Europe
SME: Small- and Medium-size Enterprises
UK: United Kingdom
UNDP: United Nations Development Programme
UNEP: United Nations Environmental Programme
USD: United States Dollars (currency)
VAT: Value Added Tax
WTO: World Trade Organisation

Preface

PERSGA (Programme for the Environment of the Red Sea and Gulf of Aden) was set up as an organisation in 1995 to advance the conservation of the coastal and marine environments of the Red Sea and Gulf of Aden. Since the establishment of PERSGA much has been achieved – but more needs to be done to address the current environmental issues and move towards the goal of sustainable use and management of the region's coastal and marine resources.

With the Strategic Action Programme (SAP) ending in June 2005, PERSGA is now in a stage of transition and will be moving into the next phase of activities. This provides a vital opportunity for PERSGA's work to gain fresh momentum and support as the process of strategic planning for the Framework of Action (2005–2010) continues.

PERSGA has initiated a series of activities to support the next phase, including the development of a Regional Programme of Action, a review of PERSGA projects, a PERSGA business plan (2004–2014), and a draft protocol on the protection of the marine environment from land-based sources of pollution in the Red Sea and Gulf of Aden (LBS Protocol). These documents and reports provide the foundation for PERSGA's activities moving forward.

As the next phase progresses, PERSGA is taking on a programme of such a magnitude that it can no longer be funded by a few donor contributions. The substantial increase in funding necessary to reach the programme's goals can only be achieved through the involvement of all member countries in close cooperation with international partners and donors. In addition, short-term funding through grants, donors, and/or subsidies will be essential until the necessary level of sustainable, long-term financing has been established. To organise such sustainable financing and increase the national implementation of the PERSGA programmes, domestic commitment and domestic resources will need to be strengthened substantially.

Since the need for programme funding must be addressed directly, this report will discuss the financing process as a whole, how to determine financing needs, how to choose the plan that best fits these needs, as well as the challenges PERSGA will face while moving forward with the next phase of activities. Since the largest part of programme implementation will be at the national level, this report will focus on national action plan implementation and domestic resource mobilisation. The report will provide some international and regional examples as well as introducing methods, tools, economic instruments and/or mechanisms that can assist the PERSGA Secretariat, its programmes and its member countries in creating a larger pool of sustainable, long-term financing[1].

The report is divided into the following five sections:

Section 1 provides a brief introduction on environmental financing as well as the rational and scope of this report.

Section 2 presents brief background information on PERSGA and discusses its demands for financing as presented in the work programme and at the national level.

[1] Long term sustainable financing – can come from three main sources of funding: 1) domestic public-sector financing through direct or indirect transfers, 2) polluters and user pays mechanisms and 3) foreign grants (international). It should be noted that loan financing and other forms of future repayment mechanisms can bridge a time gap until sustainable financing mechanisms can be established. However, the use of bridging mechanisms based on future repayment will increase the need for domestic resources to be made available in the future when repayment is taking place.

Section 3 describes the different types of financing available, various funding sources, helpful financing options and tools that can be used to create the best financing package. This section also addresses options for increasing environmental financing (user/polluter pay schemes, earmarking and general tax subsidies, etc.) and aspects that need to be taken into consideration when evaluating the benefits of specific instruments. This section is supported by detailed annexes found at the end of the report.

Section 4 presents the art of financing action programmes at all levels. This section includes options for the blending and/or matching of different financial resources and considerations for financing different needs (secretariat costs, regional programmes, and national implementation). This section describes relevant types of instruments as well as the framework necessary for these mechanisms to be effective.

Section 5 describes strategic planning methods and tools to help develop prioritised, affordable, realistic, and effective action programmes.

1.0. Introduction

Demand for environmental financing

Environmental financing comes from a variety of sources including the public sector, private sector, civil society, and international funding sources. When implementing environmental activities, it is always a challenge to select the right financing option/s and to identify enough available financing to cover the entire project.

The demand for environmental financing can be viewed from several angles. The national parliamentarian/policy maker will usually define the demand for financing as the amount of funding needed to implement the legislation and policies in place at national and global levels. The ministries or municipal civil servants responsible for programme implementation will define the demand based on agreed programmes of work such as time-bound national action programmes or business plans. From a financial point of view, the demand for financing reflects the actual willingness of society to pay for the environment.

Based on these definitions, the demand for environmental financing becomes the result of: 1) the political commitment to the environment through budget transfers; 2) users' willingness to pay for services and the use of environmental resources; and 3) the polluter's willingness (or enforced willingness) to clean up and prevent environmental degradation. To a large extent the demand for financing reflects society's ability to enforce regulations and users'/polluters' willingness to comply with these regulations, including voluntary approaches and/or voluntary financing.

There are three main groups that carry out environmental actions and/or investments:

- the public sector in providing environmental services to users (possibly through public private partnerships);
- firms/enterprises with pollution abatement actions or actions to clean up inputs to their production; and
- other stakeholders that may wish, for varying reasons, to secure and maintain the environment (environmental groups and organisations, etc.).

Environmental degradation will often have a series of external effects (externalities) which can be difficult or impossible to measure. Demand for environmental financing can be influenced by increasing the awareness of these externalities (i.e. the full costs) related to environmental degradation or non-action. In the process of obtaining environmental financing, including studies on the effects of non-action, environmental health costs, and environmental socio-economic relationships can become a valuable tool to justify increased financing for environmental action. As an example of the serious costs involved, the Mediterranean Environmental Technical Assistance Program (METAP) tried to assess the cost of environmental degradation in Egypt. METAP estimated the cost of environmental degradation to be between LE 10-19 billion annually or between 3-6% of GDP. The figures should be considered with respect to magnitude and not taken as exact indications (METAP web).

Challenges in implementing PAs

The need to increase environmental financing usually arises from a policy process initiated to strengthen environmental action for various reasons, possibly because an environmental hot spot has arisen, health concerns have surfaced, or users/polluters have a need for services that protect the environment. The policy process creates a demand – most often resulting in the development of a programme of action (PA), which requires funding. In most countries, and increasingly in transitional and developing countries, the development of PAs has uncovered several challenges that need to be addressed. The main challenges faced when implementing a PA are:

- the lack of widespread political and/or community support for the long-term actions and changes necessary to protect coastal and marine environments;

- inadequate institutional capacity and/or human resources to satisfactorily address the wide range of land-based pressures facing coastal and marine environments;
- the lack of coordination between public investment programmes and national development/funding programmes – PAs are often developed by Ministries of Environment without taking into consideration that other ministries will be responsible for implementing the PAs; and
- the lack of financial resources to adequately plan, design, implement, monitor, and evaluate firm actions to protect the marine environment from land-based activities.

To address these challenges and to ensure long-term sustainability at the national level, organisations must: involve stakeholders in the preparation and in the development of the PA; assign clear responsibility for the implementation and the funding of the PA; base the action plan on realistic assumptions of sustainable financing and on realistic expectations of institutional set-ups; and identify potential challenges to implementation and describe actionable ways to overcome these challenges in the action programme.

The objective of the Regional Seas Programmes, such as PERSGA, is the protection of regional seas such as the Red Sea and Gulf of Aden, a shared natural resource, from threats of pollution and other forms of degradation. Regional seas are a cross-border resource, a shared public good, which no country could or has incentive to provide protection for on their own. The public good thus needs a regional cooperation to ensure the protection of the shared good: the sea. The challenge when protecting cross-border public goods is ensuring that all countries participate and that certain countries do not become "free riders" at the expense of other partners. The UNEP 2000 report titled *"Financing Regional Seas Conventions: Paying for a Regional Public Good"* presents a thorough analysis of the problems and issues that need to be addressed.

1.1. Rational for and scope of the study

Rational for the study

This report has been produced to assist PERSGA in developing a strong financing framework for its next phase of activities and to provide options for tackling the challenges that might arise. As discussed in more detail in section 2.1, the member countries may face a series of challenges that need to be addressed when implementing the PERSGA programme at the national level[2], such as:

- the lack of effective demand for financing;
- the lack of adequate institutional set-up;
- capacity constraints;
- legislative issues; and
- affordability constraints.

The information presented in the report should enable the PERSGA Secretariat and its member countries to more systematically address the sustainable financing needs of PERSGA and the long-term implementation of the Convention. The report will further enable PERSGA member countries to better decide how the PERSGA Secretariat through its programmes can assist in strengthening the national actions necessary for the implementation of the Convention.

[2] It should be acknowledged that the PERSGA member countries are very different in terms of development and the availability of financing for environmental programmes.

Scope of the study

This report has been prepared for the PERSGA Secretariat, the national focal points[3] to PERSGA, and the relevant ministries responsible for implementing the PERSGA programme at the national level.

The report does not take an academic approach on the financing elements discussed, nor does it elaborate on the details of or the theories behind the presented economic instruments, methodologies, tools, processes, etc. The report aims to present enough information for policy makers to decide on options while limiting details to a minimum.

The report builds on existing information and experiences and will provide footnote references to additional supporting literature, which can be a source for more detailed information. This report will focus strictly on the fiscal contributions of environmentally-related economic instruments but will not consider the actual environmental impact of these instruments.

The report will also discuss briefly the different options available to justify additional financing such as economic valuation, socio-economic issues, and affordability constraints at the household level, but will not go into great detail.

[3] Focal Points to the Regional Seas are the participating countries' delegates assigned to be the person responsible for liaising with the Regional Seas Programme.

2.0. PERSGA

The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA) was established in September 1995 to implement the Jeddah Convention and its protocol[4]. PERSGA is the result of the continuous effort to conserve the environment of the Red Sea and Gulf of Aden and grew out of the many initiatives launched to protect the environment of the region prior to the establishment of PERSGA in 1995. Following the creation of PERSGA, the World Bank, the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP), and other donor organisations funded the Strategic Action Programme (SAP) with the objective to "conserve the coastal and marine environment in the Red Sea and Gulf of Aden region and ensure the sustainable use of their resources".

2.1. Demand for environmental financing in PERSGA

PERSGA is mandated to deal with the problems that arise from land-based sources of pollution to the Rea Sea and Gulf of Aden. The PERSGA Secretariat, located in Jeddah, facilitates the development and management of PERSGA as well as manages the implementation of programmes and business plans. At a national level, PERSGA programmes are implemented by the respective national or sub-national authorities.

PERSGA has developed a Strategic Action Programme (SAP) with clear priorities to support the protection of the marine environment in the PERSGA region. The SAP, in broad terms, outlines the environmental problems facing the PERSGA region and the actions necessary to address these. The programme is currently being supported by a Regional Programme of Action (RPA) outlining the activities the PERSGA Secretariat will need to perform to assist countries with implementing the protocol. The RPA, in turn, is supported by a national Programme of Action (NPA) that outlines the short-, medium-, and long-term actions to be undertaken at a country level to ensure the protection of the marine environment from land-based sources. With an ambitious phase of activities ahead, PERSGA's demand for financing has grown rapidly and is an issue that needs to be addressed.

PERSGA is faced with financial needs at three levels:

1. **PERSGA Secretariat** – financing the core costs of running a minimal secretariat, including staff costs, office rental, and other administrative costs.
2. **PERSGA programme of work** – financing the cost of implementing the agreed work programme and possible additional regional projects identified throughout the budget cycle. Such costs could include additional staffing, office rental, and programme components such as capacity projects, monitoring projects, studies, and demonstration projects.
3. **National implementation of PERSGA programmes** – financing several components of programme implementation. Financing institutional and capacity activities, financing national and sub-national programmes and projects, such as biodiversity projects or infrastructure investment projects. Of the three levels of financing that fall under national implementation – institutional, national activities, and investments – the first two demands will be covered respectively under the PERSGA Secretariat and the PERSGA Programme sections, as the costs and financial demands are similar.

[4] For further information on PERSGA please see www.persga.org

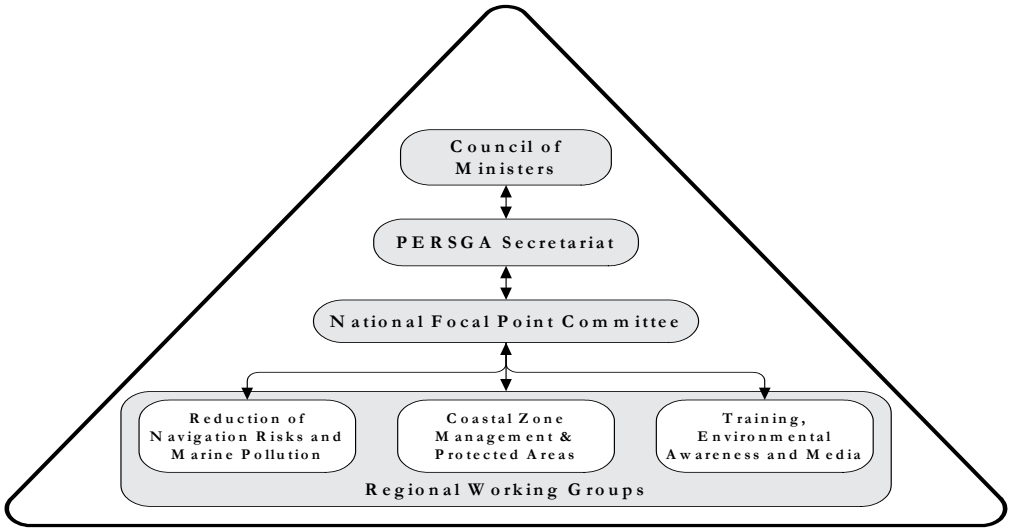
The following sections discuss PERSGA's demand for financing and the financing challenges faced at each of the three levels. For each financial demand facing PERSGA, there are several financing methods and/or options available.

2.1.1. Financing demand for PERSGA Secretariat costs

Since its establishment in 1995, the PERSGA Secretariat has been hosted in Jeddah by the Kingdom of Saudi Arabia. The Secretariat has to date been financed mainly through member country contributions. In theory, Saudi Arabia is the main contributor covering 50% of the overall costs, Egypt provides 30%, and the remaining is split between the other four member countries. In reality, however, there are serious problems with irregularities of payment and non-payment from some member countries.

The draft business plan for PERSGA 2004–2014 details the PERSGA organisation and relevant organisational structure. At the recently held PERSGA retreat in Jordan (22-24 May 2005) the proposed organisational structure and the financing demands of PERSGA were further explained. Figure 2.1 presents the proposed structure of the PERSGA Secretariat (PERSGA 2004).

Figure 2.1: PERSGA Management Structure



The PERSGA business plan proposed that the Secretariat, including the management of the programme of work (see section 2.1.2.), is staffed by a Secretary General, Deputy Secretary General, nine technical staff plus an additional six administrative staff. The Secretariat will have two offices: the main Secretariat in Jeddah and the MEMAC office in Hurghada.

The total Secretariat costs for 2005 are expected to be around USD 1.2 million and it is largely expected that this will be the annual level of Secretariat costs for the 2006–2011 programme[5]. Box 2.1 presents examples of expenditure in five Regional Seas Programmes.

[5] For detailed information on the structure of the PERSGA Secretariat, see the draft business plan for PERSGA (PERSGA 2004).

Box 2.1: Expenditure of selected Regional Seas Programmes.

At the 7th Global Meeting of the Regional Seas Conventions and Action Plans, a brief was compiled analysing five Regional Seas Secretariats with respect to their costs. The review showed that staff-related costs (including consultant services) was the highest cost expenditure making up 50% to 80% of the total budget from the period 2000-2004 as illustrated in Figure 2.2. These costs represent the majority of the secretariats' core costs and reflect the programme of work expenses.

Figure 2.3 compares accommodation and equipment costs as a percentage of the RS secretariats' total budget. These costs average around 20% of the RS secretariats total budget and have remained rather stable from the period 2000-2004.

Figure 2.4 compares costs related to meetings and travel as a percentage of the RS secretariats' total budget. These costs vary between years and between regions. Reductions in these costs may be an indication of budget deficiencies (e.g. PAME) as the costs associated with travel represent the budget item, which is usually the easiest to reduce.

Figure 2.2: Staff-related costs as a percentage of Secretariats' total budget

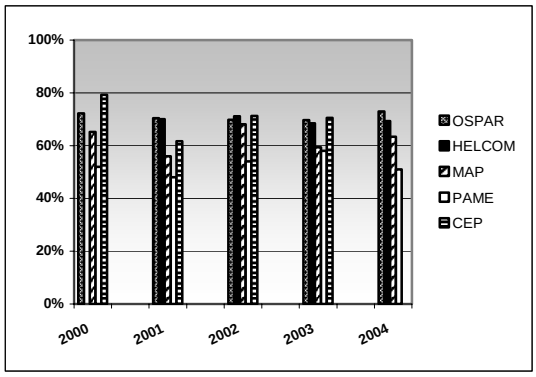


Figure 2.3: Costs of accommodation and equipment as a percentage of total budget

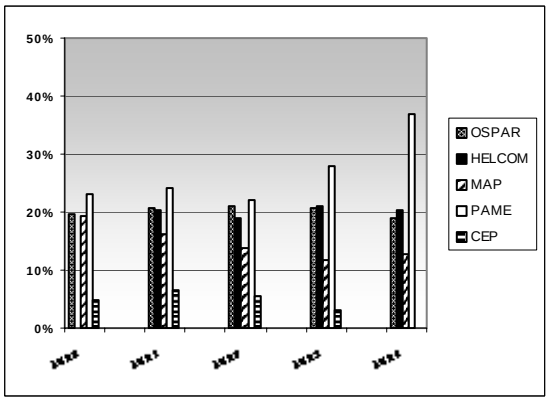
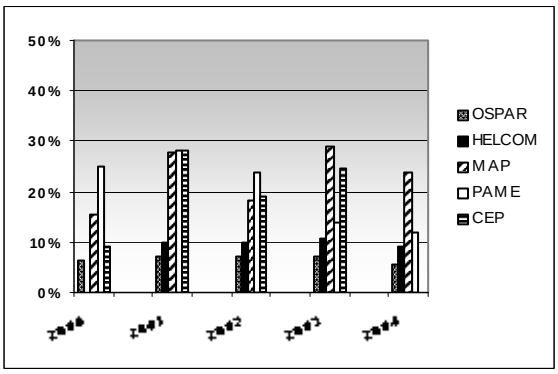


Figure 2.4: Costs related to meetings and travel as a percentage of total budget



2.1.2. Financing demand for the PERSGA Programme of Work

For its next phase of activities, PERSGA has developed a Regional Programme of Action for the Protection of the Red Sea and Gulf of Aden Marine Environment from Land-Based Sources (RPA/LBS). The programme builds on the priorities identified in the Strategic Action Programme (1998–2004), the Assessment of Land-Based Sources and Activities Affecting the Marine Environment of the Red Sea and Gulf of Aden, the Business Plan 2004–2014, and supporting country reports.

The RPA/LBS proposes a work programme to support and strengthen the regional and national implementation of the LBS Protocol. It is expected that the programme consists primarily of capacity, information, and demonstrational activities. The priority areas identified include:

- physical alterations and destruction of habitats (PADH);
- domestic sewage;
- industrial effluents; and
- agricultural runoff.

In addition, several cross-cutting actions have been identified to support the implementation of the LBS Protocol, including:

- strengthening and supporting PERSGA in implementing GPA;
- support for the adoption and implementation of the RPA/LBS;
- strengthening the institutional capacity in countries where the LBS Protocol will be implemented; and
- clearing house mechanisms.

The RPA/LBS is planned to have a one-year preparatory phase followed by a one-year fundraising and project development phase, and a three-year implementation phase.

In 2005, the expected programme and activity costs have been budgeted at USD 900 thousand. The one-year preparatory phase is currently being budgeted at around USD 600 thousand. The programme costs from 2007–2011 have not been developed, it is however expected that they will be higher than the 2005 programme and activity costs.

2.1.3. Financing demand for national implementation of PERSGA

The Strategic Action Programme (1998-2004) was initiated based on the Assessment of Land-based Sources and Activities Affecting the Marine Environment in the Red Sea and Gulf of Aden (UNEP/RSRS No 166) and the year 2000 country update. These reports summarised the priority issues for pollution and contaminants at the national level.

The following table summarises the main issues that need to be addressed at the national level. For more detailed information on national and regional priority issues, refer to **Annex 1.**

Table 2.1: Regional source categories and related activities & issues[6]

Source	Related Activities and
Physical alterations and destruction of	Dredging, landfills,
Coastal urbanization, tourism	Domestic sewage, solid waste,
Industrial	Refineries, mining, desalination,
Agriculture	Pesticides, organic

Although these reports identify the major concerns with regards to national implementation, they lack a clear time frame for the implementation and their expected costs. In addition to the cost of these activities, the countries of PERSGA are most likely also implementing and financing several other LBS-related activities, which are not included under the main issues identified by PERSGA.

From the activities and investments identified in RPA/LBS, it is clear that the total cost of compliance is high and exceeds current levels of financing given the political, household, and private sector priority of the LBS protocol. For some countries, the amount of financing needed to implement RPA/LBS exceeds realistic affordable levels of financing – even with substantial donor support.

The problem surrounding the implementation of PERSGA at the national level is not a problem of identifying issues that need to be financed but rather a problem of increasing funding available for financing the LBS Protocol. In addition, the programmes are not specific in describing the necessary actions to be implemented and these actions have not been prioritised. Given the scarce available resources for PERSGA implementation, the prioritisation of these issues urgently needs to be addressed for the short, medium and long term.

To reiterate, for the implementation of the LBS Protocol at the national level, the demands are very high. The biggest challenge at the national level is to strengthen available financing and to prioritise actions given the available funds.

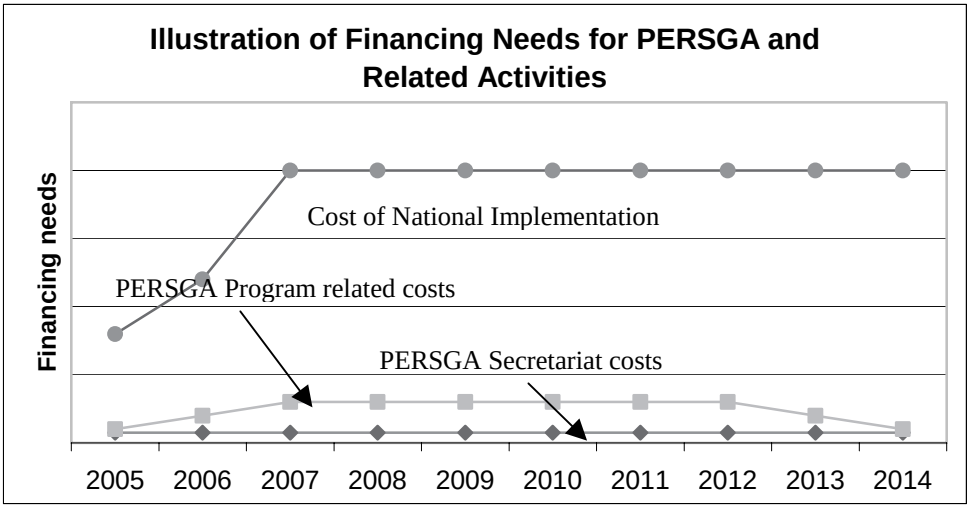
2.1.4. Overall demand for PERSGA environmental financing

The overall demand for financing the PERSGA Secretariat and the draft Programme of Work (2006–2014) is unclear. However, based on the 2005 budget of USD 2.1 million for all of PERSGA, including LBS activities and the projected 2006 preparatory programme (for LBS), it can be expected that the cost will be around the same level or slightly increased. For 2007–2011 it is uncertain what the overall costs for PERSGA will be, however it is clear given the mandate and ambitions of PERSGA that the LBS programme in itself will involve an expansion of programme activities.

Figure 2.5 illustrates the different financing challenges facing the PERSGA Secretariat and their member countries. The figure illustrates that implementing costs at a national level far exceeds the costs of the Secretariat and its programmes.

[6] For further detail on priority issues, please reference UNEP 1997, PERSGA 2000, and PERSGA 2005b.

Figure 2.5: Illustration of the three different levels of financing demand for PERSGA



3.0. Fundamentals of environmental financing

Limited availability of financing is one of the main obstacles to increasing environmental protection. This is due to the relatively low effective financing available from the public sector, enterprises, and users of environmental services (i.e. low willingness and/or low ability to pay, and weak enforcement of regulations). The countries in the PERSGA region have very different economic structures and are at very different stages of development. This complicates a regional approach since a financial solution that would work for one country might not be appropriate or even possible in another country. In this region, one size does not fit all.

Table 3.1: Selected economic indicators (2003)[7]

	Djibouti	Egypt	Jordan	Saudi Arabia	Somalia	Sudan	Yemen
GDP (US$ bn.)	0.6	82.4	9.9	214.7	N.A.	17.8	10.8
GNI per capita (US$)	910	1390	1850	9240		460	520
Aid per capita (US$)	110	13	233	1	18	19	13
GDP per capita (US$ PPP)*	N.A.	3810	4180	12660	600	1740	800
Gini	44,75	37,39	36,42	N.A.	N.A.	44	21,78
Upper 10 decile	36,1	31,24	29,84	N.A.	N.A.	34,6	16,43

Source: World Bank, * The Economist: World in Figures, 2005[8], ** The World Income Inequality Database

Ideally, revenue used for environmental protection comes from user and polluter fees and charges, from investments made by enterprises for pollution abatement and control (PAC) practices, and from public sector resources. In the PERSGA region, the situation is not ideal and the majority of the financing for environmental services comes from the public sector as well as enterprises that finance PAC expenditures through enforced legislation or incentives. In a recent Country Environmental Analysis by the Mediterranean Environmental Technical Assistance Program (METAP – 2005) it has been reported that in Tunisia an increasing percentage of the national revenues are allocated to the protection of the environment and natural resources. From 1997-2001, this amount equalled about 1.1% of GDP.

Unfortunately, domestic environmental financing through sources such as user/polluter fees, enterprise PAC practices, and public sector resources does not cover the total expenditures needed. In this situation, outside financing needs to be secured, either in the form of grants, loans, IFI financing, or private-sector investors. With the exception of grants, it shall be stressed that at some point in time *all* of these options will have to be repaid (most often with interest). The end-financiers (those who repay these futures) will always be domestic users, taxpayers, or companies. The only international source of funds that can assist countries with the repayments of these futures are grants from foreign taxpayers. Therefore, it is essential that any long-term action programme has a financial plan that is based on realistic expectations of grant transfers and long-term sustainable domestic resources.

[7] Data for the Gini index and upper 10 deciles data are from The World Income Inequality Database: http://www.wider.unu.edu/wiid/wiid.htm. As the years in the report vary widely, interpretation of the results should be taken with caution. They are only to be seen as a rough measure of the income distribution in the countries. The Gini index measures the extent to which the distribution of income (or, in some cases, consumption expenditure) among individuals or households within an economy deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative percentages of recipients, starting with the poorest individual or household. The Gini index measures the area between the Lorenz curve and the hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. A Gini index of zero represents perfect equality and 100, perfect inequality. The Upper 10^{th} deciles measure the share of total income or consumption of the richest 10% of the population.

[8] PPP refers to Purchasing Power Parity. PPP statistic adjust for cost of living differences by replacing normal exchange rates with rates designed to equalise the prices of a standard “basket “ of goods and services.

Financing regional public goods – PERSGA

The PERSGA Secretariat is a regional public good established for the protection of the shared resource: the Red Sea and Gulf of Aden. Financing the Secretariat and the Programme of Work is the responsibility of the member countries and the international community at large – no country has the incentive to fund the total cost of pollution control and resource conservation, while sharing the benefits of the shared resource with other members.

As can be seen from Table 3.1 the PERSGA member countries have very different economic circumstances. Finding financial arrangements that will allow for adequate financing of the regional cooperation needs to be addressed based on country affordability while ensuring its ownership to the process.[9]

Environmental infrastructure investments

For most countries, the main environmental expenditure will be infrastructure investments. As infrastructure investments involve high initial costs, they are usually financed by loans, bond issues, or other sources of financing, which are based on the postponement of repayment into the future. Revenues from public sector transfers and user fees/charges can then pay for the operations and maintenance costs, annualised capital costs, and debt servicing. However, service providers (providers of public services, such as public and/or private sector utilities, water supply, wastewater, etc.) face two difficult obstacles in organising an infrastructure investment.

The first obstacle is securing infrastructure investment financing. When domestic financial markets are poorly developed and/or there is macro-economic instability, domestic financing involves high interest rates, if it is available at all. Many service providers have looked to IFIs for loan financing, and these IFIs have provided many important loans. However, IFIs usually require national governments to provide sovereign guarantees for loan repayment. In most developing and transitional economies, governments have limited possibilities for issuing such guarantees.

Secondly, the high fees necessary to cover the debt payments would be difficult for many users to pay. The long-term financing solution will therefore require domestic or donor funding. In section 3.2, this report will cover the different kinds of financiers (financing sources) that are important for environmental investments.

Polluter, user and beneficiary pay principle

The Polluter Pay Principle (including the user and beneficiary pay principle) provides the framework for environmental financing in market economies. According to the principle, polluters use their own resources to finance measures to comply with environmental standards. If the polluter, or ultimately the consumer, is made to pay for these costs, they have a strong incentive to reduce the negative environmental effect and clean-up costs do not fall on society at large.

Economic instruments (EIs)

Principle 16 of the Rio Declaration states: "National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution with due regard to public interest and without distorting international trade and investment."

Economic instruments for environmental protection are policy approaches that encourage behaviour changes through their impact on market signals rather than through explicit directives regarding

[9] For a more detailed overview of financing regional public goods see UNEP/RS 2000.

pollution control levels or methods or resource use."[10] Section 3.2.4 goes into greater detail about economic instruments (EIs), which can generate resources for environmental protection programmes.

Subsidies
According to a World Bank report[11], the most important potential source of additional revenue comes not from the efforts to generate new revenues, but from freeing up already available resources. This can be done by improving the efficiency with which these resources are spent, in particular, by reforming subsidies that are expensive and, often, environmentally harmful. Subsidies and the removal of unwanted subsidies are discussed in section 3.2.5.

Besides subsidies, other reforms might also have a positive effect on increasing revenue or freeing up of financial resources. Reforms can have significant incentive effects that, in many cases, will have a more important effect on the environment than on the resource generation itself. However, as the aim of this report is identify financial sources and options, this report does not discuss environmental incentives from reforms and policy revisions.

Public and private sector partnerships
Public and private sector partnerships are often mentioned as a way to increase environmental infrastructure investments. By having the private sector to invest and operate facilities for public services, such as water supply or wastewater collection/treatment, the public utility may be able to benefit from lower costs as a result of the more efficient management practices that typically characterise the private sector. In addition, in most developing and transitional economies there is the perception that it is more acceptable to pay service/user charges to a private sector company than to a public sector company. Section 3.2.6 will discuss the different types of partnerships for private sector involvement.

Considerations for selection and implementation of instruments and mechanisms
Each financing mechanism has its own criteria and characteristics. In section 3.2, the main IFIs and donors are introduced. Section 3.3.1 describes how to approach IFIs and donors and how to work with them. Focus will especially be on which type of information they require. In section 3.3.2, a four-phase approach on how to choose an appropriate economic instrument and how to implement it is presented.

3.1. Types of financing

There are several types of financing for environmental programmes. Since the countries in PERSGA are very different in terms of wealth and financial strength not all of these financial options will be viable for all countries. Wealthier countries have a wider range of options available for funding environmental investments than low-income countries, where grants and/or IFI loans will, at least in the short to medium term, continue to provide the bulk of funds for environmental programmes.

There are a number of international finance options available for environmental investments and this section will touch on grants, loans, and bonds. Additional sources of domestic financing, such as public sector transfers, and economic instruments, will be discussed as well as the public private partnerships (PPP) arrangements.

[10] UNEP briefs on Economics, September 2002.

[11] Pegiola et al., 2002.

Grants
Grants will typically be advanced to finance clear, well-defined projects that match a specific set of priorities and/or requirements that are laid out by the grant provider. Grants are the only type of financing that does not require repayment. Grants can be made available from state, regional, or local authorities, special-purpose funds, multilateral or bilateral organisations, and other governmental and private sector entities. Grants could be used to finance both commercially viable projects as well as projects valued primarily for their non-financial benefits.

Grant financing helps overcome the lack of domestic funding opportunities or the general unwillingness to pay for pollution abatement or use of services. Grants, although attractive to the recipients, should only be utilised in a smart, well thought out manner. Typically, a grant will be provided with a co-financing requirement of some form and may also require a plan for future domestic financing for maintenance, operations, and rehabilitation, etc. If not used wisely, the downside of grant funding can be a reduced pressure to identify the most cost-efficient solutions, thereby wasting valuable future resources. Grants are *not* a source of sustainable, long-term financing and therefore should not deter the focus away from the higher priority of securing long-term programme funding. It is important that grants are not accepted because they are free goods but are accepted because they have a purpose for financing the priorities of the recipient.

Loans
Loans can take many forms, such as:
- commercial loans;
- IFI loans;
- government loans (domestic as well as foreign);
- soft loans; or
- loans with guarantees.

Despite the variety of loans, all have common characteristics that can be used for comparison, such as size, interest rates, grace and maturity periods, and security/collateral requirements.

Commercial loans are loans on market conditions and they are issued without concession elements. Terms, conditions, and availability will depend on the credit quality of borrower and/or guarantor. For environmental investments, commercial loans will typically only be an option if there is a sovereign guarantee to back up the loan.

Soft loans are loans provided on favourable terms – the principle usually has to be repaid in full but with a very low interest rate or with no interest at all. Soft loans are usually earmarked for a special purpose as decided by the lender, which typically is a donor (domestic or international) or an IFI.

Loans with sovereign and sub-sovereign guarantees are loans provided by multilateral banks, bilateral donors, or other international financial organisations. Since this type of loan is backed with a commitment for repayment, the element of risk is moved from the borrower to the country itself. For low-income countries that follow IMF and World Bank programmes, there are often restrictions on which guarantees the state can give in order to comply with the programme.

Bonds
Bond financing involves issuing an obligation guaranteeing repayment in the future. In order to issue a bond, the issuer needs to convince investors of its ability to meet the payment obligations specified by the terms of the bond. Bond issuing is only an option for well-developed countries as it requires detailed and reliable information including a risk rating from one of the recognised rating institutions such as Moodys, Standard and Poors, and Fitch.

Rating institutions rate the debt of companies, municipalities and governments. The ratings are ranked with alphabetical designation where AAA is the best rating. The rating is based on extensive financial,

legal, and accounting analysis of the entity in question. The ratings provide a tool to which risks can be compared between companies and countries. Many capital market participants require little further information than a rating in order to set a price on a loan given to the rated entity.

3.2. Financing sources and strategies[12]

This section presents more detailed information on international financial institutions (IFIs), commercial banks, and donors (both domestic and international), economic instruments (EIs), public sector transfers, and public private partnerships (PPPs).

3.2.1. Donors

Donors (domestic or international) are either bilateral or multilateral institutions that provide grants and/or other forms of financing without cost. For low-income countries, donors are the main source of environmental financing together with IFIs. In countries such as the Kyrgyz Republic, Armenia, Georgia, and Uganda, international transfers (loans, grants, etc.) account for between 60–75% of all environmental funding[13].

Donors usually require recipient countries to sign a bilateral agreement, which outlines the sectors that are eligible for support and the general framework and requirements for co-financing, policy obligations, etc. Countries should not expect to receive donor funding in the medium to long term as donors usually provide grants only for specific sectors and limited to a specified period of time and then phase out the support. From the beginning, recipients should be preparing for a gradual shift to self-financing arrangements and should be focused on securing increased sustainable financing. Grants can be a boost and play a vital, short-term role in country development if used wisely to bridge the gap while continuing to search for more long-term financing.

Donor funds are particularly attractive but they are not without disadvantages. Donor grants are usually targeted for specific activities or sectors. Recipient countries will then have to tailor their funding requests/proposals to fit the donor criteria, which may not have the same priorities as the recipient country. This is especially a problem if the grant requires co-financing since re-working the priority list may pull much-needed funding away from the actual priorities of the recipient country. Other downsides include:

- The process for obtaining grants may be rather lengthy, especially for grants from multilateral organisations.
- There is often a significant time lag between commitment and disbursements.
- The Ministry of Foreign Affairs will usually negotiate the focus and priorities of the grant programmes. The Ministry of Environment and other related Ministries are not always involved in the decision-making process.
- Poorly considered grant projects can undermine local efforts for self-sufficiency and reduce the potential for leveraging user financing.

[12] Most of this section is taken from the following report: A stand-alone guide: How to Promote Municipal Infrastructure Projects in the EECCA and SEE countries, September 2004, from the PPC Project Financing Workshop. For further information on the elements discussed in this section, we highly recommend reading this report.

[13] OECD EAP 2003 Financing Environmental Protection in Eastern Europe, Caucasus and Central Asia (ECCA): Background report to the Fifth Ministerial Conference Environment for Europe.

At the recent PERSGA retreat (22-24 May 2005) held in Jordan, a list was compiled of relevant donors for the region. Since each donor programme has their own priorities and funding criteria, this information should be integrated into national financing strategies for the environment.

In table 3.2 the net ODA[14] contributions from 2001–2003 to each PERSGA country can be seen. In annex 11, the top ten donors of gross ODA to each country and the distribution to sectors are presented. The largest ODA donor to the PERSGA countries is the United States with total average donations of USD 1.6 billion, the European Commission (EC) is second with donations of USD 348 million, while France is third with grants of USD 265 million. (Annex 10 presents the main donors to the region broken down by recipient.)

Table 3.2: Net ODA contributions from 2001-2003 (USD millions)

	2001	2002	2003
Djibouti	58	78	78
Egypt	1257	1239	894
Jordan	433	520	1234
Saudi	27	26	26
Somalia	150	194	175
Sudan	185	351	621
Yemen	461	584	243

The following box explains the example of the Egyptian Environmental Protection Fund, which has been established as a domestic donor fund providing grants and subsidised loans through commercial banking.

Box 3.1 – The Environmental Protection Fund (EPF) (For Egypt only)[1]

The Environmental Protection Fund (EPF) was established in 1994 by the Egyptian Environmental Affairs Agency. Its goal is to stimulate environmental-sector investments in Egypt in support of the government's environmental, social, and economic policies. To reach this goal, the EPF provides financial assistance on a competitive basis for projects that benefit the environment as well as fostering public-private partnerships that are also deemed to be environmentally beneficial.

Proposed projects are evaluated on a number of criteria (environmental merit, financial viability. thoroughness of design and preparation, capability of the applicant, conformity with environmental priorities for the year, etc.).

In addition, the general EPF guidelines for projects under consideration are:

- projects that address severe environmental problems in need of urgent solutions;
- projects that benefit a large number of people;
- replicable projects;
- projects that have been studied and are ready for implementation; and
- projects that fulfil sustainable development objectives (e.g. employment generation and poverty alleviation, based on cooperation between various agencies/sectors of society).

Annually, the EPF issues a plan detailing financial support programmes offered for that year. The plan specifies areas of focus based on environmental priorities as well as the types of financial assistance that will be provided. One of the Fund's objectives is to stimulate other sources to participate in the financing of environmental investments. As a general rule, the Fund will not finance the entire cost of a project therefore co-financing is required.

The EPF has two methods for financing:

1. Interest rate subsidies are offered in the form of grants used exclusively to offset interest rates on commercial loans.
2. Grants are offered to non-profit type environmental projects on a cost-sharing basis.

[14] ODA is Official Development Assistance. See more on www.oecd.org/dac.

The Global Environmental Facility (GEF)

The Global Environment Facility (GEF), established in 1991, is an independent financial organisation that helps developing countries fund projects and programmes that protect the global environment. Since 1991, GEF has provided grants for more than 1,300 projects in 140 countries.

Types of projects
GEF projects address six complex global environmental issues:

- Biodiversity;
- Climate Change;
- International Waters;
- Land Degradation;
- The Ozone Layer; and
- Persistent Organic Pollutants (POPs).

GEF funding
Since 1991, the GEF has provided USD 4.5 billion in grants and generated USD 14.5 billion in co-financing from other partners for projects in developing countries and countries with transitional economies.

GEF funds are contributed by donor countries. In 2002, 32 donor countries pledged USD 3 billion to fund operations between 2002 and 2006.

The allocation by focal areas is presented in table 3.3. In table 3.4, the grants provided by the GEF to the members of PERSGA are listed.

Table 3.3: Total GEF allocation by focal area (USD millions)

	1991-	2003
Biodiversit	1638	147
Climate	1591	176
International	633	83
Land	19	19
Multiple focal	278	68
Ozone	172	2
Persistent organic	86	59

Table 3.4: GEF Grants by country, 1991 – 2003 (USD millions)

	1991-	2003
Djibouti	1245	0.377
Egypt	28902	0.645
Jordan	21506	6550
Saudi	0.350	-
Somalia	-	-
Sudan	4340	0.500
Yemen	10454	-

Management of GEF Projects
GEF projects are managed by GEF Implementing Agencies:

- the United Nations Environment Programme;
- the United Nations Development Programme; and
- the World Bank.

Seven other international organisations, known as GEF Executing Agencies, contribute to the management and execution of GEF projects. One of these is the African Development Bank.

Focal Points (country representatives)
Each GEF member country has designated government officials responsible for GEF activities. These officials, known as GEF "focal points," play a key role in ensuring that GEF projects are country-driven and based on national priorities. There are two types of GEF country focal points:

Political Focal Points
Political focal points are responsible for GEF governance issues and policies and communications with their constituencies. All member countries have political focal points[15].

Operational Focal Points[16]
Operational Focal Points are responsible for in-country programme coordination of GEF projects and other operational activities. Only countries eligible for GEF funding are expected to designate operational focal points.

Eligibility criteria and project cycle
Any eligible individual or group may propose a project, which must meet two key criteria: it must reflect national or regional priorities and have the support of the country or countries involved, and it must improve the global environment or advance the prospect of reducing risks to it. GEF project ideas may be proposed directly to UNDP, UNEP, or the World Bank.

Country eligibility to receive funding is determined in two ways. Developing countries that have ratified the relevant treaty are eligible to propose biodiversity and climate change projects. Other countries, primarily those with economies in transition, are eligible if the country is a party to the appropriate treaty and is eligible to borrow from the World Bank or receive technical assistance grants from UNDP.

Projects
Full-size projects – GEF's three implementing agencies work with the operational focal point in each recipient country to develop project ideas that are consistent both with the country's national programmes and priorities and with GEF's operational strategy and programmes. Regional or global programmes and projects may be developed in all countries that endorse the proposed activity.

Medium-size projects – Grants of less than USD 1 million are available through expedited procedures that speed up processing and implementation. These medium-size grants increase GEF's flexibility in programming resources and encourage a wider range of interested parties to propose and develop project concepts.

Enabling activities – Grants for enabling activities help countries to prepare national inventories, strategies, and action plans in cooperation with the Convention on Biological Diversity and the UN Framework Convention on Climate Change. This assistance enables countries to assess biodiversity and climate change challenges from a national perspective, determine the most promising opportunities for project development, and subsequently pursue full-scale projects.

[15] See the following website for the list of political focal points:
http://www.gefweb.org/participants/Focal_Points/Political/political.html#d

[16] See the following website for the list of operational focal points:
http://www.gefweb.org/participants/Focal_Points/Operational/operational.html

Project preparation and development facility – Funding for project preparation is available in three categories or "blocks".

- Block A grants (up to USD 25,000) fund the very early stages of project or programme identification and are approved through GEF's implementing agencies.
- Block B grants (up to USD 350,000 for single-country projects and up to USD 700,000 for multiple-country projects) fund information-gathering activities necessary to complete project proposals and provide necessary supporting documentation. These grants are approved by the GEF CEO, with consideration given to the GEF Operations Committee's recommendations.
- Block C grants (up to USD 1 million) provide additional financing, where required, for larger projects to complete technical design and feasibility work. Block C grants are normally made available after a project proposal is approved by the GEF Council.

Small Grants Programme – UNDP administers this project, which offers grants of up to USD 50,000 to eligible projects.

Small and Medium Enterprise (SME) Programme – A partnership with the International Finance Corporation (IFC), a World Bank affiliate, the SME programme finances projects that demonstrate a positive environmental impact and have basic financial viability, thus promoting private sector investment opportunities in developing countries.

Kuwait Fund for Arab Economic Development (KFAED)

KFAED was established in 1961. The object of the fund is to assist Arab and other developing countries in developing their economies and to provide such countries with loans required for the implementation of their development programmes.

The fund may extend its assistance to different types of entities, which include:

- central and provincial governments, public utilities, and other public corporations;
- development institutions, whether international, regional or national and, in particular, development finance institutions; and
- corporate entities that undertake projects which are jointly owned by a number of developing countries, as well as mixed or private enterprises that enjoy corporate personality and are of a developmental nature meaning not merely oriented towards making of profit. Such enterprises must be either under the control of one or more developing country or have the nationality of any such country.

In order to provide the loan, the fund requires a state guarantee from the beneficiary country. The Kuwait Fund does not finance local costs as a rule, and its share in the financing of a project must not exceed 50%.

Assistance of the fund may take any of the following forms:

- direct loans or the provision of guarantees;
- joint or parallel financing with other international, regional, or national development finance institutions;
- making of grants-in-aid to finance technical, economic, and financial studies whether in relation to projects financed by the fund or otherwise. Such studies may include pre-investment surveys, studies for the identification of investment opportunities and projects, feasibility studies, project preparation, sectoral studies, etc;
- advisory services in relation to technical, financial, economic, and legal aspects of projects or programmes or development policies, or in relation to institution-building in the field of development; or
- subscription to the capital or contribution to the resources of development finance institutions.

- subscription to the capital of eligible developmental enterprises. The fund does not provide financial assistance for budgetary or balance of payment support.

In determining the rates of interest on its loans, the term of each loan and grace period, the Kuwait Fund takes account of the need for a reasonable degree of concession in its loans. Such concession is reflected in the significant magnitude of grants in the fund's loans. The level of grants within a loan is determined with respect to the economic conditions of the recipient country and the particular circumstances of each project.

As common for multilateral institutions, the fund's loans are, in addition to the financial conditions, subject to other conditions. The Charter requires that the loan agreements between the fund and the borrowers provide, in particular, for the following:

- an undertaking by the prospective recipient country that no other external debt will have priority over the fund's loan by means of a lien created on the assets of the borrower or assets of entities under its control.
- an undertaking that all fund's assets and income, which primarily consist of the principal of the loan, the interest and other charges thereon, shall be exempt from all taxes, dues, and other levies imposed under the laws of the recipient country.
- an undertaking that the loan, interest and other charges thereon shall be exempt from any exchange control restrictions.

The total number of loans given is 680 with a total value of KD 3,465 millions (USD 11,814 million). At the end of the last fiscal year under review, the average loan period was 22 years, the grace period averaged 4 years, and the interest rate (including 0.5% service charge) averaged 3.5% annually. The average grant element implied in these terms reached 45% of the value of each loan. Table 3.5 presents the sectoral distributions of the loans for each PERSGA country.

Table 3.5: Sectoral distribution of loans (USD Millions)

	Loans		Agriculture		Transportation		Energy		Industry		Water & Sewage		Others	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Djibouti	10	98.102	-	-	5	57.189	2	29.732	2	5.933	-	-	-	-
Egypt	25	1.150.309	3	177.320	8	239.126	5	397.227	4	96.070	1	38.011	1	34.100
Jordan	22	391.690	5	81.342	1	10.192	7	153.699	6	110.651	1	23.870	-	-
Saudi Arabia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Somalia	4	102.450	2	45.506	-	-	2	56.944	-	-	-	-	-	-
Sudan	18	362.749	5	74.679	6	99.020	2	139.810	3	41.510	-	-	-	-
Yemen	29	235.812	14	93.973	8	72.555	2	44.248	1	10.165	2	0.022	-	-

As to the sectoral distribution of the total loans committed, the transport and communication sector ranks first (35.1%), then energy sector (22.3%), agriculture sector (16.4%), industrial sector (13.3%), water and sewerage sector (11%), and then other sectors (1.9%).

The number of technical assistance grants extended by the fund reached 237 with cumulative value of about USD 332 millions. Of these almost half is given to Arab countries. Table 3.6 gives the numbers and total amounts of the grants to PERSGA member countries.

Table 3.6: Grant distribution to member countries of PERSGA

	No. of	Total amount af
Djibouti	2	0.5456
Egypt	5	3.7169
Jordan	3	5.6947
Saudi	-	-
Somalia	2	1.8073
Sudan	3	1.1253
Yemen	17	9.7526

Box 3.2 – The Nobaria Power Plant Project in Egypt

The Nobaria Power Plant Project in Egypt is a recent example where KFAED provided a loan. The project consists of the construction of a combined cycle power station with a total installed capacity of about 750 MW. The total cost of the project is estimated at Egyptian pounds 1,955 million (USD 441 million) of which Egyptian pound 1,394 million (USD 314 million) is in foreign currency. The Kuwait Fund's loan is KD 30 million equivalents to 23.2% of the project cost and covers 32.5% of its foreign currency component. The loan period is 22 years with a 6-year grace period. The interest on the loan 3.5 % p.a. and the loan must be paid back in 32 semi-annual instalments. The grant element constitutes 46%.

3.2.2. International Financial Institutions (IFIs)

IFIs are multilateral institutions[17] that provide a wide range of financial products but, for the most part, are loan providers. These loans can be provided for almost any type of investment/action but will often require a sovereign guarantee, which can be difficult and time consuming to organise. Furthermore, loans are often denominated in hard currency, which exposes the project to exchange rate fluctuations.

This section covers the World Bank and its institutions, the Islamic Development Bank, KfW Development Bank, and the African Development Bank. All of these have prominent roles within the PERSGA region. Other IFIs operating in the region (such as the EIB) are not included in this section.

The World Bank

The World Bank[18] is a multilateral lending agency made up of four closely associated financial institutions:

- the International Bank for Reconstruction and Development (**IBRD**);
- the International Development Association (**IDA**);
- the International Finance Corporation (**IFC**); and
- the Multilateral Investment Guarantee Agency (**MIGA**).

The World Bank offers loans at commercial and soft terms, guarantees (through MIGA), and grants.

[17] IFI's are mainly financed by their member countries. The member countries contribute a specific amount of resources, which together with possible bond issues allow for subsequent disbursement.

[18] For more detailed information on the World Bank and its institutions, please refer to Annex 6.

Projects cover a wide variety of sectors. However, the traditional areas of World Bank financing are agricultural projects and infrastructure projects (including municipal infrastructure). Infrastructure projects increasingly support rehabilitation and maintenance of existing installations rather than new construction.

The World Bank does not finance the full cost of a project; co-financing is required. In most cases, World Bank financing is limited to the international elements of a project that are purchased with foreign currency. On average and across many projects, this share constitutes around 40% of total project costs. The remaining part of the financing is provided by the countries, donors and commercial banks that co-finance the project in cooperation with the World Bank. Please note that the World Bank requires co-financing from governments but not from other development partners (although in many cases this does exist).

IDA[19] offers loans on an interest-free concessional basis with an average maturity of 35–40 years and grace period of ten years. This is, however, extended only for countries classified as low-income countries. Low-income countries are those that have a GNI per capita of less than USD 2500 per year. IDA provides approximately $6 to $9 billion a year to 81 of the world's poorest countries. IDA's interest-free credits and grants are vital because these countries have little or no capacity to borrow on market terms.

IBRD, which extends loans on market terms, provides fixed-spread loans (FSL) and variable-spread loans (VSL)[20]. A typical maturity period for IBRD loans is 12–15 years and a grace period extends from 3–5 years.

In general, IBRD does not require any guarantee or security against the loan if borrowed by a government or a government agency. In certain cases, however, it might require a guarantee if the borrower is a government agency with a low creditworthiness rating. If the loan is made to the private sector, then a sovereign guarantee will normally be required and IBRD may even require that additional security as well as a guarantee.

Both IBRD market-term loans and IDA concessional loans are administered by the same World Bank staff, and the projects they finance must meet the same criteria in order to qualify for a loan. The main criteria are:

- technically sound projects;
- financially sustainable projects;
- environmentally sustainable projects;
- acceptable financial and economic return;
- contribution to the country's economic growth and development; and
- follow the World Bank procurement procedures.

IFC[21] is the private sector arm of the World Bank. Its main purpose is to encourage private enterprise in developing countries. IFC aims to reach businesses in regions and countries that have limited access to capital. It provides finance in markets deemed too risky by commercial investors in the absence of IFC participation. IFC fulfils its mandate primarily through three types of operations in its member countries:

- financing private sector projects;
- helping private companies to mobilize capital in the international financial markets; and
- providing technical assistance and advice to both governments and private businesses.

[19] See www.worldbank.org for more information.

[20] Fixed-spread loans and variable-spread loans are defined in Annex 6.

[21] See www.IFC.org for more information.

IFC operates on a commercial basis. It invests exclusively in profitable projects and charges market rates for its products and services. IFC lend funds on market terms with debt financing of up to 13–15 years with a flexible grace period of 1–12 years. As a rule, the IFC deals only with enterprises that are privately owned and controlled. Exceptions can be made for state-owned enterprises that are in the process of being privatized.

IFC finances only part of the project costs. For new projects a maximum of 25% of the total costs are provided (can be 35% for small projects). For expansion projects it can provide up to 50% of the total cost.

MIGA[22] helps promote foreign direct investment in developing countries by providing guarantees to investors against non-commercial risks, such as expropriation, currency inconvertibility and transfer restrictions, war and civil disturbance, and breach of contract. MIGA's capacity to serve as an objective intermediary and to influence the resolution of potential disputes enhances investors' confidence that they will be protected against these risks. In addition, MIGA provides technical assistance and advisory services to help countries attract and retain foreign investment.

Types of foreign investments that can be covered include equity, shareholder loans, and shareholder loan guarantees, provided the loans have a minimum maturity of three years. Other forms of investment, such as technical assistance and management contracts, and franchising and licensing agreements, may also be eligible for coverage. Equity investments can be covered up to 90%, and debt up to 95%, with lending periods typically available for up to 15 years, and in some cases, up to 20 years.

Box 3.3 – Improving Water Supply in Yemen

In August 2002, the World Bank approved a USD 130 million loan (10-year grace, 40-year maturity) to upgrade urban water supply and sanitation services in densely populated urban communities of Yemen. Through improved operation and reduction of water losses, the project will increase water supplies and provide affordable sewerage facilities, which will enable wastewater to be reused for agriculture. The urban water and wastewater sector in Yemen is confronted with major challenges in the face of increased water shortage in the country. The sector has been unable to cover expenses and cost of new investments. In addition, the National Water and Sanitation Authority and its branches are in need of more effective managerial and technical capabilities.

In response to these challenges, the Government of Yemen launched an Urban Water Sector Strategy in 1997 to decentralise services and achieve financial self-sufficiency by establishing water and wastewater corporations that are state-owned but operate independently on a day-to-day basis. The project supports the government's sector policy, placing emphasis on improving the financial viability, autonomy and the creation of opportunities for increased private sector participation. As services from local corporations improve, it is expected that low-income households will rely less on higher-priced water supplied by private vendors. This will ease the burden on the household budget and relieve women and children, in particular, from the time-consuming task of fetching and carrying water.

[22] See www.miga.org for more information.

The Islamic Development Bank

The Islamic Development Bank[23] is an international financial institution established in pursuance of the Declaration of Intent issued by the Conference of Finance Ministers of Muslim Countries held in Jeddah in December 1973. The Bank was formally opened on 20 October 1975. The Bank's mission is to foster the economic development and social progress of member countries and Muslim communities individually, as well as jointly in accordance with the principles of Shari'ah (Islamic Law).

The Bank participates in equity capital and grants loans for productive projects and enterprises in addition to providing financial assistance to member countries for economic and social development. The Bank is also required to establish and operate special funds for specific purposes, including a fund for assistance to Muslim communities in non-member countries.

The Bank is authorised to accept deposits and to mobilise financial resources through methods that comply with Shari'ah. It is also charged with the responsibility of assisting in the promotion of foreign trade, especially in capital goods, among member countries; providing technical assistance to member countries; and extending training facilities for personnel engaged in development activities in Muslim countries to increase conformity with the Shari'ah.

IDB offers a wide range of financing and development schemes[24] such as loans, leasing, instalment sale, Istisna'a, equity participation, profit sharing, structured finance, and lines of financing. Furthermore, IDB provides technical assistance mainly for pre-investment studies as well as detailed design and capacity building activities. The financing extended by the IDB is in the form of grant, up to a maximum of ID 300,000, or an interest-free loan over a maximum period of 16 years, including up to 4 years of grace. The following section describes the loan process in more detail.

Loans

IDB loans provide long-term financing for the implementation of development projects, mainly in agriculture (land development, irrigation networks, small-holders development, rural water supply, etc.) and infrastructure (road transport, social facilities such as schools, hospitals, etc.).

Currently, loans are limited to a maximum of ID[25] 7 million per project. Loans are given interest-free and bear a service fee to cover related administrative expenses incurred by IDB while formulating and processing the project. Repayment is made in equal semi-annual instalments and extends over a period varying between 15 to 25 years, with a grace period of 3 to 7 years, depending on the beneficiary member country and the type of project. Loan financing with very soft terms is also provided under a special account for the "least-developed member countries".

IDB financing usually covers (fully or partially) the foreign cost of specific components. In certain cases, particularly for least-developed countries, it may also cover part of the local cost. The beneficiary is expected to contribute to the project financing. Co-financing with other institutions is also possible under certain conditions (usually parallel financing or, if the procedures are similar to those of IDB, joint financing). While loans are mainly given to least developed member countries, these may also be extended to other member countries, particularly in combination with other modes of financing (leasing, instalment sale, or Istisna'a) whenever possible.

[23] All PERSGA member countries are also members of the Islamic Development Bank.

[24] For a full list of the services provided by IDB please refer to www.isdb.org.

[25] One Islamic Dinar (ID) is equivalent to one Special Drawing Right (SDR) of the IMF.

Loans are normally extended to governments or public institutions having a government guarantee. IDB provides financing for those projects or programmes that are technically sound and economically viable and of high priority to the borrowing country.

KfW Bankengruppe (KfW Development Bank)[26]:

KfW Development Bank is one of five separate divisions of the KfW Bankengruppe. KfW was founded in 1948, and is today the promotional bank of the Federal Republic of Germany. KfW is owned by the Federal Republic of Germany (80%) and by the federal states (20%). The total balance sheet is of EUR 329 billion as of December 31, 2004, which makes KfW one of the ten largest banks in Germany. Because KfWs provides services and projects on behalf of the German government, KfW enjoys an explicit and direct guarantee from the Federal Republic of Germany while it has the same rating as Germany.

KfW Development Bank carries out the Financial Cooperation (FC) with developing countries on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). It finances eligible investments in the expansion of the social and economic infrastructure and for strengthening the financial sector and supports national economic reform programmes.

The projects promoted via FC funds are selected jointly by the German federal government and the partner country according to development policy criteria. The local partners are responsible for the preparation, implementation, and operation of the projects. KfW development bank gives them professional advice in planning and implementing and also in monitoring the projects. At the same time, it supervises the proper use of the funds.

The projects and programmes are embedded in the development strategies of the partners in the developing countries. They are closely coordinated with projects implemented under German Technical Cooperation and other bilateral and multilateral donors. KfW Development Bank is currently implementing 1,400 projects in more than 100 countries.

Infrastructure projects eligible for support under development-policy terms (e.g. in the areas of energy supply, transport, telecommunications, or water supply) can be funded through mixed financing. For this financial product, KfW assumes part of the country risk. In turn, KfW is protected by Hermes cover or other first-class official export credit agency cover (see section 3.2.3.2). Consequently, mixed financing projects also have to meet the requirements of the respective export credit agency involved. Borrowers may be states or project-executing agencies in the developing countries that benefit from a state guarantee.

Table 3.7 below lists the total commitment in 2004 administered by KfW. Currently,only Egypt, Jordan and Yemen have projects that are financed by KfW.

[26] For more information see at http://www.kfw.de

Table 3.7: KfW total commitments in 2004 for PERSGA countries

	BMZ budget funds	Other donor funds	KfW funds	DEG	Total
Djibouti	-	-	-	-	-
Egypt	8.69	0.60	-	1.28	10.57
Jordan	10.60	-	-	-	10.60
Saudi	-	-	-	-	-
Somalia	-	-	-	-	-
Sudan	-	-	-	-	-
Yemen	18.5	-	-	-	18.5

Loans

The German government has created instruments for mobilising additional KfW funds for developmentally sound programmes within the framework of official cooperation with developing countries. In these instruments FC funds made available from the German government are combined with funds raised by KfW. These FC development loans are available in the form of 'integrated composite finance', 'mixed finance', or 'interest reduction'.

Composite Loans are available for financing projects that are eligible for promotion according to development-policy criteria in the fields of infrastructure (telecommunications, energy supply, transport, water supply, and waste management), industry and environmental technology. The loan is only available to developing countries in OECD categories 2 to 6 which means it can not be used for Somalia and Sudan as they are in group 7.

Borrowers may be states or project-executing agencies benefiting from a state guarantee.

The terms of the Composite Loans are adapted to the project periods. The interest rate for such a Composite Loan is either variable or fixed for the entire loan term (upon signing of the loan agreement or at disbursement). The Composite Loan interest rate is always below the market interest level. By adapting this instrument to the economic situation of the partner countries and the commercial viability of the projects KfW is able to provide financing solutions tailored to individual needs.

Composite Loans may either be tied or untied to German supplies. Untied Composite Loans must contain a grant element of at least 25% to qualify as ODA. Tied Composite Loans are available only for projects that are commercially non-viable owing to the OECD Consensus rules. In other words, they can be granted only for projects with cash flows insufficient under commercial financing conditions. The grant element required in this case is at least 35%.

In annex 12 the process of working with KfW Development Bank is described. The procedures are in principle the same for other the other IFIs though some differences can be expected.

Box 3.4 – Financial cooperation with Egypt

The Financial Cooperation (FC) between Egypt and KfW Development Bank has a long-standing tradition. The first projects were financed in 1962. Around EUR 3.58 billion has been provided since the early 1960s. The project funds are provided in the form of preferential loans or grants, supplemented by EUR 1.34 billion in market funds guaranteed by the German federal government. This priority area encompasses the use of water, both for water supplies and sewage disposal and for agricultural purposes. A safe drinking-water supply and environmentally-sound sewage disposal play a central role in health care.

One example of a KfW-funded environmental project is the Tanta oil and soap factory in Banha in the Nile Delta. The daily need for water was not so long ago 5.3 million litres daily for the production of edible oil, soap, and animal food. The company operates in a section of land where the Nile is the sole source of water. It is a source that has to provide for a growing number of people.

After an investment in the production facility, the daily need for water has fallen to 240,000 litres per day – only 4.5% of what used to be necessary for production. The sewage problem has also been mitigated. Previously 4.4 million litres of polluted water were discharged into the sewage system every day. Now, the small volume of sewage discharged is easily treated. The investment required to achieve this was: EUR 510,000, supported through grants from KfW Development Bank in the amount of EUR 230,000.

Since then, German support has helped 130 Egyptian businesses to invest in environmental protection. KfW Development Bank has already provided EUR 85 million in BMZ funds for environmental credit lines in Egypt. The second loan programme is currently being implemented: EUR 16.9 million for loans and EUR 12.4 million for grants. The recipients include companies from the chemical and pharmaceutical industries, producers of foodstuffs and plastics, petrochemical companies and paper mills. Since all the funds are disbursed through partner banks, another positive effect for the environment is that the Egyptian commercial banks gather knowledge of and experience with environmental investments – on a sustainable basis.

DEG

Within KfW Bankengruppe, the DEG group improves private-sector structures in developing and transitional countries by making room for private business initiatives. These initiatives form the basis for sustainable economic growth and a lasting improvement in people's living conditions.

As a specialist in long-term projects and corporate finance, DEG advises private enterprises by structuring and financing their investments in developing and transitional countries. In this way, DEG funds mobilises long-term investment capital, technical expertise, and management and marketing experience.

DEG invests in profitable, environmentally, and socially sustainable projects in all economic sectors opening the door for private entrepreneurial activity. Another main focus of its work is the development of the financial and capital markets within these countries.

African Development Bank

The African Development Bank (AfDB) is a regional multilateral development bank (MDB) promoting the economic development and social progress of its regional member countries in Africa. The Bank began operations in 1966 and has 53 member countries in Africa as well as 24 member countries in the Americas, Europe, and Asia**.**

The Bank's main responsibilities are:

- offering loans and equity investments for the economic and social advancement of regional member countries;
- providing technical assistance for the preparation and execution of development projects and programmes;
- promoting investment of public and private capital for development purposes;
- responding to requests for assistance in coordinating development policies and plans for regional member countries.

AfDB is also required to give special attention to national and multinational projects and programmes that promote regional integration.

The Bank provides financing for all the major sectors, with particular emphasis on agriculture, public utilities, transport, industry, and the social sectors of health and education. Projects also cover poverty reduction, environmental management, gender mainstreaming, and population activities. Most financing is designed to support specific projects, however, the Bank also provides programme-, sector-, and policy-based loans to enhance national economic management.

Besides the AfDB, the Bank Group consists of two other institutions managed by the AfDB but financially independent:

1) The **ADF** (African Development Fund), established in 1974, provides "soft" financing and is primarily funded by the 24 non-African member countries. Its cumulative resources total USD 18.7 billion.

2) The **NTF** (Nigerian Trust Fund) is a special fund created in 1976 by the agreement between the Bank and the Government of Nigeria to assist in the development efforts of low-income regional member countries (RMCs) whose economic and social conditions and prospects require financing on non-conventional terms. Total NTF resources amount to USD 558 million.

Table 3.8: Total loan and grant approvals from African Development Bank

	ADB Loans and Grants 1967 -2004	ADF Loans and Grants 1974 - 2004	Nigeria Trust Fund Loans 1976 - 2004	Total ADB Group 1967 - 2004
Djibouti	7.66	102.2	4.0	113.87
Egypt	1,512.95	216.53	-	1,729.48
Somalia	7.87	136.9	6.0	150.77
Sudan	105.09	245.78	-	350.87

Source: African Development Bank webpage.

3.2.3. Commercial banks

In economically advanced countries, policies supporting economic reform and macro-economic stabilisation have encouraged the development of domestic capital markets that can supply financing to both enterprises and municipalities. In developing and transitional countries, capital markets and institutions have often remained weak and commercial loans are often available only if loans are guaranteed by the state or by an export credit agency (ECA). In addition, an ECA will often require a sovereign guarantee as well. In those countries local commercial banks will only play a limited role in the funding for environmental investments.

For the least-developed countries a sovereign guarantee might not be enough to secure commercial financing. In this case a commercial loan is not an option and these countries will have to rely on IFI lending and donor funds.

Generally speaking, the role of commercial banks in financing environmental investments in the PERSGA region is limited. Only Saudi Arabia, Jordan, and to some extent Egypt, are likely candidates for commercial bank environmental financing. International rating institutes as well as the OECD

country risk classification[27] system have rated Yemen, Somalia, and Sudan as high-risk countries thus limiting their ability to secure financing, especially commercial.

Most service providers in developing and transitional countries are municipalities, which are typically not creditworthy. Furthermore, since environmental investments often are very large, have long-term repayment periods, and have very low returns they are not attractive for the commercial banks. In some cases, commercial banks will work together with the IFIs and donors to provide funds for municipal projects but usually the banks only provide short-term working capital.

When banks are determining loan qualification, the following aspects are considered:

- financial statements and budgets;
- borrower stability;
- stable income;
- financial viability of the project;
- environmental impact of the project;
- whether the borrower can finance at least 15 % of the investment up front, often 30% is required; and
- whether the borrower can undertake the currency risk.

Credit guarantees

When the service provider is not creditworthy, a credit guarantee is necessary in order for the service provider to obtain a commercial loan. Credit guarantees provide a promise or commitment to a creditor that the debt or loan will be repaid even if the borrower is unable to make these payments. Credit guarantees, either partial or full guarantees, are issued by sovereign entities (national governments or states), sub-sovereign entities (regions), commercial financial institutions, multilateral and/or bilateral financial organisations, or private entities. Thus, credit guarantees lower the credit risk and, with this payment insurance, the actual amount of money available to the borrower/s can increase and the terms and thus the conditions of the loan improve.

Export credit agencies (ECAs) [28]

For many types of investments in developing and transitional countries, ECAs play a central role in financing individual projects. Their job is to issue a guarantee to the lending bank or exporter for the repayment of capital investments. ECAs do not guarantee local costs, only the international elements of a project can be guaranteed. However, for larger infrastructure investments, it is common to create a package that includes IFI loans, commercial bank loans, and ECA guarantees. In many emerging markets, ECA guarantees are often a prerequisite for commercial loans.

Historically, states have used ECA cover to give subsidies to their own exporters. By charging a very low premium which did not reflect the risk involved, the exporters were able to increase their market shares or to penetrate new markets by offering a very low price[29]. This is considered a state subsidy and is in breech of the OECD and WTO rules.

---

[27] At present, Egypt is classified in risk group 4, Jordan in 6, Saudi Arabia in 3, Somalia and Sudan in 7 and Yemen in 6. Djibouti is not classified.

[28] Only export credits with a maturity over one year are handled in this section. These are typically capital goods which are sold on long credits.

[29] The price for a capital good sold on an export credit is the sum of the cost of the good and the cost of financing the credit. The financing costs are usually interest for the loan and a premium for the political and commercial risk. It is the premium for the political and commercial risk that ECAs charge and it is this premium that previously did not reflect the risk involved.

In order to prevent states to subsidise their exporters, the main ECAs (those that were members of the OECD) signed an agreement known as the OECD consensus agreement. The objective is to foster a level playing field for official support by encouraging competition between exporters based on quality and price of goods and services exported rather than on the most favourably supported financial terms and conditions.

The OECD consensus agreement, also known as the Knaepen Package, aims to ensure that participants charge premium rates in addition to interest charges that cover the risk of non-repayment of export credits (i.e. credit risk). The premium shall also cover the cost associated with running an export credit scheme, which are the long-term operating costs and losses associated with the provision of export credits. Another stated purpose of the Knaepen Package is premium rate convergence[30], which although not easily measured or defined, is a general outcome that can be expected when the two above-mentioned objectives are met.

One of the key elements of the Knaepen Package is the system used to assess a country's credit risk. It classifies countries into eight different risk categories (0–7)[31] with 0 representing the lowest risk. Each category includes a minimum benchmark that the OECD countries are supposed to surpass. The member countries in the European Union are obliged by law to apply to the OECD rules.

Microfinance

Microfinance provides funds to small enterprises – including the "informal" sector such as village banks, farmer groups, and households – which do not have easy access to conventional lending sources (i.e. commercial banks). Currently, the demand for microfinancing is much higher than the resources available. Microfinance can contribute to the implementation of GPA-related activities, particularly in the sectors related to agriculture, aquaculture, tourism, small industries, and small-scale sanitation. High transaction cost, shortage of funds, and the lack of involvement of the traditional banking sector are some of the major impediments to be addressed. NGOs play a significant role in the development and implementation of microfinancing schemes. Government, foundations, and international financing institutions are currently the major founders. Commercial banks have followed the developments, but have not entered this market segment to a major extent[32].

3.2.4. Economic instruments[33]

The best way to explain the features of Economic Instruments is by quoting Panayotou (1998) who summarised the flexible properties of economic instruments as follows: "Apart from their market correction qualities and their efficiency or cost minimization objectives, economic instruments are ideally suited for reconciling environmental concerns with development needs and integrating environmental and economic policies by virtue of their a) flexibility in accommodating heterogeneity, and b) adjustability to changing circumstances. The key to the promise of economic instruments is their ability to harness the power of the market and the self-interest of the individual, and to turn these

[30] Premium rate convergence is that all ECAs charge the same minimum premiums (for the political risk). Therefore, there will be a floor below which the premium cannot fall.

[31] The country classification can be seen at: http://www.oecd.org/dataoecd/47/29/3782900.pdf.

[32] UNEP/GPA 2001

[33] This report focuses on the fiscal elements of environmental and environmentally-related economic instruments. Issues on the potential environmental effects of these instruments through changing the behaviour of polluters and users for the benefit of the environment are not addressed.

presumed adversaries of sustainable development into powerful allies. This is done not by mandated or prescribed actions, but by changing the economic incentives facing producers and consumers; by taking full advantage of their self-interest and superior information at their disposal without requiring the disclosure of such information and without creating large and costly bureaucracies. Economic instruments in effect transfer from bureaucrats to the market the responsibility of identifying and exploiting new and additional low-cost sources of pollution control."[34]

In the 1970s and 1980s, the common approach for dealing with pollution and environment protection was by using Command and Control (CAC)[35] regulations. CAC regulations are concrete regulations and norms which are defined by law. The motivation for compliance when CAC regulation is applied is the desire to avoid penalty, whether financial or by exposure for non-compliance. Economic instruments are often described as complementary to the Command and Control approach or as substitutes of these. However, this view has to be taken with caution.

In reality, command and control regulations and economic instruments often operate in tandem. In fact, for economic instruments to be valuable and enforceable, they have to co-exist with a complex body of traditional regulations – like CAC regulations. For example, governments may set limits on allowable pollution levels for a region or country. Market-oriented approaches such as tradable permits (an economic instrument) are then used to allocate the allowable emissions in an efficient manner[36]. Hence, if the CAC approach does not work due to a lack of political will or institutional obstacles, the economic instrument will not work either.

Given the complexities of environmental problems and the impact of environmental policies on social and economic activities, specific environmental problems are usually addressed by employing a "policy mix" consisting of various command and control instruments, economic instruments, and persuasive instruments. It is important to stress, therefore, that using economic instruments alone usually is not the ideal and only solution. In fact, the effectiveness and efficiency of economic instruments always depends on the accompanying overall policy mix.

Economic instruments are not always the most appropriate option, especially when local quantities of emissions are important or in a situation where it is essential that emissions do not exceed specified limits on any individual site. In these cases, the problem it will probably be necessary to address through regulation. Regulation or voluntary agreements may also be more appropriate where there are a limited number of polluters, therefore the costs of setting up a scheme based on an economic instrument may outweigh the benefits.[37]

Why use economic instruments?

Economic instruments have a number of benefits compared to other measures. They can allow internalisation of environmental costs, in line with the polluter pays principle, and give polluters

[34] Jürg Klarer et al. (1999) p. 35.

[35] Typical elements covered by the command and control approach are: waste storage container design standards; air, water and noise emissions criteria; pollution control design standards, etc.

[36] UNEP briefs on Economics, Trade and Sustainable Development.

[37] In HM Treasury, 2002, there are some good examples of where regulation has been the best the best instrument. These are the EU National Emissions Ceiling Directive, the Montreal Protocol (ozone-depleting chemicals), and The Building Regulations requirements in the UK. An example of poor regulation is the EU Directives on bathing waters.

flexibility in the way they respond. Economic instruments can include taxes, charges, tradable permit schemes, subsidies or tax credits, and/or deposit/refund schemes.[38]

The main advantage of using economic instruments is that they have the potential to change the behaviour of the users. When environmental costs are fully internalised into the price of a product or an activity/service, consumers are encouraged to substitute away from these products with higher relative prices to alternative products that are relatively cheaper priced and more environmentally friendly. The same goes for producers – if a tax or charge is put on emissions, then they are encouraged to change their production methods into less polluting methods because of the tax incentive. The implemented changes might even lead to technological developments and new production processes to the benefit of the environment.

Types of economic instruments

The list of economic instruments is long and the literature describing them is abundant. As the objective of this report is to describe the revenue potential and not the environmental effects of using EIs, the focus will be on revenue-generating economic instruments.

Emission charges/fees/taxes: Direct payments based on measurements or estimates of the quantity and quality of a pollutant. Emission charges typically cover a wide range of pollutants, often in combination with non-compliance fees (see below). Such instruments are also referred to as "pollution charges".

User charges/fees/taxes: Payments for the cost of collective services are primarily used as a financing device by local authorities, e.g. for the collection and treatment of solid waste and sewage water. In the case of natural resources management, user fees are payment for the use of a natural resource (e.g. minerals, parks, or sporting, fishing and/or hunting facilities).

Product charges: Charges applied to products that create pollution when they are manufactured, consumed, or disposed of (e.g. fertilizers, pesticides, packaging, batteries, etc.). Product charges are intended to modify the relative price of the products and/or to finance collection and treatment systems.

Non-compliance fees: Payments imposed on polluters who do not comply with environmental or natural resource management requirements and regulations. They can be proportional to selected variables, such as damage due to non-compliance or profits linked with non-compliance. Non-compliance fees are also commonly referred to as "fines" or "penalties".

The following economic instruments are not revenue generating but are cost-covering instruments.

Deposit-refund systems: Payments made when purchasing a potentially polluting product (e.g. batteries or glass bottles). The payment (deposit) is refunded when the product is returned to the dealer or a specialised treatment facility for destruction or recycling. It is intended to encourage individuals and firms to properly dispose of such items in an environmentally acceptable manner. Administrative costs are an important consideration when determining whether to create deposit systems. Deposit-refund systems appear best suited for products whose disposal is difficult to monitor and potentially harmful to the environment. When the used item has an economic value, the private sector may initiate the programme. Deposit-refund systems have typically been used for beverage containers, pesticide containers, lead-acid batteries, and tires. They can however also be applied to appliances, electronic equipment, and automobiles.

[38] HM Treasury, 2002.

Performance bonds: Performance bonds are payments to authorities that take place *prior* to an activity that is potentially environmentally harmful. To guarantee compliance with environmental or natural resource requirements, polluters or users must pay a deposit in form of a "bond." The bond is refunded when compliance is achieved and forfeited if it is not achieved. In that sense, a performance bond acts like a deposit-refund system. If the performance bond is linked together with the renewal of permits, licenses, etc. the environmental effect can be even stronger. Due to the difficulties in monitoring environmental damage and legal restrictions while setting up the contracts, performance bonds are used less frequently than other economic instruments and have been applied mainly where there is a clear potential for environmental damage, such as mining or oil production.

Liability payments: Payments made under civil law to compensate for the damage caused by a polluting activity. Such payments can be made to the "victims" (from chronic or accidental pollution) or the government. They can operate in the context of specific liability rules and compensation schemes, or compensation funds financed by contributions of potential polluters (e.g. funds for oil spills).

Problems with economic instruments

When choosing among instruments, the selection needs to consider local and global priorities. Given the number of possible instruments and the number of possible activities involved with each instrument, the government must choose where to start and how best to prioritise the different polluting sources.

One size does not fit all. There is substantial variation in the needs, opportunities, and constraints facing each developing country. Even within countries, there is a substantial variation in the capacity to implement economic instruments across different regions or sectors.

Some desired changes are easier to implement through economic instruments while others are easier to implement through command and control regulations. It is not an either/or situation. For each country, the balance between regulatory controls and economic instruments will depend on local conditions and preferences. In high-income countries with well-staffed and well-equipped regulatory agencies, as well as strong judicial response systems, specific regulatory standards may be readily implemented on an equitable basis. Thus, economic instruments used in these countries may be designed to encourage super-performance. However, in many developing countries the inspection and enforcement resources are limited and political influences may lead to inequitable compliance requirements. In such cases, economic instruments may be designed for the achievement of more modest standards of performance rather than super-performance.

Finding and implementing an economic instrument is not an easy task as the use of EIs has a number of preconditions that need to be fulfilled in order for the EI to be successful. Some of these preconditions are:

Functioning markets and related institution:
The presence of a free-market economy with property rights, private enterprise, competition, price liberalisation, equitable judicial systems, and limited price distortions (subsidies) is crucial.[39]

[39] Eastern Europe countries in transition have found these preconditions to be particularly important (Inter-American Development Bank 2003).

Institutional capacity:
To enforce the rights and obligations that follow the implementation of an economic instrument, it is necessary to have a well-functioning and competent legal system. As with the command and control approach, economic instruments are not effective unless supported by consequences or punishments handed down to organisations that deviate from them. Having successful economic instruments and CAC regulations require that the political institutions punish violators. For example, if the legal system is not capable of enforcing property rights, then using permits to curb emissions or granting access rights to indigenous people is not feasible.

Many economic instruments build on existing institutional infrastructures, such as tax systems and electricity and water payments. For example, in Denmark, the implementation of economic instruments has been rather extensive since there is complete tax base where all households and companies are registered. This allows, for example, the government to institute user charges in the form of green taxes[40]. Without a complete tax base, registers and meters at household level it would be very difficult to implement user charges at all levels. If this is the case, charges can be levied on the upstream suppliers of the polluting good. They will accordingly internalise the charge in the price and thereby passing on the cost to the end user by an increase in the price of the product or service.

To implement economic instruments, countries need to have a minimum level of human and technological capacity. Disputes with the industry over payments are common and can be costly.

Setting the right price
In Europe and other high-income regions or countries, the principle is that the "instrument should be designed to internalise external costs." Therefore, all direct and hidden environmental costs that would otherwise be paid by the community in the environmentally-harmed area, should instead be built into the pricing for the product or service causing the harm.

For developing and transitional countries, a good initial option is to implement a phased approach. One approach could be initially to move towards recovering (through user charges) only the operational and maintenance costs. At a later stage full cost recovery of services received including investment costs should be recovered. This may be an appropriate way to address willingness and ability to pay. The case in many developing countries is that user charges only cover administration costs of command and control systems. Therefore the user and polluter pays only for a small part of the actual cost associated with the services provided or damage from pollution[41].

To determine both the internal and external costs needed to cover the project, it requires an objective and complex scientific and economic analysis, so that pricing is made as fair as possible. In developing countries, the burden of such analysis may be too expensive and sophisticated for existing institutions to undertake. The analysis also requires technical skills that might not be in place.

Political willingness
Policy makers have other objectives than analysts. There is not one unitary governmental actor which collects information, performs analysis and imposes the proper level of taxes or charges. Rather a whole range of actors are involved in policy-making, including interest groups, bureaucratic actors as well as the formal decision-makers. As these groups of actors have different perceptions of the costs and benefits related to instrument choice, it is generally difficult to reach consensus on what constitutes the optimal solution[42].

[40] For a list of the economic instruments implemented in Denmark see DEPA 1999.

[41] Andersen et al. 2003.

[42] EU 1998

Competition
One argument often used for not implementing economic instruments is that the domestic industry will lose competitiveness to industries in countries where such economic instruments not in place, possibly leading to the relocation of the industries and the loss of much-needed jobs. For this reason, some of the most polluting and energy-intensive industries in Europe are given tax exemptions and rebates in return for a negotiated agreement to make a partial environmental improvement. Experiences in Denmark show that basically all green taxes levied on the industry are tax neutral[43]. Consideration for effects on competition within industry sectors should also be taken into consideration.

One way to deal with the loss of competitiveness issue is to jointly implement the same economic instruments in all the countries in the PERSGA region. Such a harmonised approach might take some time and effort to be implemented but the rewards can be significant.

3.2.5. Subsidies

Subsidies are often used to pursue social or political goals. But they can also be used for national security concerns, to ensure the availability food for society, making basic commodities more readily available to the poor among other reasons.

Although there are both positive and negative effects of subsidies, subsidising selected economic sectors have a number of costs – including a direct impact on government budgets, adverse environmental impacts, and lower overall economic activity. Typically consumers are not charged at full cost recovery for the cost of providing the goods and services such as electricity, water sanitation, and water irrigation. In developing and transitional countries, consumers usually pay very little for these services, which are subsidised, and in most cases not even operational costs and maintenance expenses are fully covered. One of the main problems in this situation is that it usually leaves the institutions overseeing the sector chronically short of funds[44]. Another downside of subsidising these sectors is that, most likely, the goods being supplied are then used wastefully because the low prices do not provide users with an incentive to conserve.

A common argument for using subsidies is that they benefit the poor by allowing them access to the product/service as a result of the low costs. However, this is often not the case in developing countries since most often the subsidised products/services are not available to the poor due to the weak infrastructure of the country. Subsidies for electricity and water supply are good examples of this. Often the poor are not connected to the grid for these services and therefore it is the wealthy that actually benefit from these subsidies. The subsidy provided for transportation fuels (diesel or gasoline) is another example of a subsidy that benefits the wealthier car owners, a group that rarely includes the very poor. As a result, according to a World Bank report, the non-poor sectors of society use 90% of subsidised products/services[45].

Subsidies for environmental purposes
Subsidies are not always negative; in fact, some are necessary to ensure consistency in country policies. In principle, a subsidy can be used to achieve positive outcomes, like a decrease in pollution from a tax or trading scheme. However, careful considerations need to be made before subsidies are introduced. Experience shows that once a subsidy is in place it is very difficult to remove it. It is

[43] See DEPA 1999 and "Environmentally Related Taxes in OECD Countries: Issues and Strategies", OECD Code 972001101E1, Paris, France, 2001, 142 pgs.

[44] Pegiola et al., 2002

[45] Pegiola et al., 2002 p. 20

therefore wise to place a time limit on subsidies in order to make it easier to terminate the programmes, if needed.

Using subsidies is only a second-best solution since they set aside valuable economic resources – outside the general process of financial and economic policy – thereby reducing the economic resources available for other necessary expenditures. However, they may nevertheless play an important role in enhancing the acceptability of the taxes and fees/charges in question, and in turn provide important funding for environmental expenditures.

Subsidies can take many forms, such as grants, soft loans, or tax allowances. Subsidies may be financed through the general budget or through earmarked revenues. The purpose of subsidies is to motivate individuals or firms/enterprises to act more environmental responsible. Examples of tax incentives used in the UK are:

- reduced rates of VAT for certain energy-saving products;
- enhanced capital allowances for investment in energy-saving technologies which were introduced with the climate change levy;
- reduced duty rates for road fuel gases and for biodiesel; and
- a 150% tax credit for costs incurred in the remediation of contaminated land.

In Denmark, there were 36 effective environmental subsidy schemes in effect by late 1998.[46]

The two sectors that are most often subsidised, according to the OECD, are agriculture and energy. In Denmark, out of 36 subsidy schemes 14 were for energy and four for agriculture. Of the funds used for subsidies 68% were used for energy and 8% for agriculture.

Subsidies for environmental protection can be seen as the flip side of emission taxes. Instead of using taxes to encourage firms to reduce emissions, firms will decide voluntarily to reduce emissions if they are granted a subsidy (in essence, an incentive) for doing so. Under a subsidy system, polluters have the incentive to control all units of pollution, whose marginal control fits within the limits of the subsidy. However, using environmental subsidies in this way may actually backfire. Potentially, firms which would not normally engage in the environmentally harmful activity might begin to use it to reap the benefits of the subsidy. Therefore, subsidies might have the opposite effect than intended and pollution could actually increase instead of decrease.

How to remove unwanted or harmful subsidies
An important advantage of removing environmentally harmful subsidies is that the action does not require the design and implementation of new instruments. Furthermore, removing or reducing environmentally harmful subsidies would provide savings and/or additional resources for the state budget.

There are two ways to remove subsidies:

1) The first is to slash the entire subsidy in one move. This one-off approach raises the price of the good in line with economic costs at once. The big-bang approach capitalises on the political will backing the reform. However, this can have social costs since consumers do not have time to adapt to the new situation. The risk is provoking social unrest that may be able to stop the reform (as has happened, for example, in Indonesia and Nigeria).

[46] See DEPA, 1999 (chapter 9) for a description of the subsidies used in Denmark).

2) The other method is a gradual change over a number of years. The gradualist approach is risky since reforms could be reversed as political will erodes with time and as affected constituencies get organised to oppose the reform.

Removing subsidies is never easy as a number of groups may have vested interests. There is no doubt that removing subsidies will have effect on all users in society. Therefore, phasing out subsidies requires the establishment of a safety net, in order insulate the poor from the effects of the price increase. This could be done by targeting the subsidy to those who really needs it instead of applying the subsidy to all users.

3.2.6. Public private partnerships

Public private partnerships (PPPs) are not a direct financing source or instrument but more of a financing strategy. However, in many instances, especially in developing and transitional countries, PPPs may open the door to additional financing options for the implementation of the PERSGA activities. The rationale behind public private partnerships is to transfer part of the responsibility for infrastructure management to private partners while still achieving the goals or targets set up by the public sector.
There are several advantages of PPPs since the private sector can:

- increase cost efficiency through more streamlined management practices, typical of the private sector, as well as by focusing on lower operating costs and better tracking of resources;
- increase collection rates or user fees/charges since users are more willing to pay increased prices for services provided by private companies, therefore increasing revenue;
- bring in better operational and technical skills, which can have a positive effect on the project; and
- provide additional capital for the project giving the project a greater potential for success.

In order for a PPP to be successful, both partners must benefit from the project and both partners must also share the risk involved. When entering into a PPP, it should be clearly stated that there will still be a need for users and the public sector (if subsidised) to pay for the services desired. This need for public sector transfers will still be high unless user charges can be increased. Though PPPs seem simple in theory, many examples can be given where PPPs have failed and the projects have been terminated[47].

Partnerships can take many different forms, including: build-operate-transfer schemes (BOT); contracting private sector firms to commercialise existing services or to manage renovation or expansion; privatising part of or all of a municipal service; or providing private concessions to operate a service while maintaining municipal ownership of assets. The following table summarises the allocation of key responsibilities for the main types of PPPs.

[47] PriceWaterhouseCoopers 2001

Table 3.9: Allocation of key responsibilities for the main types of PPPs

Option	Capital investment	Commercial risk	Operation & maintenance	Asset ownership	Typical duration
Service contract	Public	Public	Shared	Public	1-2 years
Management contract	Public	Public	Private	Public	3-5 years
Lease	Public	Shared	Private	Public	8-15 years
Concession	Private	Private	Private	Public	20-30 years
BOT / BOO	Private	Private	Private	Shared	20-30 years
Divestiture	Private	Private	Private	Private or Shared	Indefinite (may be limited by license)
Adopted from UNEP 2004					

Factors to take into consideration before entering into a partnership

From the beginning, the partnership has to be a genuine collaboration between the public and the private partner and the conditions agreed upon have to be acceptable for both parties. The overall framework must be realistic and both parties must share the risk involved in the project. The contract should provide a strong foundation for both parties to develop confidence in the partnership and in each other.

The foundation of a successful PPP must include the following elements:

1) A clear outline of the commitments, including political commitments, and contractual obligations assigned to each partner builds trust and confidence in a PPP. This includes a commitment from the national authorities as well as from the local government. Political and institutional stability at national and local levels and compliance with long-term commitments are the basis of a long-term partnership and are often a precondition for private sector involvement in environmental projects. Even if the local government changes, commitments made by the previously elected officials should not be called into question. If the countries not are considered politically stable, the main challenge is setting up appropriate guarantees for the private companies.

2) Transparent investment procedures, which have a direct impact on risk allocation and on the feasibility of the partnership, are required. In addition, ownership rights must be clearly stated, including a clear definition of the assets contributed by each party and appropriate concession fees, if any.

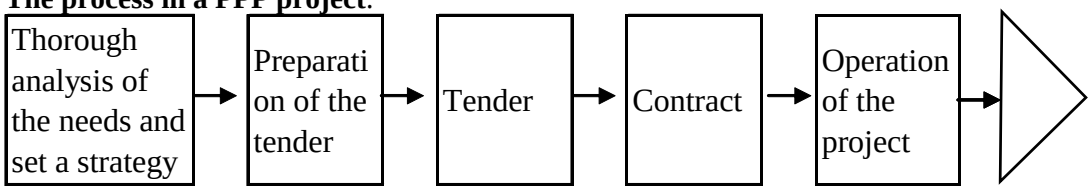
3) The project needs to be viable/bankable as an IFI project – meaning commitments and arrangements of subsidies and support must have the same obligations as IFI projects, etc. Entering into a partnership does not necessarily mean that fewer subsidies will be needed.

4) Solid technical expertise on the public side is crucial for tasks such as designing the contract, negotiating with private companies, or setting the partnership's scope and objectives.

Prior to the final investment, it is necessary to complete a thorough analysis that takes into account the future demand arising from a changing demographic as well as the local context which affects the partnership. The project’s investments must be adapted to the population’s needs and resources in order to obtain a tariff that is acceptable for the local population. This means both the population’s ability to pay and willingness to pay must be considered.

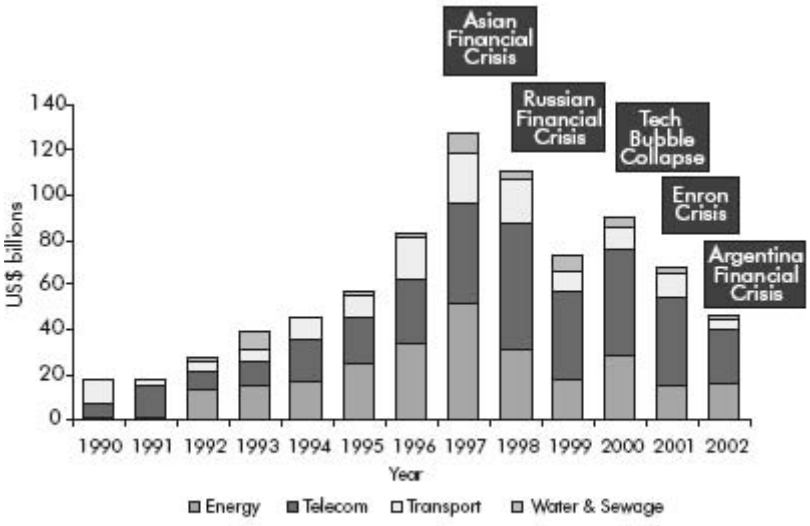
Furthermore is it essential to acknowledge the need for tariff flexibility related to exchange, interest, and inflation rates that may change over time. This is especially the case in many emerging markets, where there is no market for local financing why the financing of the investments often is made in hard currency. In this situation, if the currency suddenly fall the loan amount and the instalments will increase measured in the local currency and there will be a mismatch between the income from tariffs and the debt obligations. Therefore, if possible, use local funding to respond to this type of financial issue.

The process in a PPP project:[48]



International trends for private partnerships

For most of the 1990s, the private sector played a significant role in financing infrastructure investments in emerging markets. The financing reached a peak in 1997 when investments totalled USD 127.5 billion. The economic crisis in Asia together with a number of failed projects in emerging markets led to a sharp decline in these private investments. By 2002, the level had dropped to about one-third of the level reached in 1997. The figure below outlines the flow of these investments (from the World Bank 2005).



Source: PPI Database, World Bank.

The World Bank lists following reasons for the lack of private sector participation in environmental investments:

- capital intensity, with high, up-front investments combined with long payback periods and low sector returns;
- risk of political pressure on tariffs;
- weak or inconsistent regulation, lack of transparency, and perceived risk of regulatory capture;

[48] Regeringen, Danmark 2004

- sub-sovereign risk – local government entities standing counterparty to bulk water sale agreements while having a poor collection record, suboptimal financial condition, and weak credit;
- water unaccounted for, water loss, inadequate distribution networks in a state of disrepair, and the lack of investment funding to remedy the situation, thus threatening long-term project viability;
- foreign exchange risk, with mismatch between local currency revenues and foreign currency financing;
- forms of credit backstop (for example, sovereign counter guarantees for financial obligations of sub-national entities being scaled back in the face of decentralisation, ratings agency reviews, and downgrades);
- lack of local government access to bank and capital markets due to the absence of central government authorisation and competition for scarce financial resources; and
- aversion of private insurers and re-insurers to providing bond insurance and political risk insurance to sub-national entities in developing countries due to lack of transparency, poor financial condition of reference entity, and absence of credit rating.

3.3. Considerations for the selection and implementation of instruments and mechanisms

How does one enter into a constructive dialogue with IFIs and donors when a project has been identified and there is a need for financing? In section 3.3.1 focus will be given to IFI and donor expectations of the investor. In section 3.3.2, a four-phase approach is presented on how choose an appropriate economic instrument and how to implement it.

3.3.1. Finding the appropriate financiers.[49]

Approaching donors and IFIs is similar since they more or less look for the same information and use the same approach when they are deciding weather or not they will invest or give grants to a project. The main difference between the two is that donors do not have a long-term interest in future cash flows and in the viability of the projects. This is because they are most often providing grants, which are non-repayable funds. IFIs, on the other hand, give very high priority to the future cash flow of the project, as it is the cash flow that shall provide the resources for repayment of the loan.

Project prioritising

Before donors or IFIs are approached, it is crucial that each country or region has prioritised which funding areas are most important. Donor grants are usually targeted for specific activities or sectors. Recipient countries will then have to tailor their funding requests/proposals to fit the donor criteria, which may not have the same priorities as the recipient country. As grants and IFI loans often require co-financing, the project may pull much-needed funding away from the actual priorities of the recipient country. Furthermore, as human capital and human resources are always scarce, they should not be "wasted" on low-priority projects. This would be any project that requires a lot of human resources from the entity that undertakes the specific environmental project – resources that then not can be used for the priority projects.

[49] This section largely builds on the guidelines and experiences from the Project Preparation Committee (PPC). The PPC is a network of stakeholders involved in preparing and financing environmental investments. The network includes more than 20 multilateral and bilateral donors, IFIs, regional governments, NGOs and the private sector. Their focus is on Eastern Europe, the Caucasus and Central Asia and South Eastern Europe. Its Secretariat is located at the European Bank for Reconstruction and Development (EBRD).

Knowledge of the IFIs and donors
Though donors and IFI have many similarities, they are not identical. It is important that the project investors are aware of the specifics of the IFIs, the donors, and the commercial banks which they approach. For some of the donors and IFIs, information can be found on these organisations in section 3.2. Otherwise, all information needed to evaluate the funding source can usually be found on the institution's website. The information should be collected before the first meeting between the IFI/donor and the project proponent.

What the project investor needs to know:
- eligibility rules;
- regional and sector priorities;
- terms of lending;
- types of financial instruments offered;
- ways and methods of communication and information exchange;
- project submission procedures and timing requirements; and
- procurement rules.

When contact has been made it is important for the project investor to keep in mind that IFIs and donors are managing tax payers' money and they have a responsibility towards the public they represent. Therefore, they are obliged to follow a set of specific rules and regulations and to utilise entrusted funds in the most efficient way. That is why the IFI and donors are so eager to know all the details of the project and continue asking questions even beyond the point where the project manager thinks he has answered them all at least once.

Information sharing
IFIs and donors need to know all the details of the project in hand. It is better to give too much than too little information and the sooner the information is provided the better. To avoid creating an atmosphere of mistrust, all information, how trivial it might seem, should be revealed. Also all known risks in the projects should be disclosed. For any projects that involve risk, this is known and expected by the donors and IFIs. If the project investor can give a list of risks and perhaps ways to mitigate the risks, it will increase chances of establishing a constructive dialogue.

Information goes both ways. If the project investors have a question for the IFI on the process or method of work, the investor should not be afraid to ask the question. Often insecurity arises from differences in working culture. The best way to overcome this is by communication.

Financial issues and budgets
Donors typically pay less attention to the financial viability of the project because grants are non-repayable funds, which are allocated for achieving specific outputs. Donors are typically more interested in knowing that there are no alternatives to their grants. The project proponents shall be prepared for this by having done due diligence.
This is different for commercial banks and IFIs since the key issue here is the financial issue.

Co-financing: Typically IFIs and donors will not provide finance for the entire investment but will require other investors to be involved. This is important. If, for example, an IFI finances only a maximum of 35% of project cost, it implies that a minimum of 65% will have to be come from other sources. Such other sources include, among others, the utility's own funds, municipal budget and loans and/or grants from other IFIs, donors, and/or commercial banks.

Identification of potential additional sources of financing is rather time consuming and the project proponent has to think about this issue as soon as possible – *before* a project concept is submitted to an IFI that may potentially play a major role in project financing.

Provision of guarantees: As written in section 3.2, IFIs usually require a state guarantee. The securing of guarantees is basically a political process in which the project proponent needs to be involved as soon as possible. It can be a very time-consuming process as the Ministry of Finance might need to have the entire state budget in place beforehand. For some developing countries that are running a programme through the IMF, it can be even more difficult as they might have restrictions in the programme on obtaining new debt or issue guarantees. The information the guarantors needs is basically the same as the information requested by the IFIs.

Ability to repay the loan: In contrast to donors, IFIs expect to have the loan repaid. Therefore they want to know if a project is capable of generating sufficient cash flow in order to repay the loan fully and on time – and enjoy the support of a financially sound administration which is prepared to act as a guarantor. They will look into the ability and willingness to pay. In addition to budgets and annual accounts, the IFI will be interested to know about the current tariff policy.
Questions to take into consideration are:

- Who is responsible for setting tariffs?
- What is the number of tariffs?
- What are the tariff levels?
- What are the collection rates among different types of consumers?

Risk management
Any project can have risks. The challenge is, at an early stage of the project cycle, to identify all possible risks and find appropriate ways to mitigate these. Issues that are important to address as part of risk management are plentiful.

- Project costs: Have all possible cost elements been taken into consideration. Do the project costs include taxes, charges, and duties levied on goods and services required for project implementation? Such questions have to be asked and answered.

- Local approvals: In most cases there is a need to obtain approvals from local authorities for, for instance, construction works. This should be fully taken into account. What approvals will be needed? Is it time-consuming to get them? Is there a risk that the utility will not get these approvals?

- Duration: The questions to ask in this instance are: Is the duration of the various phases of the project realistic? What is the risk that a certain phase will take much longer to complete than anticipated?

3.3.2. Finding the appropriate economic instruments

Since countries and regions vary, the starting point depends on the previous actions taken by the individual countries. There is no best way to find and implement economic instruments. Any solution and policy recommendation will have to take into account the degree to which the pre-conditions are fulfilled, as described previously. In annex 10, a comprehensive list of criteria is provided to help evaluate the potential effectiveness of environmental taxes and charges[50].

[50] Speck S. and E. Özdemiroğlu (2004) Economic Instruments for the Protection of the Black Sea, a report for the Black Sea Ecosystem Recovery Project (BSERP), Istanbul, Turkey.

UNEP has developed a four-phase approach to help policy makers choose an appropriate economic instrument and implement it accordingly[51].

Phase 1 – Problem identification
To design the best solution, one needs to be familiar with the current situation as well as the history. In phase one the existing information is gathered in a structured way. Creating this structure is a critical step, as it drives the process of assessing the solutions that may work from those that may not, as well as identifying key data gaps.

Involving local stakeholders in the information gathering process and in the problem identification phase can become a powerful tool for raising public awareness and participation. The problem identification phase needs, at a minimum, to answer following:

- **What is the goal – assessing the problem?** Goal definition should include a primary goal and any secondary goals that may be relevant. In order get to the goal the policy makers needs to know: What is the damaged resource? What is the anticipated severity of damage? What does the policy makers hope to accomplish? What is the characteristic of the pollutant?
- **What are the baseline conditions?** The appropriate policy response hinges on a clear and realistic understanding of the baseline conditions. The level of competence and corruption for any area/institution that will be used to develop, communicate, monitor, or enforce the policy in question needs to be realistically assessed.
    - Institutional baselines: If the institutional capabilities needed to communicate and enforce the EIs in a fair and unbiased manner are missing, the performance of the EIs will suffer.
    - Mandate and level of power: Many environmental protection packages come from the environment ministries, which generally have far less political power than finance or trade ministries. Policy makers need to assess their relative power accurately and plan how to address their weaknesses.
    - Factional analysis – who are the stakeholders and what are their interests: Policy changes involve far more than government bodies. Assessing the major players with an interest in the status quo, and in the projected change, is important. This baseline assessment should also evaluate which groups are most powerful, and what their primary goal is likely to be. In many cases, their primary goal will be linked to the protection of their jobs and/or access to valuable resources. Environmental quality may be a distant second. Allocation of rights in the baseline is also quite important: groups with existing rights (whether actual or implied) will often have more power/interest in fighting changes to existing policies.

- **What is the long-term viability of the package?** Countries may receive external funding to conduct policy research or to implement EI-based approaches. However, this money does not last forever. A long-term plan for implementing and overseeing the policy should be considered from the beginning.

[51] Only the headlines and main ideas are presented here. See UNEP: The Use of Economic Instruments in Environmental Policy: Opportunities and Challenges, 2004 for a thoroughly description of the different options and examples of where they have been used. See also UNEP 2004: Guidelines on Municipal Wastewater Management, A Practical guide for decision-makers and professionals on how to plan, design, and finance appropriate and environmentally-sound municipal wastewater discharge systems, which also has four phases. In that report, ten key points have been formulated for local and national action on municipal wastewater. These 10 keys are listed in annex 8. The 10 keys for Action cover policy issues, management approaches, technology selection, and financing mechanisms.

- **Identifying potential obstacles.** Obstacles may occur that will hamper implementation and management of the programme. Identifying and addressing potential obstacles early in the process is important, so that solutions can be found and incorporated into the programme. Obstacles can be a lack of institutional capacity, lack of funding, or lack of political will.

Phase 2 – Planning[52]

Phase 2 takes the general information provided in Phase 1 and uses it to develop initial policy proposals. The purpose of assembling information in Phase 1 is to help policy makers develop a shortlist of policy options. This list includes options that have the most reasonable chance of success given the existing baseline conditions and resources at risk.

- **Environmental effectiveness** – i.e. does the instrument lead to the desired environmental improvements, such as reduction in waste generation, increased waste recycling, reduced emissions from transport and disposal?
- **Economic efficiency** – i.e. does the instrument create incentives for investment and innovation toward the reduction of pollution control costs?
- **Administrative cost efficiency** – i.e. does the instrument require affordable and available levels of skill and effort to implement and monitor?
- **Revenue usefulness** – i.e. can the revenues generated be applied to address the environmental objectives of the instrument and create measurable improvement?
- **Ease of implementation and replicability** – i.e. are the relative costs and benefits fairly easy to assess and the legal requirements for introducing the new instrument reasonable?
- **Acceptance** – i.e. does the general public and the affected industries accept the instrument as a viable means of cost-effectively achieving environmental improvement without adversely affecting competitiveness, employment, income distribution, and trade?
- **Distributional effects** – i.e. is there distributional disparity or inequity in the application or impact of the instrument, particularly regarding effects on lower-income households, small businesses, and disadvantaged parties?
- **Short-term results** – i.e. does the instrument have the potential to result in sufficient short-term improvement and motivate political administrators to undertake commitment to the costs associated with the instrument within their political term?
- **Economic development enhancement** – i.e. does the instrument provide an environment that maintains trade competitiveness and encourages industrial development and employment generation?

Phase 3 – Engaging stakeholders and refining policies

In this phase stakeholders are involved for feedback on these initial options, and collects important information on how to refine them to increase their likelihood of success or to gauge any major resistance. The process of organising stakeholder involvement varies with the country in question and its cultural traditions and political climate.

- **Who are the stakeholders?**
  Though there are many stakeholder groups (citizens, businesses, resource users, etc.), there are almost always three main stakeholder interests: those responsible for the problem; those affected by the problem; and those affected by one of the proposed solutions.

[52] The policy recommendations are also based on the Inter-American Development Bank (2003).

- **Not all stakeholders will be pleased**
  Within each of these groups there may be stakeholders who are well organised and economically powerful and some of these might have vested interest in keeping things as they are. If the firms are controlled by people with ties to the government, the potential for them to bias the policy direction will be even larger. The challenge with the more powerful groups is ensuring they are not able to derail the policy entirely by influencing the structure of the rules or instruments or by perpetual delaying tactics.

- **Transparency and early signals**
  It is important to involve stakeholders at an early stage. Early, continuous, targeted, and transparent communication between all parties is required to establish firm partnerships. Because the environmental authorities often have less power than many of the affected industries or their political partners, built-in transparency also protects them from pressure tactics from companies or other ministries.

Phase 4 – Policy implementation and evaluation
The final phase means moving from data gathering and negotiations with the stakeholders to choosing and implementing the instrument. Given the baseline conditions and the feedback from the stakeholders, the option with the highest efficacy, lowest side-effects, and greatest feasibility given existing power and institutional dynamics is the best choice of instrument.

- **Flanking measures to mitigate severe effects**
  Where the implementation is anticipated to cause undue hardships on segments of the population, transitional measures need to be built into the initial policy package. Possibilities include phasing in limits more slowly to avoid sudden changes in prices or access rights; exemptions for groups who face high costs but are small contributors to the problem; or transitional subsidies to highly affected groups.

  Besides distributional effects, consideration for the capital stock should also be taken into account. As the introduction of, for example, a new environmental tax increases the production cost for the industry, the cost of capital might become unacceptably high given the current capital stock of the economy, which was put into place in the absence of such taxes. It may therefore be necessary to introduce taxes at a rate below the economically-efficient level and then increase them over time as the capital stock is replaced in the expectation of increased tax levels in the future[53].

- **Marketing and public announcements**
  It is important to explain what policy package is being implemented, why it was chosen, and what steps are taken to ensure that this decision makes sense and incorporates the feedback from the stakeholders.

- **Monitoring and enforcement**
  To ensure optimal performance, plans should be subject to regular monitoring and evaluation, so that timely improvements can be introduced when necessary. Evaluation should account for experience and for improved knowledge, building, for example, on improved scientific understanding.

[53] HM Treasury, 2002. In this report, examples are given on how economic instruments have been implemented in the United Kingdom and which considerations they have made.

Keep it simple: the programmes should be as simple as possible. The more complicated a programme is to monitor and enforce, the less likely it is to succeed, especially in the developing world. Thus, it is very important that goals and objectives, as described in Phase 1 are unambiguously formulated and measurable (quantifiable), so that results can be verified.

4.0. Financing for the protection of the marine environment from land-based sources (LBS)

To effectively finance environmental action, it is essential to: identify relevant sources of financing, design a realistic and viable financing package, and find a way to strengthen sustainable financing. It is also important to understand which financing mechanisms are best for the specific purpose, which conditions need to be in place for the mechanism to be efficient, and how these funding instruments are best utilised.

As presented in section 3, there are several funding mechanisms available (i.e. subsidies, public transfers, grants, loans, user and polluter pays revenues, etc.). In addition, there are economic instruments (taxes, charges) that can be used to increase revenues, increase efficiency gains, and remove harmful subsidies, which could free up money for environmental activities. Finally, arrangements such as PPPs, decentralisation, etc. may present new and interesting financing options that have not previously been available.

Each financing mechanism has specific characteristics that can be determining factors when deciding between options, such as:

- the type of financing that is being considered (grants, public transfers, subsidies, loans etc.);
- the purpose they may be used for – investments, administration, operational costs, etc.;
- whether there is the need for co-funding to operationalise the funding;
- maturity dates and interest rates available;
- if there is a need for guarantee and, if so, which type of guarantee.

When developing financing packages for environmental programme activities, it is necessary to take all of these specificities into consideration in order to find the cheapest and most ideal-financing package for the activity. Another issue to take into consideration is the cash flow based on the annualised costs of the activity to ensure that payment can always be made. It is also necessary to secure long-term sustainable financing to ensure support of the project possibly by using bridging mechanisms until the sustainable mechanisms can fully be realised.

This section focuses on relating these mechanisms to PERSGA's financing needs (Secretariat Costs, financing the PERSGA programme of work, and financing the national implementation of the PERSGA). The section will also discuss in detail the options of matching and blending different resources to create viable financing packages.

The PERSGA Secretariat has over the last two years worked with identifying options and strategies to strengthen the financial base of the Secretariat and the PERSGA programme of work. The draft 2004 Business Plan has developed concepts for a fund-financed Secretariat, the RBP/LBS has developed a budgeted programme of work for the short-term 2006 programme, and the May 2005 retreat in Aqaba, Jordan systematically dealt with how to attract funding and which funding mechanisms would be most relevant.

Table 4.1 presents the financing sources and partnership organisations that have been identified as potential actors in the support and funding of the PERSGA process. The list does not include potential domestic sources of financing. Annex 10 presents the main donors broken down by recipient and table 3.2 gives total aid by recipient in the region from 2001 to 2003.

Table 4.1: Possible funding sources and partnership arrangements for PERSGA

Donors	Loan Financing	Partnership Arrangements
- Agency Cooperation France - CIDA - DANIDA - DFID - EC - GEF - GTZ - JICA - AUSAID - SIDA - USAID - Kuwait Development Fund	- African Bank - African Development Bank - Asian Development Bank - Islamic Bank For Development - Islamic development bank - World Bank	- ALECSO - ASISCO - Commission for Africa - Eurasian Commission - FAO - Grid Arendal - IAEA - ICRAN - ICRI - IMO - International Foundation for Science (JFS) - King Abdul Aziz City for science and technology - Living Ocean Foundation0 - Marine Aquarian Council (MAC) - Nature Conservation (NC) America - NOAA National Organization Atmospheric Administrate - RAMSAR - SABIC - UNESCO - IUCN - SOS (Save Our Seas) - UNF - UNIDO - WWF

4.1. Financing the PERSGA Secretariat

Secretariats, such as the PERSGA Secretariat, have running costs which cannot be avoided regardless of the financing amount available, even if it is a small amount. These core costs include: expenses for staffing, meetings, housing and operational facilities, support for PERSGA activities in the lower-income member countries, expert assistance, and limited consultancies.

In the current situation, the PERSGA Secretariat suffers from financial inconsistencies, such as irregular payments and some non-payments, which make it difficult to focus on its intended activities and directs attention away from programme-related work towards fundraising. As the programme of work becomes more ambitious, the core costs to facilitate it will increase. Therefore, it is necessary to secure stable and sustainable funding for these activities at all levels, which will facilitate the activities expected of the Secretariat.

Financial considerations and options:
When establishing a funding package for the core costs of the Secretariat, it is important to take into consideration that the Secretariat will not be generating any revenue from its activities and thus will have to be financed completely by direct payments (member contributions) or grants. On a very short-term basis, it may be possible to borrow resources to bridge possible financing gaps but this cannot be expected. Box 4.1 presents an example of funding for the OSPAR Commission Secretariat.

Box 4.1 – Financing the OSPAR Secretariat: allocating contributions

OSPAR relies on contributions from the Contracting Parties to fund its budgets. From the start, there has been a strong debate between two different principles:

- Contracting Parties should contribute according to their economic status – it would be unfair for a smaller country with a population of 300,000 to pay the same as a larger country with a population of 80,000,000;

- Contracting Parties have equal voices in the OSPAR Commission and should therefore contribute equally.

All budgetary decisions have to be taken by unanimous vote. The basic approach agreed for the general budget[54] is therefore a balance between the two principles:

- two-fifths (40%) of the budget is divided in equal shares (16 Contracting Parties each pay 2.5% of the general budget);
- three-fifths (60%) is divided according to the size of the economies of the Contracting Parties (the triennial UN assessment on the basis of contributions from Member States is used for this purpose).

Three refinements have been added to this basic approach:

- since the European Community does not have an economic base separate from its Member States, it pays only the 2.5% share (this approach has, in fact, been adopted as standard for EC participation in other international agreements);
- when extra work to support the North Sea Conferences was taken on, special arrangements were made for this. When OSPAR agreed to take on a greater responsibility for following-up on these commitments made by the Sates in support of the North Sea Conferences, a special "North Sea tranche" of the contributions was established. This was 16.66% of the total general budget and was divided equally between the eight North Sea coastal States in addition to their share of the remaining 83.33%;
- to prevent any one Contracting Party dominating the budget, a "cap" of 22% of the total general budget is applied to any one contribution. The excess over this cap is redistributed among the un-capped States. In practice, France, Germany and the United Kingdom usually benefit from this cap.

This system, though complex, has been able to achieve, and maintain, unanimous agreement since the early 1990s. Its strength lies in the fact that small States know that they will not have to meet a disproportionate share, while large States know that small States cannot argue for increased expenditure without having to accept a reasonable share of the burden.

The funding arrangements agreed upon by the member countries will need to generate consistent financing with little to no room for late or missed payments. As illustrated in table 3.1, the countries in the PERSGA region include: one wealthy member country, two middle-income countries, and four low-income countries. Expecting the low-income countries to contribute equally to the financing of the PERSGA secretariat is not realistic. However, some contribution should be made by these countries in order to ensure a sense of ownership. In the short and medium term, it may be necessary for certain (often the wealthier) member countries to pay a larger share of the core costs but ideally the Secretariat should aim at a fair distribution of payments from its members.

At present, the Kingdom of Saudi Arabia pays 50% of the PERSGA budget, Egypt pays 30%, and the remaining countries contribute between 3.7% and 2.5%. The share between countries reflects the inequality of income between these countries. As some member countries develop economically, it would be fair to reconsider and possibly recalculate the share contribution these countries provide to PERSGA.

In addition to these annual contributions, the PERSGA Secretariat has developed, in the draft business plan, the concept of financing the core programme through an Environmental Fund Arrangement

[54] Budget amount after deducting the special contribution from the United Kingdom towards the costs of office accommodation.

(Annex 8). However, it is clear that a fund such as this would need substantial input capital to generate enough revenue to ensure adequate resources to cover the Secretariat's basic costs. In the draft business plan, it is estimated that for every USD 20 million that would be placed in the Fund, USD 1 million can be expected to be generated from interest payments.

Additionally, the PERSGA Secretariat has identified a series of possible funding mechanisms – mainly donors – which could be approached to: 1) secure short- and medium-term financing for the Secretariat, and 2) provide possible set-up capital for an Environmental Fund.

Although a fund arrangement may be tempting, it should not eliminate the principal behind annual contributions from member countries since this strengthens the countries' sense of ownership and responsibility towards the programme.

Suggested primary sources of financing:

- membership fees/contributions;
- member country grants/subsidies; and/or
- international grants.

Possible secondary sources of financing:

- bridging capital from a lending institution/country;
- creation of an earmarked regional charge for PERSGA; and/or
- the introduction of fees/voluntary payments for environmental services.

The next phase

PERSGA together with its member countries will need to develop a clear strategy on which type of financing is relevant and how to attract these financing sources. This process was initiated during the retreat in Jordan, 20-24 May 2005 and the action points are presented below. The arrangements considered should ensure that the PERSGA financing plan focuses on building a long-term sustainable financing base.

- Focus on domestic fundraising to preserve each country's activities:
    - PERSGA and member countries
    - Encourage domestic financing – non-governmental sources
- Establish an endowment fund from PERSGA:
    - Countries to provide a sustainable income
    - Approach the donors that have been specified
    - Actively mobilise external funding
- Proactively approach working with partners regarding funding

The PERSGA Secretariat needs to raise its member countries' awareness of the relevance and benefit of PERSGA's programmes and activities in order to strengthen the willingness to pay membership contributions. In addition, a more systematic approach needs to be put in place to implement the actions identified above.

4.2. Financing the programme of work

The next programme cycle of PERSGA is expected to start at the beginning of 2006. A Regional Programme of Action for Land-Based Sources (RPA/LBS) is in its final stages of development. As presented in section 2.1.2, the programme of work (PW) is expected to be a preliminary one-year project amounting to approximately USD 600,000 followed by a more substantial three-year programme of several million USD annually.

The Regional Programme of Action for LBS is expected to include activities such as:

- information collection and dissemination;
- review of and assistance with strengthening legislation and monitoring;
- guideline development;
- regional analysis;
- monitoring of hot spots;
- development training;
- facilitating regional cooperation;
- assisting with the development of national action programmes, including assistance with implementation; and finally
- technology advice.

Financial considerations and options for the PW

The financing options available for the PERSGA programme of work (PW) are similar to the type of financing discussed above, however the key difference is that activities under the PW can, if financing is not available, be terminated or not initiated.

The programme of work involves expenses similar to the core costs of the Secretariat – staffing, meetings, housing and operational facilities, support for the less financially-established member countries, expert assistance, missions, travel, and consultancies. Some of these expenses will need upfront investments (capital, equipment, and staffing) whereas others can be undertaken once funding becomes available.

Similar to the funding for the Secretariat, ideally the member countries endorsement of the PERSGA programme of work should include arrangements for a sustainable financing package based on the user/beneficiary pays principle. However, due to the regional differences of income between countries it is highly unlikely that such an arrangement can be made without subsidies from the wealthier members of PERSGA or external donor funding. The possibility of an environmental fund to finance the PW could also be a viable financing option if funds are made available from donors.

Additional options for financing the PW could include dividing the type of activities into different categories. An example of this would be seeking financing for regional assessments and information collection from membership contributions but funding more national and training-related activities from user countries.

The regional contributions could be supplemented by international donor payments for the less economically-developed countries. In addition to the membership contributions and donor financing, other sources of financing may be available through partnerships and co-funding arrangements with other organisations and institutions. Voluntary contributions or sponsorships could be another alternative to supplement the more regular funding sources.

It should be expected that the process of financing the PW from many different sources involves a need for the blending and matching of resources, which at times can become very complex.

Suggested primary sources of financing:

- membership fees/contributions;
- member country grants/subsidies; and/or
- international grants.

Possible secondary sources of financing:

- bridging capital in from a lending institution/country;
- the creation of an earmarked regional charge for PERSGA;
- the introduction of fees/voluntary payments for environmental service;
- partnership arrangements; and/or
- voluntary and sponsor funding.

As presented in section 4.1, the PERSGA retreat identified a series of options and next steps to strengthen financing of the next phase of PERSGA. These activities are equally relevant for funding the programme of work as they are for the funding of the Secretariat.

4.3. Financing and implementation at the national level

Implementation of PERSGA-related activities at a national level is the sole responsibility of the member countries. Such activities will increase the countries' demand for environmental financing. Organisations such as PERSGA can assist with strengthening capacity, strengthening efficiency, regional cooperation, demonstrational projects, and creating a regional environment. In addition, PERSGA Secretariat can contribute to strengthening the awareness of the costs of inaction towards environmental protection, the value of a vibrant environment, and the environmental/health cost-related issues.

The PERSGA LBS protocol highlights a vast series of environmental actions that need to be addressed by countries. The country assessments undertaken in the process of developing the Strategic Action Programmes have specified which of these environmental sectors have the highest level of urgency in each country (see annex 1).

Most countries, which are to initiate or increase their activities in certain areas, will choose to develop a national or sub-regional action programme (referred to here as NPA). In the PERSGA region Yemen is the only country to have completed their NPA, while Egypt is in the final stages of their NPA (Egypt for the Rea Sea and the Mediterranean regions). The PERSGA Secretariat one-year preparatory programme (2006) outlines PERSGA's further support with the development of NPAs in the remaining member countries.

The purpose of a national programme of action is to:

- increase awareness and understanding of the value, benefits, and vulnerability of strategic coastal and marine environments;
- identify, resource, and implement actions to address specific causes of degradation to these environments, or threats from land-based activities;
- provide a flexible mechanism for identifying and prioritising problems through partnerships and consensus amongst stakeholders;
- strengthen the public sector's ability to effectively respond to the causes and to ensure the sustainability of the actions and projects undertaken;
- mobilise resources and partners, including the private sector, for implementation of specific projects; and
- enhance environmental and financial legal frameworks and regulations.

Developing a thorough programme of action at a national or sub-national level involves a variety of financing challenges. There is a need to secure resources and institutional set-ups that will allow for efficient implementation of the programme.

The institutional arrangements and adequate capacity will need resources, which are mainly derived from public sector transfers, from direct user pays (permits or processing fees), or in the set-up phase possibly donor payments. To implement a national or sub-national programme it will also be necessary to undertake activities to cover the expenses of implementation, monitoring and enforcement of the programme as well as other supporting activities. These types of expenses, to a large extent, mimic the same type of expenditures as presented under the PERSGA Secretariat and the programme of work sections.

Below, the main steps that should be taken when developing a programme of action are presented. From a financial point of view, the process is relevant for: identifying which financing sources are more relevant and realistic to finance the specific project activities, identifying which organisations are responsible for implementing the activities, and developing a programme of action which is based on affordability and long-term sustainable financing.

The following section presents the typical procedure for developing a programme of action while section 4.3.2 presents some of the factors that should be taken into consideration when blending and matching resources. Section 4.3.3 will briefly discuss the project cycle for financing individual projects, where the largest demands for financing are expected. Section 5 presents some methods and tools available to help prioritise the programme activities and addresses challenges to the implementation of the programme.

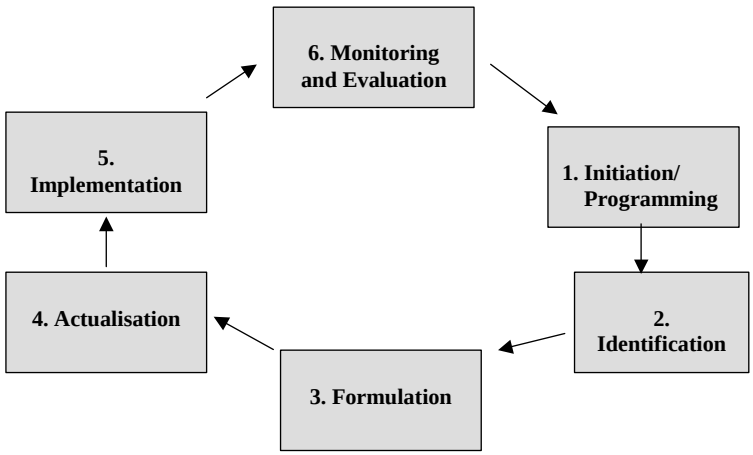
4.3.1. Developing the programme of action

Addressing environmental concerns at the national level usually in some form involves developing an action plan, a strategy, or a programme (these will further be referenced as programmes of action). These programmes identify the problems to be solved, define the standards that should be achieved, identify those that are responsible for implementation (at a policy *and* implementation level), which resources are to be used and a timeframe for their implementation. These programmes of action can be national, regional, or even municipal.

Developing a programme of action is a coordinated process, which involves all stakeholders from the beginning. Within the environmental arena it will often be the Ministries of Environment who initiate the process of programme development, but it will not be the Ministry or its agencies that have the main responsibility of implementing the programme activities. Therefore, it is strongly recommended that all the main Ministries responsible for financing and implementing the programme are involved throughout the process, even co-chairing the development of the NPA.

The UNEP/GPA NPAhandbook (UNEP/GPA 2005) presents a method for developing a programme of action. The phases and steps involved in developing and implementing a programme of action are outlined below in the form of a project cycle. Each step is then broken down into action points to be taken before moving on to the next phase of development – for more detailed information consult the UNEP/GPA NPA handbook.

Figure 4.1: Illustration of a Project Cycle for NPA Development



PLANNING PHASE

STEP 1 – Initiation/Programming

Set up a cross-sectoral and multi-stakeholder process to ensure an effective programme of action . Tasks:

- formal designation of an overall lead agency, which should then take lead responsibility for further actions;
- define the overall scope and guiding principles;
- produce a preliminary list of key actors, including potential financial partners;
- hold initial brainstorming session(s) on gaps in and constraints of programme activities;
- establish a core working group;
- develop and agree on an initial work plan and timetable for the NPA process;
- ensure formal endorsement of the NPA process from stakeholders;
- secure funding for preparatory activities in the planning phase.

↓

STEP 2 – Identification

Analyse current "NPA activities", institutions, data, and policy tools to identify gaps, constraints, (capacity-building) needs, and opportunities in the following areas:

- relevant (potential) partners and collaborations (public and private);
- relevant research data, information, reporting, and monitoring mechanisms (socio-economic and environmental);
- relevant policy tools (national budgets, central and regional strategies, legislation, enforcement, etc.);
- discussion of (potential) financing partners to fulfil identified needs for action.

↓

STEP 3 – Formulation

Develop a realistic and tailor-made NPA programme for step-by-step implementation through a wide network of collaboration, partners, and stakeholders. Tasks:

- set up an institutional network for NPA implementation;
- define criteria for setting priorities and produce an NPA project pipeline, prioritising short-, medium-, and long-term activities;
- set realistic management objectives and targets for priority problems;
- formulate detailed and concrete activities and measures for meeting the objectives and targets for the short- and medium-term priorities;
- devise a financing strategy involving relevant government bodies and other partners;
- formulate contingency measures (e.g. in case of political or staffing changes);
- formulate communication and participation strategies;
- designate new lead agencies for specific selected components.

↓

IMPLEMENTATION PHASE

STEP 4 – Actualisation

Begin the implementation phase by involving all stakeholders in the adoption of the NPA and creating awareness to ensure solid support and a sense of ownership at all levels (political, institutional, financial, (sub-) national, local, public, private, communities, households). Tasks:

- ensure acceptance of responsibilities, budgets, and timeline;
- arrange for formal adoption of planned activities by relevant stakeholders;
- start continuous awareness and outreach activities.

↓

STEP 5 – Implementation

True commitment will only occur through realistic expectations and measures that demonstrate affordability and provide clear benefits to the public. To be successful, good programme support needs to be established or strengthened through long-term capacity building. Support issues are:

- institutional capacity for lobbying, setting up complex collaborations, and resolving conflicts;
- monitoring and evaluation mechanisms;
- legislation and enforcement mechanisms;
- outreach programmes and communication strategies;
- ensuring an effective environment for investments (domestic and foreign).

STEP 6 – Monitoring and Evaluation

The NPA process should incorporate a strong monitoring and evaluation component, using credible cross-cutting indicators. It is important to track progress because only when it is known what works and what does not, can the NPA process be updated and improved. Tasks:

- use specific indicators to evaluate NPA activities;
- arrange for continuous monitoring, evaluation, and reporting.

4.3.2. Financing the national programme of action

Implementing a programme of action involves almost every type of imaginable expenditure. Cost for institutional arrangements, capacity increases, undertaking research and analytical work, monitoring and enforcement activities, technical assistance, project preparation, and design and project implementation activities.

When proposing the programme of action, all of these different financing needs must be acknowledged and evaluated for their expected cost. Specific funding arrangements should be designed specifically for each type of financing need. It is also necessary to identify which actions should be taken to create incentives for the users/beneficiaries or polluters to pay for their actions and ensure that the programme is integrated into public expenditure programmes (fiscal budgets, public investment programmes, etc.). A medium- to long-term strategy will have to be developed on how to establish framework conditions that will support the gradual move towards sustainable financing mechanisms. In addition arrangements should be made to ensure that household affordability would not become a problem.

For the financing goals to be reached, the long-term strategy needs to be supplemented by a rolling two- to four-year pipeline of priority investment projects for co-financing from the public budget. In some countries, such a pipeline management mechanism is called Public Investment Programme (PIP). PIP is a mechanism through which funding from the state budget is allocated to public sector investment projects in the short to medium term.

It is important that the PERSGA Secretariat identify its role in assisting countries with the development and implementation of the programmes. This could range from doing nothing, to assisting with capacity programmes (training and institutional setups), monitoring and assessments, demonstration projects, or ensuring the relevant regional mechanisms are established to support national implementation.

The World Bank has written a publication titled "*Generating Public Sector Resources to Finance Sustainable Development*" (WB 2002), which is recommended for further reading on the subject of domestic resource mobilisation from public-sector sources.

Below is a helpful list of actions points that need to be completed during the financing process for the programme of action.

a) Review the current list of short-, medium-, and long-term activities as identified in the PA. The review should include an update if activities are currently being implemented and make sure the information in the PA is aligned (including costs and responsibility).

b) Identify existing sources of financing, financing programmes, etc, which may currently be used to implement part of the activity areas identified in the PA. This would include reviewing relevant official budgets, which provide resources for the environment and related areas, public investment programmes, sub-national governmental budgets, private sector financing, user financing, and international financing.

c) Update financial costs of the activities identified as short-, medium-, and long-term activities of the PA. The purpose of the costing exercise is not to develop precise costing data but to get figures of the magnitude of each of the activities.

d) Based on the information collected under activity c): develop a baseline for the activities identified in the PA for implementation – including legislative, institutional, capacity, and financing overviews. A financing strategy that reflects the baseline in the current situation should be prepared.

e) For each identified activity, review the necessary legislative framework, the institutional setup, the capacity necessary to undertake the activity, and the necessary sources of financing for the activity. See annex 3 on legislative review and transposition and removal of barriers to implementation.

f) Identify potential new sources of funding for the PA (in coordination with the review of MBIs and the stakeholder meeting) – exploring possible realistic future public spending programmes, user and polluter pay systems, international funding available, etc and other stakeholders – together with the inputs from the study on domestic resource mobilisation.

g) Develop a gap assessment (if any) between the baseline and the full PA implementation with annualised costs – the consultant will be asked to make realistic assumptions for timing of implementation for further discussion with the relevant ministries.

h) Organise a stakeholder meeting to discuss findings and to identify key actors in the iterative process to minimise the possible gap for the implementation of the PA.

i) Undertake iterative processes with main stakeholders to identify options to minimise the possible gaps, including discussions of increasing resources or limiting the demand for financing.

j) Develop an affordability analysis at household and national levels.

k) Prepare financing strategy (annualised) for the PA based on affordability issues, identification of additional financing, and possibly including a revised activity plan for the PA established in the iterative process.

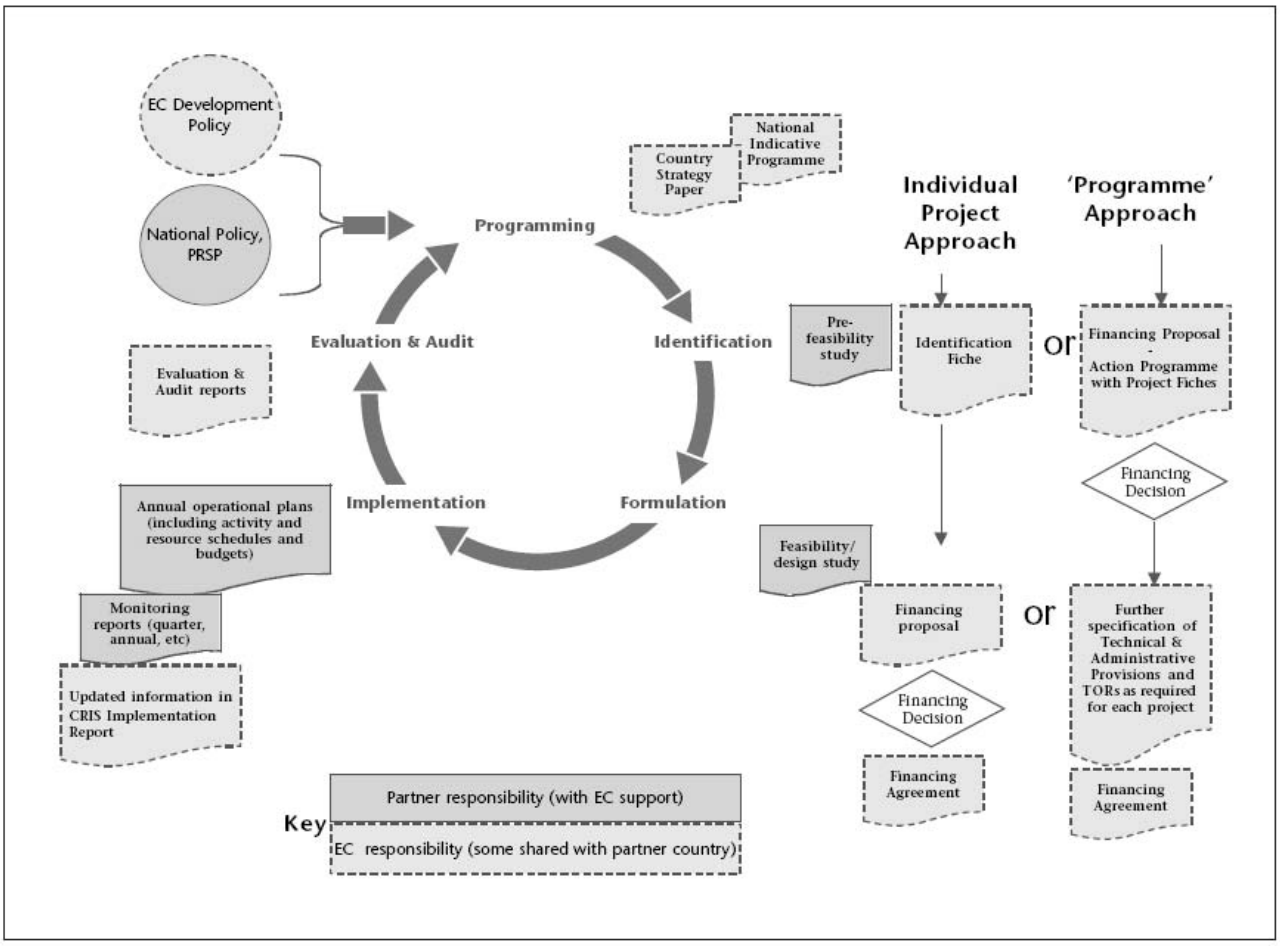
4.3.3. Project cycle for investment projects

The investment project cycle is similar to the project cycle for the development of a NPA but focuses more specifically on the financing aspects. Implementing large investment projects is a complex affair, which takes years of preparation and more years for implementation. The process will include inputs from different types of experts including industrial designers, engineers, economists, lawyers, etc. It is important for policy makers to be aware of this process upfront, as focus will have to be maintained throughout the entire investment project cycle.

The available literature about project cycles is extensive and a quick search on the web will identify several relevant documents. The European Commission (EC) publication titled *"Project Cycle Management Guidelines"* (EC 2004) is highly recommended for further information on this topic.

It should be acknowledged that every investment project is different and slight modifications should be expected for each project. Below is a diagram of the investment project cycle followed by a stepwise presentation of the process.

Figure 4.2: The Project Cycle for Investment Projects



Source: EC 2004 Aid Delivery Methods Volume1 Project Cycle Management Guidelines:

Programming:

The programming phase includes preparation of all the needed framework documents – such as national strategies, national programmes, etc. – which should provide the basis for priority setting and

for the selection of the individual activities necessary to move forward. At the end of this phase, the short-, medium- and long-term programme activities should be outlined and prioritised in terms of funding. This phase should strategically provide a rolling pipeline of projects to be implemented.

Identification:

During the identification stage, the pre-feasibility study of the priority project should be developed. This pre-feasibility study should identify what needs to be done, what type of technology would be appropriate, the involved stakeholders, budgets, and cost information, and identification of expected co-financing arrangements for the project. Based on this pre-feasibility study the project owner should evaluate the feasibility of the project and decide whether to continue with it. The pre-feasibility study would then be strengthened by a letter of intent produced by the project owner.

During this phase, the expected co-financiers of the project should be approached for their involvement and the project proposal applications should be completed if required as part of an initial evaluation process.

Formulation:
Once the decision has been made to proceed, the detailed design of the project, full feasibility of the project, and the financial negotiations will have to be made. The detailed design and feasibility shall include the management structure and coordination arrangements, ownership arrangements, financing plans, cost-benefit analysis, risk management aspects, and arrangements for monitoring, evaluation, and audits.

The financial plan shall then be developed based on the feasibility study and the detailed project design, which should include a realistic cash flow estimate.

Implementation:
The implementation phase has two main steps: inception and implementation.

1. Inception
This step includes: the conclusion of contracting arrangements, mobilising resources for the project, hosting an initiation workshop, and reviewing and revising the project.

It should be noted that contracting can take a long time and requires input from a variety of experts. Negotiation of the financial plan and the financing of the project can also take a long time if the project owner needs to develop and negotiate a financial basket based on user charges, national and/or municipal subsidies, borrowing, private capital, etc. In addition, there may be a need to provide guarantees for the co-financiers and the borrowers.

2. Implementation
This involves initiating the implementation of the actual project by making the necessary resources (human and capital) available for the project, implementing the project activities, monitoring and reviewing progress, possibly revising the implementation plan, and reporting on progress.

The implementation phase for infrastructure investments is a huge process and will often need the assistance of experts to monitor and evaluate progress.

Evaluation:
Finally, once the project is completed, the process and results should be evaluated and audited.

Next step:
The results of the project should be incorporated into the report on the national programming activities, which in turn needs to be updated and revised to reflect developments.

5.0. Prioritisation of PERSGA action and addressing financial constraints

As previously mentioned in this report, the development of PA's in most countries and increasingly so in transitional and developing countries has shown several challenges that need to be addressed. The principle challenges that have been identified when implementing a programme of action can be grouped into four broad categories, namely:

- The lack of widespread political and/or community support for the long-term actions and changes needed to protect coastal and marine environments;
- Inadequate institutional capacity and/or human resources to satisfactorily address the wide range of land-based pressures facing coastal and marine environments;
- The lack of integration into public investment programmes and national development and funding programmes – PAs are often developed by Ministries of Environment without a specific recognition of the other ministries that will be implementing the PAs; and
- The lack of financial resources to adequately plan, design, implement, monitor, and evaluate concrete actions to protect the marine environment from land-based activities.

To address these challenges and to ensure long-term sustainability, there is a great need to: involve all stakeholders in the preparation and in the development of the PA, assign clear responsibilities for the implementation and the funding of the PA, and base the concrete action plan on realistic assumptions of sustainable financing. The programme of action should also be adapted to realistic expectations of institutional setups, identify constraints and barriers to implementation, and integrate the elimination of these challenges into the action programme.

Experience in addressing these challenges

In the 1990s, many transitional countries were faced with the challenge of implementing unrealistic programmes of action in the environmental sector. Several donors, international organisations[55], and transitional countries joined forces to address these challenges. Over the last ten years or so, methods and tools to deal with these issues have been under development that allow for an integrated package targeted to helping prioritise actions on the basis of available and potentially available resources.

These activities have contributed in changing ways of thinking – specifically, they have helped governments realise that they need to take financial constraints and institutional/capacity-related barriers into consideration at much earlier stage. This "affordability" approach has strengthened the countries' ability to prioritise their own resources as well as strengthening effective leveraging of additional external sources.

Below, some models, methods and processes are presented that could be adapted to PERSGA requirements to strengthen the capacity of countries, public institutions, and municipalities. These might also be helpful with prioritising and undertaking long-term financially sustainable environmental action plans and environmental capital improvements. The concrete steps needed to implement theses methods are included in annexes 3–5.

[55] Mainly OECD EAP Task Force, Regional Environmental Centre in Hungary, Project Preparation Committee, the World Bank Group, and the European Bank of Reconstruction and Development.

5.1. Strategic planning

Most of these developments – including the initiative to make programmes of action more realistic – fall under the overall concept of strategic planning, which includes activities such as:

- legislative approximation;
- identification of obstacles to implementation at legal, institutional, capacity, and financial levels;
- financing strategies, including gap assessments and scenario development (supported by willingness to pay and affordability studies);
- the potential of domestic resource mobilisation (identification of sustainable financing levels);
- the potential of strengthening efficiency in public-sector financing for the environment;
- detailed action planning based on realistic implementation scenarios.

Strategic planning in the context of PA's is used to help organise and plan the necessary activities at national, sub-national, or municipal levels. The purpose of strategic planning is to ensure that all actors have the same knowledge and have been a part of the decision-making process on how to implement the action programme. Strategic planning is a disciplined effort to produce fundamental decisions and actions that shape and guide programme implementation and ultimately achieve the objectives.

The process involves setting goals (i.e. choosing a desired future development path) and developing an approach to achieve these goals. The process goes through a series of activities and studies, which at the end will allow the policy makers to develop realistic action programmes based on affordability and the obstacles to implementation. Such planning will ensure that realistic action plans are developed and then can be implemented systematically. In addition, they reduce the risk of over-implementation or focussing on the wrong investments or actions.

5.1.1. Legislative review

The objective of a legislative review is to evaluate the necessary legal requirements to implement the PA effectively and timely. The legislative review does not cover only environmental and environmentally-related legislation but also legislation that allows for framework conditions – such as financial arrangements, monitoring/enforcement, institutional arrangements, etc. – of these activities. This also includes "ownership" legislation, which has an indirect effect on the possibilities to implement the programme of action.

The steps involved in the legislative review process are:

- Step 1: Determine which legislation should be reviewed
- Step 2: Identify which legislative requirements the programme of action will have
- Step 3: Determine how the programme of action will be implemented and enforced
- Step 4: Decide on the process of legislative transposition
- Step 5: Develop the action plan for the transposition of legislation

In connection with the EU accession process, the European Commission has developed a handbook on the implementation of EC environmental legislation (EC 1997). This handbook provides a short process description of activities needed to review and adapt legislation. The handbook also discusses the types of experts that need to be involved with the review in a step-by-step approach. Although the handbook is EU specific, the method and process of evaluation are the same for other legislative processes.

Since the development and implementation processes for the PA may change, it may be necessary to adapt and possibly expand the legislation that has been reviewed.

5.1.2. Challenges to implementation

In the process of implementing action programmes, there will always be challenges and even obstacles to implementation that must be addressed. These will arise in the programme development and design phase, in the initial steps of preparing for implementation as well as in implementing the individual actions. It is important to build into the planning process a way to identify the perceived challenges and design activities to address these.

The most visible obstacles are often seen in the implementation phase because PA's are rarely specifically prioritised, financed, time-bound, and are often based on unrealistic expectations of financing availability. Capacity constraints during the project preparation and approval phase are often a challenge. Another common challenge is utilising the full range of financing instruments – such as an increase in tariffs, charges, or legal barriers – to allow for financing options such as bonds, increased borrowing, lower interest rates, etc.

5.1.3. Environmental financing strategy

The environmental financing strategy (EFS) has been developed as a response to the unrealistic and wishful environmental strategies and plans that have been developed in the early and mid 1990s. These environmental action programmes were developed more as a wish list, without consideration of affordability, realistic financing availability, and without involving ministries of planning, financing, and development – the groups that will eventually have to fund and implement the strategies from the programme.

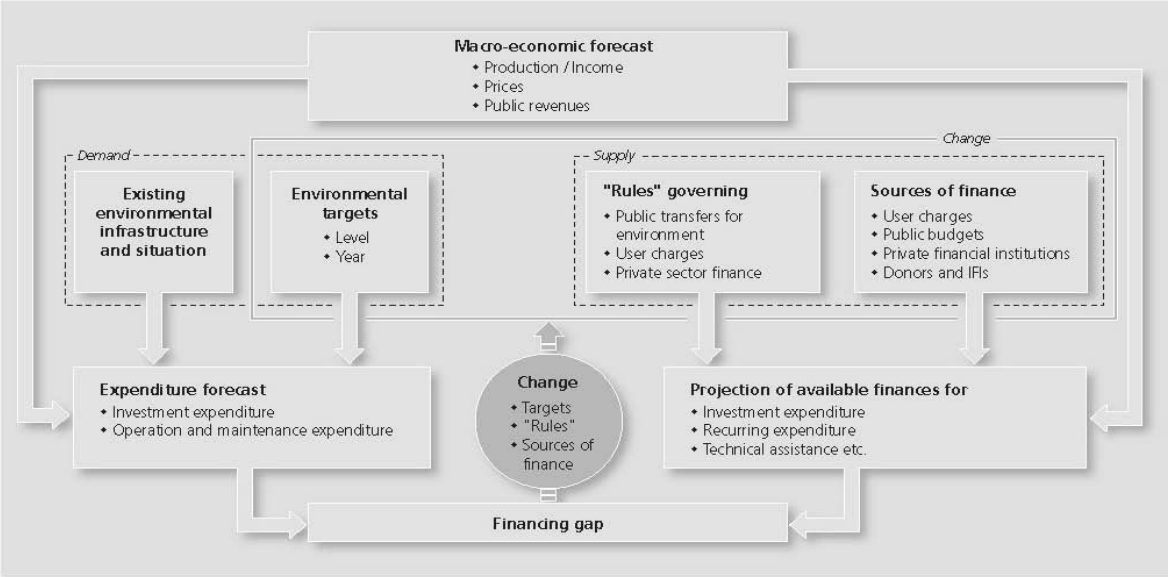
The EFS serves as a planning tool for assessing the demand and the supply of funds and evaluating financing gaps for specific sectors, project owners, or types of projects. Using the environmental financing strategy can provide information that can be used by environmental authorities in the country or region in several ways.

- Assuming that financing gaps exist, the EFS can stimulate a dialogue focused on the reassessment of environmental targets, the identification or development of new sources of financing, and institutions to provide or facilitate financing.
- At the project or sector level, this information can help environmental officials mobilise financing from donors or IFIs by providing a clearer picture of where funding is needed.
- The EFS, in coordination with the legislative review, can help identify the obstacles to programme implementation. The study of the potential of domestic resource mobilisation (see section 5.1.4) can be used to identify policy and resource implications for public sector institutions trying to mobilise environmental financing from the private sector.
- The EFS can be used to develop detailed short-term and medium-term action plans and the longer-term programme of action.

Relevant authorities can subsequently use the financing strategy to identify specific projects or project types requiring government support.

For further information and details on financing strategies for the environment, several publications can be recommended: OECD's publication titled *"Financing Strategies for Water and Environmental Infrastructure"* (OECD 2003); DEPA's publication titled *"Lithuania Environmental Financing Strategy"* (DEPA 2001); and DANCEE/COWI's *The Feasible Model* (DANCEE/COWI 2003).

Figure 5.1: Environmental financing strategy process



DANCEE/OECD/COWI

5.1.4. Domestic resource mobilisation

In the long run, market-based instruments (MBIs) together with national public sector transfers are the only sustainable source of financing for the environment as donors will not continue to finance the environmental and related sectors in developing and transitional countries. Therefore, developing a study of the potential benefits of MBIs in the medium to long term will enable countries to develop policy packages to strengthen the sustainability of their environmental financing.

Market-based instruments experienced increased attention as an important tool in environmental policy both in developed and developing countries in recent years. Their advantages – as compared to command-and-control measures – encompass the provision of economic incentives aiming to change behaviour as well as the generation of revenue which can be used for financing environmental investments.

The process of identifying and evaluating the potential long-term sustainable domestic financing mechanisms from environmental and environmentally-related economic instruments has been tested in several countries. This is carried out through a review, which focuses on:

- the specific relevance of the economic instrument in solving the environmental problem;
- the institutional framework;
- capacity constraints;
- the best method of implementing/strengthening the instrument; as well as
- analysing the short-term and longer-term revenue potential of the specific instrument.

The review will likewise analyse which factors may complicate the effectiveness and efficiency of the instrument as well as propose the most efficient method of arranging and introducing the economic instrument revenue flows.

The focus of the review is to assess the role market-based instruments can play in reversing the current trend of environmental deterioration and protecting the environment. The revenue-generating effect of MBIs can hold a particular relevance because it could create additional financial resources to be used by governments in developing countries for concrete actions to protect the environment. The use of market-based instruments can, as an additional affect, improve and strengthen the institutional capacity and provide supplementary information for environmental policy management. Public sector transfers for the long-term implementation of the PA are decided during the development phase of the environmental financing strategy (see section 5.1.3).

For further information on MBI studies please refer to the report titled *"Investigating Market-Based Instruments to Support Environmental Fiscal Reform in South Africa"* (Eunomia 2003).

5.1.5. Strengthening efficiency in managing public environmental expenditure

Domestic financing is the most importance-financing source for the protection of the environment. Hence the development of supportive regulatory and management systems, which utilise these financing sources and mechanisms most efficiently, is essential to maximising the benefits of these resources.

Inefficient management of resources is often due to the lack of well-defined programmes and unambiguously defined roles. At a project level, issues such as unclear eligibility criteria, procedures, priorities, and targets could be reason enough to include all possible environmental measures.

It is essential that clear and transparent processes are established to support efficiency in management and disbursements (accountability, transparency, and cost-effectiveness in the institutions managing public money). For further information and inspiration, the OECD has developed clear guidelines on *"Good Practices in Public Environmental Expenditure Management"* (OECD 1995, St. Petersburg Guidelines on Environmental Funds in the Transition to a Market Economies). The OECD has also developed a handbook that provides domestic institutions managing public environmental expenditure with practical guidance and tools for identification, appraisal, and financing of environmental investment projects.

Box 5.1: Internationally recognised principles of good public expenditure management[56]

Accountability[57] means the capacity to hold public officials liable for their actions and performance. Accountability implies addressing three questions: accountability by whom, accountability for what, and accountability to whom. Accountability is achieved through a clear division of responsibilities and subsequent consequences for both good performance and failures to fulfil prescribed responsibilities.

Transparency entails low-cost access to relevant information. Public sector institutions should use acknowledged international standards of accounting and disclosure of fiscal and financial information to report to controlling bodies and to the public. Transparency implies both good internal control (within the government) and external audits by specialised institutions, including legal, financial, and performance audits.

[56] From the OECD Financing Environmental Protection Eastern Europe, Caucasus and Central Asia (EECCA) OECD/EAP 2003.

[57] Allen, Tomassi (2001), Sciavo-Campo, Tomassi (1999), World Bank (1998).

Cost-effectiveness is a technical concept and implies achieving objectives at a minimum cost. It requires managerial autonomy from political ad-hoc pressures over appraisal and selection of specific projects. It also requires competent individuals recruited on a merit-based and performance-based promotion system.

5.2. Overview

Having developed a financing strategy and undertaken a review of potential additional financial revenues, countries should have a priority list of realistic actions based on long-term financing possibilities. These priorities should have been agreed upon during the programme development phase with all major stakeholders and should include identification of the financing mechanisms required to finance each individual programme activity.

Thus, the results identified through the strategic planning process can be translated into a priority list of concrete short-term actions, enabling the possibility of designing individual project components for each initiative to be undertaken. The priority action list also needs to incorporate the following medium- and long-term actions:

- the preparation of investments and detailed design studies;
- identification of expected short-term financiers for negotiation;
- policy steps to be taken to create long-term sustainable financing mechanisms to secure these actions (economic instruments, capacity/institution and legislative measures);
- the necessary activities required for the legislative review process;
- identification of and initiatives to progress the removal of obstacles; and
- actions to strengthen the efficiency of public expenditure management.

All these activities identified for the PA implementation need to be sequenced in order to ensure efficiency in implementation. The sequencing should ensure that delays – due to the lack of capacity/resources, and/or legal or financial obstacles – are minimised.

Moving forward

The detailed information in this report covers a wide range of topics involved with environmental financing – such as financiers, financing options, tools, and schemes, different financing methods including blending and matching, factual data discussing past financing projects, the importance of long-term sustainable financing, and the concept of strategic planning, to name a few. This report provides a strong foundation of knowledge for the process of securing financing for programmes geared towards the protection of and conservation of marine and coastal environments.

References:

Andersen, Dr. Robert; Abd Rabo, Dr. Mohamed; El Hakim, Dr. Saeed and Kafafi, Abdel Ghafour: Integrating Economic Instruments in Environmental Policies, International Resources Group, May 2003

Cardone, Rachel; Shah, Niraj and Waughray, Dominic, UK DFID, EU Water Initiative Finance Working Group, Feb. 2005

DANCEE/COWI: Environmental Expenditures, Environmental Financing Strategies and Use of Economic Instruments in NIS Countries, Feb 2000

DEPA: Lithuania Financing Strategy, 2001

DEPA (Danish Environmental Protection Agency), Ministry of Environment and Energy: Economic Instruments in Environmental Protection in Denmark, 1999

EC: Commission Staff Working Paper: Guide to the Approximation of European Union Environmental Legislation, 1997

EU, Institutional aspects of market-based instruments, ENVIRONMENTAL POLICY RESEARCH BRIEFS No 5, Published by: Environmental Institute, University College, Dublin, 1998

Francis, Patrick; Klarer, Jürg and McNicholas, Jim: Sofia Initiative on Economic Instruments, Improving Environment and Economy, The Potential of Economic Incentives for Environmental Improvements and Sustainable Development in Countries with Economies in Transition, The Regional Environmental Center for Central and Eastern Europe, July 1999

HM Treasury, Tax and the environment: Using economic instruments, November 2002

Inter-American Development Bank: Environment Network, Economic Instruments for Solid Waste Management: Global Review and Applications for Latin America and the Caribbean, December 2003

IRG ltd – publication on lessons learnt – project cycle management, April 2001

METAP (web) – Cost of Environmental Degradation Egypt, October 2005

METAP (presentation): Tunisia's Country Environmental Analysis (CEA) presented for the SEA, CEA and DPL workshop, January 18, 2005

OECD/EAP: Financing Environmental Protection in Eastern Europe, Caucasus and Central Asia (ECCA): Background report to the Fifth Ministerial Conference Environment for Europe, May 2003

OECD: Environment in the transition to a Market Economy, Progress in Central and Eastern Europe and the New Independent States, 1999

OECD: Financing Strategies for Water and Environmental Infrastructure, 2003

OSPAR: Financing the OSPAR Commission, 7th Global Meeting of the Regional Seas Conventions and Action Plans, Helsinki, Finland 18-20 October 2005

Pagiola, Stefano; Martin-Hurtado, Roberta; Schyamsundar, Priya; Mani, Muthakumarara; Silva, Patricia: Generating Public Sector Resources to Finance Sustainable Development - Revenue and Incentive Effects, World Bank Technical Paper 538, December 2002

PERSGA/UNEP: Assessment of Land-based Sources and Activities Affecting the Marine Environment in the Red Sea and Gulf of Aden, 1997

PERSGA Development of a Strategy and Business Plan for PERSGA (2004 – 2014) SSA C/2004/0016 – 2nd Draft Dec 2004

PriceWaterhouseCoopers: Promoting Sustainable Financing; What can be learned from past experiences with Public Private Partnerships?, July 2001

Regeringen, Danmark: Handlingsplan for Offentlig-Private Partnerskaber (OPP), 2004
UNEP, Final Draft: Selection, Design and Implementation of Economic Instruments in the Kenyan Solid Waste Management Sector. 2004

PPC Project Financing Workshop; A stand-alone guide: How to Promote Municipal Infrastructure Projects in the EECCA and SEE countries? September 2004

UNEP/RS: Financing Regional Seas Conventions: Paying for a regional Good, 2000

UNEP/GPA (web): Innovative Financing Arrangements Programme, November 2005

UNEP/GPA Workshop on Promoting Sustainable Financing for the Protection of the Marine Environment from Land-based Activities. Learning from Past Experiences with Innovative Financial Arrangements and developing recommendations to replicate lessons learned. The Hague, The Netherlands, 9-11 July 2001

UNEP briefs on Economics, Trade and Sustainable Development: Information and Policy Tools from the United Nations Environment Programme, September 2002

UNEP: The Use of Economic Instruments in Environmental Policy: Opportunities and Challenges, 2004

UNEP, Guidelines on Municipal Wastewater Management, A Practical guide for the decision-makers and professionals on how to plan, design and finance appropriate and environmentally sound municipal wastewater discharge systems, 2004

UNEP/GPA, Background paper on financing wastewater collection and treatment, January 2004

UNEP/GPA, UNEP Handbook on the Development and Implementation of a National Programme of Action for the Protection of the Marine Environment from Land-based Activities, 2003

Annex 1

Environmental Challenges and Environmental Action Priorities for the Red Sea and Gulf of Aden

This section summarises the activities to date that have been carried out by PERSGA and its partners in identifying the environmental problems to be tackled in the region. This annex builds on the work of Mr. Ljubomir Jeftic's on the review of several PERSGA related programmes.

The GEF Project on Strategic Action Programme was launched at the end of 1998 and was implemented from 1999 to 2003.

The SAP was designed around a series of complementary, preventive, and curative actions as identified in the SAP preparatory phase that collectively address the transboundary nature and sustainable development of marine resources for the RSGA Region as a whole. These 'development objectives' or components functioned as the guiding framework for a wide range of inter-related activities that were to be realised through this project:

1. Institutional strengthening to facilitate regional cooperation;
2. Reduction of navigation risks and maritime pollution;
3. Sustainable use and management of living marine resources;
4. Habitat and Biodiversity Conservation;
5. Development of a Regional Network of Marine Protected Areas;
6. Support for integrated coastal zone management;
7. Enhancement of public awareness and participation; and
8. Monitoring and evaluation of programme impacts.

Although the SAP, as formulated in the preparatory phase, identified the threats to coastal and marine environments and resources in the RSGA Region (widespread habitat destruction; non–sustainable use of living marine resources; navigation risks, petroleum transport and petroleum production; impacts of urban and industrial development; rapid expansion of coastal tourism; other concerns and emerging issues) and the priority actions that should be taken on a national and regional level, the GEF Full Project did not include activities directly relevant to the land-based sources and activities.

1. SAP Country Reports

In 1995 and 1996, a series of national workshops was held to finalise the Country Reports and to develop priority actions required by each country to address the environmental threats identified. As a result, those reports served as the first diagnostic tool for the SAP in analysing issues of regional, national, and local significance, and in recommending actions to protect the region's environment and natural resources. A total of 147 priority actions were identified (between 17 and 25 per country). The titles of all 147 activities were analysed and all activities that are directly linked with the land-based sources and activities were selected and are listed below. Activities dealing with coastal zone management and port reception facilities were not selected because they are either complex (coastal zone management) and include other types of activities that are dominant or are more concerned with maritime transport (port reception facilities), although in both cases there is a land-based component in them.

In 2000, the Country Reports were updated and the priorities for land-based sources of pollution, as identified by countries in 2000, are presented below.

Priorities for Land-Based Sources of Pollution as Identified by Countries (1995/1996)
(***extremely important; ** very important; * important)

Djibouti

- Upgrading of wastewater collection and treatment in coastal areas, especially Djibouti town ***
- Upgrading of solid waste management and disposal in coastal areas, especially in the vicinity of Djibouti town ***

Egypt

- Development of an evaluation of point source pollution from urban and industrial sites **
- Development of a National Plan for Solid Waste Management in coastal cities on the Red Sea ***
- Shoreline profiling programme and identification of hot spots **

Jordan

- Recruitment and training of staff for implementation of industrial pollution prevention regulations ***
- Waste oil contamination monitoring and demonstration project in recovery of waste oil from land-based sources **
- Development and implementation of a plan for municipal wastewater conservation and reuse ***
- Development and implementation of a solid waste collection, recycling, and disposal plan **

Saudi Arabia

- Improved management of air pollution, brine disposal, and thermal discharges from desalination plants at urban areas and industrial ports **
- Improved control of emissions from cement plants in coastal areas, especially Ras Baridi *
- Effective control of dredging and filling for urban and industrial development, port construction, and maintenance dredging of navigation channels ***
- Upgrading of wastewater collection and treatment in coastal areas, especially Jeddah ***

Somalia

- Introduction of control measures against illegal dumping of hazardous waste by foreign vessels ***
- Development of wastewater collection and treatment facilities in Berbera and Bosaso, in the medium term *

Sudan

- Upgrading of wastewater collection and treatment in coastal areas, especially Port Sudan **
- Upgrading of solid waste management and disposal in coastal areas, especially Port Sudan **

Yemen

- Upgrading of wastewater collection and treatment in coastal areas, including Aden, Hudaydah, and Mukalla **
- Upgrading of solid waste management and disposal in coastal areas, including Aden, Hudaydah, and Mukalla **

- Design and implementation of programme to evaluate potential impacts from agricultural chemicals on the Tihama coastal zone *

Of the 20 activities identified, six deal with wastewater treatment and disposal, and five with solid waste management.

Priorities for Land-Based Sources of Pollution as Identified by Countries (2000)

Djibouti
- Sewage
- Heated brine and cooling water
- Litter

Egypt
- Tourism and Coastal development
- Sewage and Nutrients
- Agricultural runoff
- Industrial Activities

Jordan
- Industrial Activities (Phosphates)
- Development of Coastal area
- Sewage
- Cooling water discharges
- Litter

Saudi Arabia
- Sewage Discharge
- Industrial activities
- Development of Coastal area
- Cooling water discharges

Somalia
- Organic Pollutants
- Alteration / destruction of habitats
- Heavy Metals
- Litter

Sudan
- Oil bunkering facility
- Tourism activities and coastal development
- Sewage
- Organic pollutants (Insecticides)

Yemen
- Sewage

- Coastal development
- Bunkering facilities and oil refinery
- Agricultural Runoff

As with priorities identified in 1995/1996, sewage was most frequently selected (6), followed by industrial activities (3), coastal development (3), organic pollutants (3) and litter (3).

2. SAP Annual Reports

Four Annual Progress Reports on the Implementation of the PERSGA SAP were published (1999, 2000, 2001, and 2002).

All Reports reviewed the progress in the implementation of eight activities of the SAP. Results of most of the activities will constitute an important pool of background information for the development and implementation of activities for the protection of the coastal and marine environment from land-based activities.

3. Draft Protocol on Protection of the Marine Environment form Land-Based Sources of Pollution in the Red Sea and Gulf of Aden

PERSGA has developed, in 1999, the Draft Protocol on Protection of the Marine Environment from Land-Based Sources of Pollution in the Red Sea and Gulf of Aden. This Protocol was revised both technically and legally in 2003 with the view of its adoption in 2005.

The Protocol covers among others:

- pollution resulting from the discharge of sewage and the different wastewater from the coastal facilities or the effluents from any land-based sources or activities (Article 1);
- treatment and management of wastewater (Article 6);
- control of solid waste (Article 7);
- control of sedimentation and dredging (Article 8);
- local and regional regulations for waste disposal (Article 10);
- transboundary pollution (Article 17); and
- priorities to be taken into consideration in the process of formulating regional work plans, programmes, and procedures to eliminate pollution from land-based sources (Annex I).

It is clear that the Draft Protocol is placing the main emphasis on wastewater and solid waste.

Annex 2

Possibilities of Public Private Partnerships

Annex 2 further explains the concepts and terms presented in **Table 3.11:** Allocation of Key Responsibilities for the Main Types of Public Private Partnerships. The following list has been adopted from the UNEP 2004 publication titled *"The Use of Economic Instruments in Environmental Policy: Opportunities and Challenges"*.

1. **Service contracts**: Specific components are contracted out to the private sector while the government retains responsibility for operation and maintenance.
    - Characteristics: Payments can be a fixed fee, but are usually related to achievement of performance targets. This creates an incentive for increasing productivity.
    - Constraints: None
2. **Management contracts**: Responsibility for entire operation and maintenance is transferred to contractor.
    - Characteristics: Payments can be a fixed fee, but are usually related to achievement of performance targets. This creates an incentive for increasing productivity.
    - Constraints: Setting, monitoring, and evaluating targets is difficult. Achievement of targets may be related to capital investments, which are not the responsibility of the private contractor.
3. **Lease contracts**: Private operator is responsible for operating, maintaining, and managing a system, including revenue collection for rented assets.
    - Characteristics: Government remains sole owner of assets and is responsible for expansion and upgrading, investments, debt service, tariff setting, and cost recovery policies.
    - Constraints: Particularly beneficial if no substantial capital investments are required, and for this reason, it is not popular in wastewater management sector.
4. **Concessions**: Concessionaire has full responsibility for delivery of services: operation, maintenance, system expansion, collection of revenues, and fundraising for investments. Government is responsible for establishing and enforcing performance targets.
    - Characteristics: Concessionaire has strong incentives to make efficient investment decisions and to develop innovative technological solutions, since efficiency gains will directly increase its profits. Full utility concessions are attractive where large investments are needed to expand coverage of service or to improve quality.
    - Constraints: A critical factor is the quality of regulation, as it concerns a long-term monopolistic position of concessionaire.
5. **Build-Own-Transfer contracts**: Private sector finances, builds, and operates new facility applying governmental performance standards. Government retains ownership of facility. In construction period, private sector provides investment capital. In return, government guarantees purchase of a specified output.
    - Characteristics: Operation period should be long enough for contractor to recover its construction costs and to realise a profit. Agreements mitigate commercial risks for private sector, because government is its only customer. Thus, BOT contracts are financed with a relatively high debt component.
    - Constraints: Not for existing infrastructure: they do not tackle deficiencies nor do they turn financially weak utilities into strong ones. Length and complexity: most BOTs have to be renegotiated once underway. Size and time frames often require sophisticated and complicated financing packages
6. **Divestiture**: Full divestiture pertains to a situation where utility has been fully privatised. Ownership of utility rests with private operator. Private operator is responsible for operation

and maintenance, investments and tariff collection. Regulation (to safeguard public interest) in hands of Government, so completely separated from ownership and operation.

- Characteristics: Improved incentives for efficient investment decisions and development of innovative technologies. Low transaction costs compared to costs of tendering and contract negotiations associated with models discussed above.
- Constraints: Possible conflict of interest: public sector responsible for regulation and company shareholder responsible for maximising returns. Could lead to political interference and counteract private sector management advantages. No competition (as no tendering) can raise transparency and corruption concerns.

Annex 3

Legislative Review and Transposition

Below is a step-by-step approach to the transposition of legislation. The approach is non-specific with regard to what type of legislation is to be considered. The step-by-step approach builds on the EC 1997 report titled *"Guide to the Approximation of European Union Environmental Legislation"*.

Step 1: Determine which legislation should be reviewed
1. What type: laws, regulations, decisions?
2. What are the aims and objectives of the PA?
3. What relevant authorities are needed?
4. What information must be collected and provided to the decision makers?
5. What planning is required?
6. What scientific or technical knowledge is required?
7. What consultation procedures are required?

Step 2: Identify which legislative requirements the programme of action will need
1. Which requirements (in the national legislation) allow choices to be made?
2. Which requirements do not allow for choice?
3. National Laws or administrative measures?
4. New or amended legislation?
5. Content of national legal measures?

(To be identified during financing strategy work – see annex 5):
6. What are the costs and benefits to the economy and to the environment?
7. Which sectors will bear the burden?
8. How should the transition to the new requirements be organised: deadlines, transition periods, implementation programmes, investments, and reports?

Step 3: Determine how the programme of action will be implemented and enforced
1. Central, regional, or local level implementation?
2. What powers will officials need to have?
3. What coordination and consultation among regulatory bodies is needed?
4. What is the need for information, guidelines, training?
5. Costs and benefits of different implementation choices?
6. What financing is needed for administration? For investment?
7. How will costs be recovered and financing be obtained?
8. What monitoring is needed?
9. Who will carry out the monitoring? Do they need training, staff, equipment?
10. What penalties should apply? How will they be applied (administrative, judicial)?

Step 4: Decide on the process of legislative transposition
1. Who should be consulted? Government departments, local and regional authorities, industry representatives, NGOs, neighbourhood groups?
2. What form of consultation is needed?
3. At what stage in the process?
4. Other possible roles of organisations outside the national government?

Step 5: Develop the action program for the transposition of legislation
1. Legislative schedule

2. Preparation and implementation of administrative rules, decrees, etc.
3. Budgetary schedule
4. Institutions, staff, and resources
5. Training, information materials, meetings with concerned government offices, industry, public, etc., and communication activities
6. Monitoring
7. Information assembly and reporting
8. Enforcement

Annex 4

Financing Strategy Process

Actions to be taken:

a) Review the current list of short-, medium-, and long-term activities identified in the PA. The review should include an update if activities are currently being implemented and check if information in PA is aligned (including costs and responsibility).

b) Identify existing sources of financing, financing programmes, etc, which may currently be used to implement part of the activity areas identified in the PA. This would include reviewing relevant official budgets, which provide resources for the environment and related areas, public investment programmes, sub-national governmental budgets, private sector financing, user financing, and international financing.

c) Update financial costs of the activities identified as short-, medium-, and long-term activities of the PA. The purpose of the costing exercise is not to develop precise costing data but to get figures of the magnitude of each of the activities.

d) Based on the information collected under activity c) develop a baseline for the activities identified in the PA for implementation – including legislative, institutional, capacity, and financing overviews. A financing strategy that reflects the baseline in the current situation should be prepared.

e) For each identified activity, review the needed legislative framework, the institutional setup, the capacity to undertake the activity, and needed sources of financing for the activity. See annex 3 and annex 4 on legislative review and transposition and removal of barriers to implementation.

f) Identify potential new sources of funding for the PA (in coordination with the review of MBIs and the stakeholder meeting) – exploring possible realistic future public spending programmes, user and polluter pay systems, international funding available, etc and other stakeholders – together with inputs from the study on domestic resource mobilisation.

g) Develop a gap assessment (if any) between the baseline and the full PA implementation with annualised costs – the consultant will be asked to make realistic assumptions for timing of implementation for further discussion with the relevant ministries.

h) Stakeholder meeting to discuss findings and to identify key actors in the iterative process to minimise the possible gap for the implementation of the PA.

i) Undertake iterative processes with main stakeholders to identify options to minimise the possible gaps including discussions of increasing resources or limiting the demand for financing.

j) Develop an affordability analysis at household and national levels.

k) Prepare financing strategy (annualised) for the PA based on affordability issues, identification of additional financing, and possibly including a revised activity plan for the PA established in the iterative process

Annex 5

Review of the Potential of Market Based Instruments

The study assessing the potential of market-based instruments (MBIs) (as well as the potential use of new economic instruments) should build on international best practices gained in developed as well as developing countries. The project should further investigate the institutional and regulatory frameworks for the use of such instruments as a functioning framework must be seen as a prerequisite for effective market-based instruments. It is necessary to take into consideration issues such as the hypothecation of revenues of market-based instruments as well as the appropriateness of the current levels and structure of consumer/user charges for environmental services.

The **following tasks** should be undertaken when analysing the potential (in cooperation with international consultants and/or national experts/consultants):

a) review existing environmentally related taxes and charges[58], and if necessary, propose an appropriate restructuring of current taxes and charges based on the current political and economical situation, taking into consideration international best practices (developed world as well as developing world);

b) investigate the appropriate sphere of government to levy specific environmentally related taxes, e.g. National, Provincial, or Local Government;

c) investigate the institutional set-up: monitoring of emissions, collecting tax revenues, etc.;

d) investigate the appropriateness of the current levels and structure of consumer/user charges on water, wastewater, and waste and suggest a methodology to restructure such tariffs (if necessary) and how to adjust them on a regular basis;

e) ascertain what a reasonable environmental tax/GDP ratio should be for the country (to the extent that this is an appropriate measurement) in the short term and medium term. Discuss pros and cons for increased use of environmentally related taxes/charges and additional potential market-based instruments for environmental policy in developing countries;

f) provide overview of international best practices with regards to environmentally related taxes and user charges for water supply, for wastewater services, and for waste**;**

g) identify which environmentally related taxes and user charges would be relevant for PA related activities;

h) investigate new environmentally related economic instruments, including taxes, e.g. on water supply and water pollution (water abstraction taxes, wastewater taxes, effluent taxes, etc.); waste management and recycling, e.g. landfills, plastic bags, etc.; agricultural sector: e.g. insecticides, pesticides, etc.; other (including tourism, energy, transport and air emissions);

i) investigate the appropriate use of tax/charge revenues from new environmentally related taxes (and other market-based instruments, such as permit trading, deposit-refund schemes, etc.). Assess the feasibility of replacing some of the current payroll taxes with environmentally related taxes – i.e. ecological tax reform; and

[58] The main focus is directed to study taxes and charges. However, we should not exclusively focus on these market-based instruments but also consider other MBIs.

j) investigate the feasibility, appropriateness and (fiscal) policy implications of the possibility of tax revenue hypothecation and the potential for possible – the earmarking of environment taxes for environmental investment.

Annex 6

The World Bank: Further Description of Programs and Lending Institutions

The main vehicle for defining the Bank's group assistance strategy for loans through IBRD and IDA are the Country Assistance Strategies (CAS). These are developed for each client/country and include a detailed assessment of creditworthiness, overall development priorities, as well as an assessment of project performance in the past. With this analysis as a base, an overall strategy for financial and technical assistance for a particular country is developed.

Another vehicle for directing mainly IDA lending is a Poverty Reduction Strategy Paper (PRSP). This is prepared annually by the countries themselves with assistance from the World Bank (WB) and the International Monetary Fund (IMF). A PRSP includes specific poverty reduction plans and actions which governments propose to undertake within the next three-year period, including specific programs within economic development, structural, institutional, and social policies. Upon receiving a PRSP, a joint assessment by the World Bank and the IMF is conducted to determine whether the PRSP actions are sound enough to be supported by concessional lending. Results of PRSP assessment have an effect on the IDA's loan package as well as on loans from the Poverty Reduction Growth Facility of IMF.

IFC offers a wide range of financial products:

- Loans: 7-12 year maturity periods with a negotiable grace period, market interest rates plus risk premium. Co-financing is required.
- Equity financing: as the IFC will subscribe as a long-term investor usually retaining its investment interest for 8-15 years. Subscribes to between 5% and 15% of a project's equity and is never the largest shareholder in a project and will normally not hold more than a 35% stake. However, it does not take an active management role in the company.
- Syndicated loans: the IFC will assist in mobilising funding from different sources, including the domestic commercial banking sector.
- Risk Management Products: the IFC will provide currency and interest rate risks management products or a package combining several of those products. Such products are common in developing countries, where private companies use them to reduce risks associated with currency and interest rate fluctuations (swaps, futures and options, etc.). In developing countries, due to higher levels of risks and lower levels of country creditworthiness, use of such products is limited. The IFC attempts to close this gap and allow private companies into developing countries to take advantage its product offers.

The **IBRD**, which extends loans on market terms, provides fixed-spread loans (FSL) and variable-spread loans (VSL). For both loan types, the interest consists of variable-base-rate and spread. Variable base rate is equal to 6-month LIBOR rate which is revisable. For FSL, the spread is fixed for the loan period and reflects project/currency risk premium. For VSL, the spread is tied to LIBOR rate plus Bank's standard lending spread.

Annex 7

10 Keys for local and national action on municipal wastewater[59]

1. Secure political commitment and domestic financial resources
A political climate has to be created in which high priority is assigned to all the aspects of sustainable municipal wastewater management including the allocation of sufficient domestic resources.

2. Create an enabling environment at national and local levels
Public authorities remain responsible for water and wastewater services. The 'subsidiarity principle', i.e. the delegation of responsibilities to the appropriate level of governance, applies to the entire water sector. National authorities should create the policy, legal, regulatory, institutional, and financial frameworks to support the delivery of services at the municipal level in a transparent, participatory, and decentralised manner.

3. Do not restrict water supply and sanitation to taps and toilets
A holistic approach to water supply and sanitation should be adopted. This incorporates not only the provision of household services but various other components of water resource management, including the protection of the resource that provides the water, wastewater collection, treatment, reuse, and reallocation to the natural environment. Addressing the environmental dimensions mitigates direct and indirect impacts on human and ecosystem health.

4. Develop integrated urban water supply and sanitation management systems also addressing environmental impacts
Municipal wastewater management is part of a wider set of urban water services. The wastewater component is usually positioned at the end of a water resource management chain. Integration of relevant institutional, technical, sectoral, and costing issues of all major components of the chain is required. Consideration should be given to the joint development, management, and/or delivery of drinking water supply and sanitation services.

5. Adopt a long-term perspective, taking action step-by-step, starting now
The high costs of wastewater systems necessitate a long-term, step-by-step approach, minimising current and future environmental and human health damage as much as possible within existing budgetary limits. Non-action imposes great costs on current and future generations and misses out on the potential of re-using valuable resources. A step-by-step approach allows for the implementation of feasible, tailor-made, and cost-effective measures that will help to reach long-term management objectives.

6. Use well-defined timelines, and time-bound targets and indicators
Properly quantified thresholds, time-bound targets and indicators are indispensable instruments for priority setting, resource allocation, progress reporting, and evaluation.

7. Select appropriate technology for efficient and cost-effective use of water resources and consider ecological sanitation alternatives
Sound water management relies on the preservation and efficient utilisation of water resources. Pollution prevention at the source, efficient use and re-use of water, and application of appropriate low-cost treatment technologies will result in a reduction in wastewater quantity and in investment

[59] From UNEP/GPA's Guidelines on Municipal Wastewater Management, A Practical guide for the decision-makers and professionals on how to plan, design and finance appropriate and environmentally sound municipal wastewater discharge systems, 2004.

savings related to construction, operation and maintenance of sewerage systems and treatment facilities. Depending on the local physical and socio-economic situation, different technologies will be appropriate. Eco-technology is a valid alternative to traditional engineering and technical solutions.

8. Apply demand-driven approaches

In selecting appropriate technology and management options attention must be given to users' preferences and their ability and willingness to pay. Comprehensive analyses of present and future societal demands are required, and strong support and acceptance from local communities should be secured. With such analyses realistic choices can be made from a wide range of technological, financial and management options. Different systems can be selected for different zones in urban areas.

9. Involve all stakeholders from the beginning and ensure transparency in management and decision-making processes

Efforts and actions on domestic sewage issues must involve pro-active participation and contributions of both governmental and non-governmental stakeholders. Actors stem from household and neighbourhood levels to regional, national, and even international levels, and possibly the private sector. Early, continuous, targeted, and transparent communication between all parties is required to establish firm partnerships. The private sector can act as a partner in building and improving infrastructure, in operating and maintaining of facilities, or in providing administrative services.

10. Ensure financial stability and sustainability

10.1 Link the municipal wastewater sector to other economic sectors

Sound and appropriate wastewater management may require substantial construction and operational investments in wastewater infrastructure and treatment facilities. Relative to the water supply sector, cost recovery in the wastewater sector is traditionally a long process. Developments in other (socio-) economic sectors, for instance water supply or tourism, may create opportunities to address sanitation at the same time. Linking wastewater management with other sectors can ensure faster cost-recovery, risk-reduction, financial stability, and sustainable implementation.

10.2 Introduce innovative financial mechanisms, including private sector involvement and public-public partnerships

Traditionally, sanitation services have been provided by public authorities. Costs for investments, operation and maintenance, however, often outstrip their capacities, as do present and future requirements for serving the un-served. Therefore, innovative, more flexible and effective financial management mechanisms have to be considered, e.g. micro-financing, revolving funds, risk-sharing alternatives, municipal bonds. Public-private partnerships, and also public-public partnerships, are important tools to assist local governments in initial financing and operating the infrastructure for wastewater management.

10.3 Consider social equity and solidarity to reach cost-recovery

The employment of principles like 'the water user pays' and 'the polluter pays' is required to achieve stable and sustainable wastewater management with efficient cost-recovery systems. These principles should be applied in a socially acceptable way, considering solidarity and equitable sharing of costs by all citizens and facilities. Various user groups should be made aware of - and be able to identify with – concepts such as "water" and "catchment solidarity". All users will benefit from environmental improvement.

Annex 8

Types of Environmental Funds[60]

The Member States of PERSGA are firmly wedded to the idea of establishing an Environmental Fund (EF) to support ongoing activities. The establishment of such a fund is felt to be timely and appropriate given that:

- The strategy document agrees on the basic vision and scope of environmental investments to be covered by the fund.
- The time period being considered in this strategy document is long, at 10 years, and the threats to the environment that are being addressed are also long-term and require a sustained response over a number of years.
- Existing national agencies cannot effectively manage the amount of funds and type of activities needed in the region. There is therefore a need for PERSGA to fulfil this role.
- There is a community of organisations in the Member States able to implement the range of activities needed to achieve the overall vision.
- There is strong support within the Member States for the fund's establishment.
- Such a fund would promote continuity, flexibility and co-financing collaborations between the public and private sectors.
- As evidenced by Member State commitments, such a fund would strategically direct and leverage financial resources to projects and practices that are of environmental significance to the region.
- There is perceived to be a level of capacity development and governance in PERSGA, and in the region, capable of establishing and managing such a fund.

A number of funding mechanisms are possible to support the activities envisioned through an Environmental Fund (EF). These are[61]:

- endowment;
- revolving fund;
- sinking fund; and/or
- a combination of two or more of these structures.

An **endowment** is a fund whose capital (also called its 'principal') is invested in order to generate a steady annual stream of income. Only the investment income is spent, while the principal is either maintained or increased. Only under unusual, specifically defined circumstances can the capital (corpus) of an endowment be invaded (i.e. spent), and typically the endowment must be replenished (i.e. restored to its previous size) within a short number of years afterwards. An EF's board typically reinvests a portion of the investment income in order to hedge against inflation and may also decide to reinvest a significant percentage of the investment income in order to increase the size of the endowment so as to be able to generate higher investment returns in later years, or because the money is not currently needed. Many EF experts believe that it is not cost-effective to establish an endowment fund whose capital (principal) is less than USD 5 million, because otherwise the annual investment income will be largely absorbed by administrative and transaction costs. In the case of PERSGA activities, if an endowment fund was to be used on its own, given yearly budgeted expenditure of between USD 3-5 million and probable investment returns of around 5% on an

60 Taken from Development of a Strategy and Business Plan for PERSGA (2004 – 2014) SSA C/2004/0016

61 http://conservationfinance.org/

endowment fund, the fund would need to be around USD 75 million. It is considered very unlikely that this level of funds could be raised.

A **sinking fund** is designed to disburse its entire capital plus its income over a designated period of time. This type of funding can be well adapted to the funding of projects with development or income-generating potential that are expected to become self-sufficient after an initial seed money or start-up phase, and it may then be possible to pay interest from such projects into an endowment fund. In addition, sinking funds offer donors the opportunity to earmark funding for specific projects or activities. Debt-for-nature swaps have been a major source of sinking funds denominated in local currencies.

A **revolving fund** is periodically (e.g. annually) replenished through fees, taxes or levies collected or through donor contributions or swapped interest payments (such as on forgiven debt)[62]. In the case of PERSGA, while a large number of potential users fees, taxes and other charges could potentially be used to generate revenue, it is not thought likely that realistic levels of user fees would enable the countries in the region to significantly replenish the revolving fund. In addition, while a large range of potential sources exist as already demonstrated, it is usually harder in practice, in some cases due to country-specific financial regulations, to prevent central exchequers from obtaining such funds which means that specifically earmarking them for conservation purposes can be problematic given other competing demands. It may therefore be more sensible for monies generated from user fees and conservation taxes to be used to help fund the national commitments of the Member States to the proposed budget. Furthermore, given the type of packages outlined in this strategy document, few of the activities to be supported by PERSGA are likely to be of sufficient income generating potential to allow loan repayments necessary to replenish a revolving fund. However, the levels of user fees generated could turn out to be greater than expected, and the objective of user payments is one that should be supported, so the option should not be ruled out. This is especially so given that a revolving fund would help to ensure greater sustainability of activities than relying solely on a sinking fund.
Indeed, many experts and fund managers now agree that the most effective EFs often include a combination of two or three funding mechanisms. New EFs are often under pressure to demonstrate concrete results and success quite rapidly, in order to secure contributions to the EF from other donors.

It is recommended therefore that an EF be established with a revolving fund portion and a sinking fund portion. With reference to the proposed budget it is proposed that approximately 65% of the funds for each year are spent from the sink funds, with the balance of 35% from the revolving funds. The exact balance will depend greatly on the requirements of the possible external donor agencies, and the different packages that they chose to buy into, because some packages will be more suitable for different types of funds. It might be advisable in the start-up phase to spend a larger percentage of the total funds represented by sinking funds and finance some priority projects that can generate immediate impacts and benefit key stakeholders. Then as the 10-year period considered by the strategy evolves and greater levels of user payments become the norm, to spent greater amounts from the revolving portion of the fund.

[62] The Belize Protected Areas Conservation Trust for example is a revolving fund whose capital comes partially from a US$3.75 fee on visitors entering the country, and partially from an earmarked 20% from fees for PA entrance, recreational licenses and permits, and cruise ships. Five percent of the collected revenues are managed as a permanent endowment for emergency purposes.

Annex 9

List of criteria to evaluate the potential effectiveness of environmental taxes and charges[63]

Tax / Charge Design:

- What are the current levels and past profiles of the economic instrument to be revised or related economic instruments if a new one is to be designed?
- What is the optimum (and/or feasible) point of application for the tax/charge (e.g. households, retailers, wholesalers etc.)?
- Is there an externality evaluation (in monetary or other units) supporting the design of the tax? If not, decide if one should be commissioned (if externality taxing in the Pigouvian style is to be followed), design and commission such a study if a decision is taken to commission one.

Organisational Arrangements:

- Which institution should have the responsibility to design the tax/charge (e.g. Ministry of Environment, Finance or other)?
- Who should be responsible for the implementation/administration (tax collection)?
- Who should decide whether there would be any exemptions from tax/charge?
- What are the planned changes to exemptions over time (e.g. exemptions to expire after a given number of years)?
- What was the collection efficiency for the existing economic instruments (to be revised or related to the one to be designed)?

Purpose of tax/charge:

- Should / could the tax/charge have a significant incentive effect for environmental protection and management?
- Should / could the tax/charge raise revenue for particular environmental activities (e.g. through earmarking)?
- Should / could the tax/charge raise revenue for the general national budget?

Portfolio of Policy Instruments – Complementarity and Substitutability of Taxes with other Instruments:

- Is the tax/charge to be implemented on its own, or as a part of a whole package of economic or other policy instruments? If the latter, the whole package needs to be described and analysed to understand the full scale of the effects of the main tax/charge studied.
- Is the tax/charge a substitute for an existing instrument?
- Which alternative instruments (e.g. voluntary agreements) been included in the analysis of the impacts of the proposed tax/charge?

Potential Effect and Effectiveness of the Tax:

- Is the tax/charge designed to have an incentive effect?
- Are there any cases of 'win-win' effects (environment and economic efficiency) which can be achieved, for example, by reducing other taxes as a result of generating revenue through the proposed environmental tax/charge?

[63] Speck S. and E. Özdemiroğlu (2004) Economic Instruments for the Protection of the Black Sea, a report for the Black Sea Ecosystem Recovery Project (BSERP), Istanbul, Turkey.

- Are there likely to be other effects of the tax/charge such as technology or technique innovation etc. (dynamic efficiency)?
- Is there any evidence that the tax/charge may create perverse incentives (evasion, relocation of industrial activities from one region to another etc.)?

Effect on Producers:

- What are the key sectors affected?
- What are the price effects at the different stages of the production or service chain?
- What is the level of tax as a percentage of the cost of production?
- To what extent are the price increases passed on through the value chain? Answering this and the rest of the questions here requires information about the price elasticity of demand and supply.

Effect on Consumers:

- Which consumers are affected?
- What is the level of tax/charge as a percentage of the sale price?
- Have any concerns been raised by consumers of the effect of the tax, and if so what are they and which are important? In order to answer this question, a reasonably well developed design of the proposed instrument has to be opened to stakeholder consultation. The same applies for the responses from producers.

Equity and Distributional Effects:

- Are there significant differences of tax/charge burden across different sectors of the economy?
- Are there significant differences of tax/charge burden across different household (income) groups?
- Is there quantitative evidence for significant regional (geographical) effects?
- What are these differences, and are there any specifically disadvantaged groups?
- Is there quantitative evidence for significant distributional effects?
- Are there measures in place to compensate for distributional effects, and what are these?
- If only qualitative data are available, are the distributional effects deemed to be significant by the stakeholder consultation?

Trade and Competition Issues:

- Have concerns been raised regarding adverse effects on competition (e.g. in water market if provided privately or in products and services that cause water pollution), and what are these?
- What evidence is there of adverse effects on competition?
- Who are the likely winners and losers? (this links to the effects of producers and consumers)

Revenue:

- What is the projected tax/charge revenue (on an annual basis)?
- What is the level of revenue as a percentage of GDP, and as a percentage of the turnover affected sectors?
- Who is to determine the use of revenues? Are the revenues earmarked or not?
- What is the mechanism for using the revenues (e.g. earmarking, say, with an Environment Fund or through the general budgets)?
- What would the revenues be used for (to finance environmental or other investments, to support sectors, to replace other taxes)?
- Is the use of the revenues likely to lead to any likely positive environmental effects (linked to earmarking)?

Employment:

- Have any concerns been raised on the employment impacts of the environmental tax/charge during the technical analysis and/or stakeholder consultation?
- Is there any evidence for this concern (if mainly voiced during stakeholder consultation)?
- Is there any indication /estimation of positive effects of taxes/charges on employment?
- Are there any cases likely to lead to win-win effects (environment benefit and employment gains)?

Administrative and Compliance Cost:

- Who is managing the tax at the level of government?
- Is there an administrative burden and what constitutes this burden? Develop a cost estimate for this burden.
- If only qualitative evidence is available, would it be fair to say that the administrative burden is (a) large (b) medium (c) small (d) insignificant, where the brackets of costs for (a) to (d) will have to be decided during the design process.

Annex 10

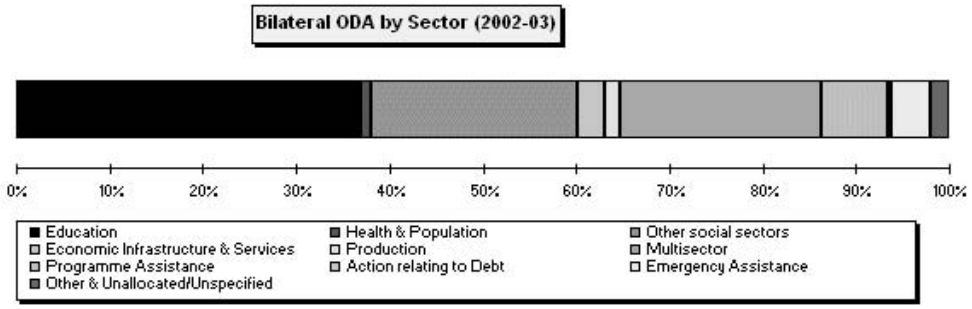
Development, Recipient Aid Charts

Djibouti

Receipts	2001	2002	2003
Net ODA (USD million)	58	78	78
Bilateral share (gross ODA)	52%	52%	50%
Net ODA / GNI	9.8%	12.9%	12.1%
Net Private flows (USD million)	13	17	19

For reference	2001	2002	2003
Population (million)	0.68	0.69	0.71
GNI per capita (Atlas USD)	840	850	910

Top Ten Donors of gross ODA (2002-03 average)	(USD m)
1 France	26
2 IDA	22
3 Japan	7
4 EC	5
5 Arab Countries	4
6 United States	3
7 SAF & ESAF (IMF)	3
8 UNHCR	3
9 AfDF	3
10 WFP	2



Sources: OECD, World Bank.

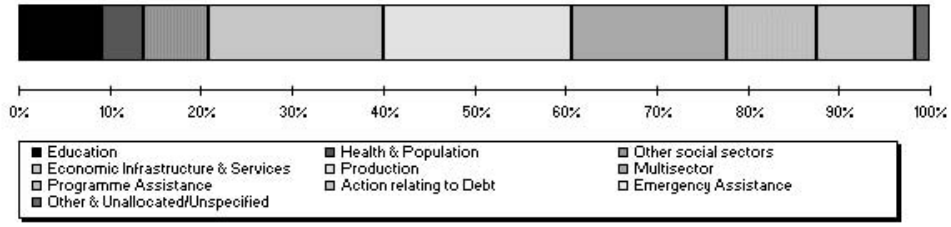
Egypt

Receipts	2001	2002	2003
Net ODA (USD million)	1 257	1 239	894
Bilateral share (gross ODA)	89%	90%	87%
Net ODA / GNI	1.3%	1.4%	1.1%
Net Private flows (USD million)	1 683	590	576

For reference	2001	2002	2003
Population (million)	65.2	66.4	67.6
GNI per capita (Atlas USD)	1 530	1 470	1 390

Top Ten Donors of gross ODA (2002-03 average)		(USD m)
1	United States	831
2	France	143
3	Germany	111
4	EC	93
5	Japan	62
6	Arab Countries	48
7	IDA	43
8	Denmark	29
9	Austria	19
10	Netherlands	16

Bilateral ODA by Sector (2002-03)



Sources: OECD, World Bank.

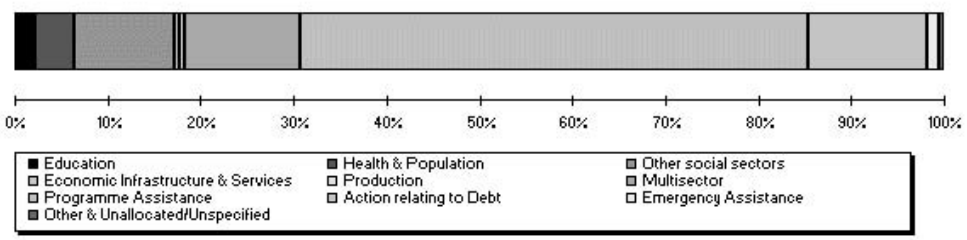
Jordan

Receipts	2001	2002	2003
Net ODA (USD million)	433	520	1 234
Bilateral share (gross ODA)	73%	73%	89%
Net ODA / GNI	4.9%	5.6%	12.6%
Net Private flows (USD million)	- 51	58	- 126

For reference	2001	2002	2003
Population (million)	5.0	5.2	5.3
GNI per capita (Atlas USD)	1 750	1 760	1 850

Top Ten Donors of gross ODA (2002-03 average)		(USD m)
1	United States	622
2	Germany	86
3	UNRWA	84
4	Japan	70
5	EC	63
6	Spain	13
7	France	7
8	Italy	6
9	Arab Countries	5
10	United Kingdom	4

Bilateral ODA by Sector (2002-03)



Sources: OECD, World Bank.

Saudi Arabia

Receipts	2001	2002	2003
Net ODA (USD million)	27	27	22
Bilateral share (gross ODA)	39%	50%	46%
Net ODA / GNI	0.0%	0.0%	..
Net Private flows (USD million)	456	- 439	- 242

For reference	2001	2002	2003
Population (million)	21.3	21.9	22.5
GNI per capita (Atlas USD)	8 470	8 530	..

Top Ten Donors of gross ODA (2002-03 average)		(USD m)
1	Japan	6.7
2	France	4.1
3	UNHCR	1.6
4	Germany	0.8
5	UNTA	0.7
6	UNICEF	0.3
7	Korea	0.1
8	Arab Agencies	0.1
9	Austria	0.1
10	United States	0.1

Bilateral ODA by Sector (2002-03)

Sources: OECD, World Bank.

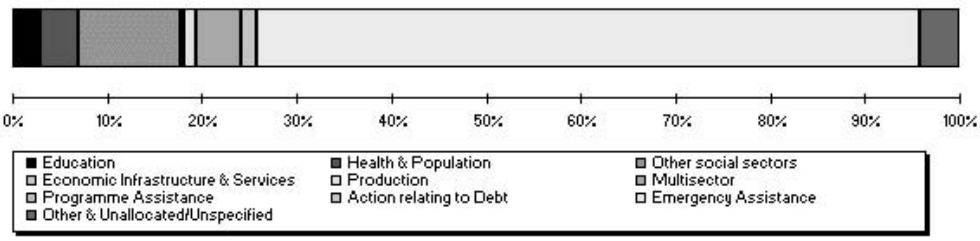
Somalia

Receipts	2001	2002	2003
Net ODA (USD million)	150	194	175
Bilateral share (gross ODA)	69%	76%	65%
Net ODA / GNI	..	..	..
Net Private flows (USD million)	3	3	5

For reference	2001	2002	2003
Population (million)	9.0	9.3	9.6
GNI per capita (Atlas USD)	..	..	..

Top Ten Donors of gross ODA (2002-03 average)		(USD m)
1	United States	35
2	Norway	33
3	EC	32
4	Arab Countries	22
5	Netherlands	12
6	Italy	8
7	Sweden	6
8	UNHCR	6
9	UNICEF	5
10	UNDP	4

Bilateral ODA by Sector (2002-03)



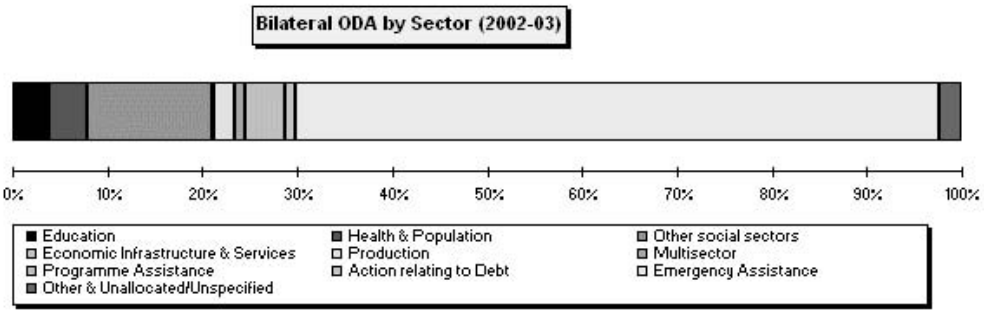
Sources: OECD, World Bank.

Sudan

Receipts	2001	2002	2003
Net ODA (USD million)	185	351	621
Bilateral share (gross ODA)	60%	79%	53%
Net ODA / GNI	1.5%	2.5%	3.8%
Net Private flows (USD million)	- 12	72	- 20

For reference	2001	2002	2003
Population (million)	32.1	32.8	33.5
GNI per capita (Atlas USD)	360	400	460

Top Ten Donors of gross ODA (2002-03 average)		(USD m)
1	United States	147
2	EC	133
3	Arab Countries	31
4	Norway	28
5	United Kingdom	23
6	Netherlands	22
7	Germany	15
8	UNHCR	13
9	Sweden	11
10	WFP	9



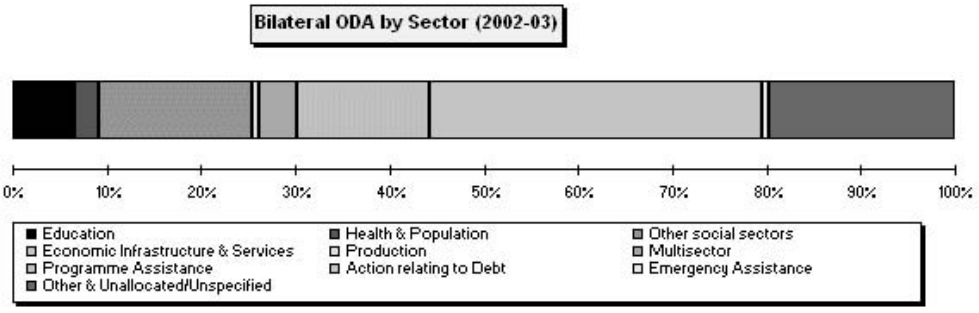
Sources: OECD, World Bank.

Yemen

Receipts	2001	2002	2003
Net ODA (USD million)	461	584	243
Bilateral share (gross ODA)	50%	79%	47%
Net ODA / GNI	5.2%	6.3%	2.4%
Net Private flows (USD million)	38	176	155

For reference	2001	2002	2003
Population (million)	18.0	18.6	19.2
GNI per capita (Atlas USD)	470	490	520

Top Ten Donors of gross ODA (2002-03 average)		(USD m)
1	Arab Countries	188
2	IDA	86
3	Netherlands	35
4	Germany	31
5	United States	24
6	EC	22
7	Japan	21
8	Arab Agencies	10
9	Spain	7
10	WFP	6



Sources: OECD, World Bank.

Annex 11

The process of working with KfW Development Bank

This annex gives more detail on the procedures of financial cooperation with the KfW Development Bank. The procedures are, in principle, the same for other IFIs though some differences can be expected.

All projects and programmes realised between the partner country and KfW Development Bank under financial cooperation go through the same cycle of preparation and implementation. At all stages of the cycle, the projects are subject to a comprehensive quality assurance system.

Appraisal
A consultant has gathered information on site, which is presented in the feasibility study. The consultant submits the study to the project-executing agency and KfW Development Bank.

Once the feasibility study is available KfW starts the actual project appraisal at the project site. The appraisal focuses on the following items, among others:

- the legal, institutional and macro-economic framework;
- the economic and management capacities of the project-executing agency;
- the economic feasibility of the project concept;
- the risks and the objectives with regard to development policy;
- the general interests of the target group;
- environmental constraints; and
- the technical adequacy of the project.

For example, in the specific case of a drinking water supply project, the data provided on the coverage of future water needs are also examined, as well as investment and operating costs. It is clarified who will bear the related costs. All parties involved agree on an implementation schedule, which specifies who has to do what, how and when. After all, once the public standpipes planned have been completed they are to supply the population and have to be maintained.

KfW presents the results of the in-depth appraisal report, which is submitted to the German government for its financing decision. The appraisal report also makes a proposal about the volume, the terms and conditions of the funds to be provided by the German government.

Financing agreement
If the German federal government takes a positive decision on the appraised project, KfW Development Bank has the green light to start negotiations with the government of the partner country and the project-executing agency on the financing and project agreement.

The financing and project agreement not only states the details of the financing – or in the case of a loan the redemption and interest details – but also specifies details concerning project implementation and future operation. The financing and project agreement also comprises measures to be taken by the public authorities in the partner country, such as:

- the provision of sufficient budget funds to finance the country's own contribution to the project; and
- the adjustment of tariffs and fees in order to cover future operating costs.

With the signing of the financing agreement, the green light is given to the project implementation phase.

Implementation of the project and final inspection
The project-executing agency is responsible for the implementation of the project, KfW is in charge of monitoring and ex-post evaluation.

Various protagonists are involved in the project: the project-executing agency, consultants, suppliers, building companies, the local population, KfW, and possibly other organisations.

All activities, from the turning of the "first sod" to the final inspection after completion, have been agreed with the executing agency, are specified in the agreements and will now be implemented:

- project activities;
- training measures for the project staff;
- tendering and award of contract for supplies and services;
- supervision of construction and of the adherence to the contracts;
- progress reviews of project activities; and
- final inspection.

The phase of financing by KfW Development Bank ends with the final inspection. Immediately after the technical completion of the project, KfW examines whether the facilities established are functioning and the start of operation is possible.

The final inspection may reveal that follow-up measures are necessary, for instance, personnel support in the form of training measures, to ensure the development success of the project. After the final inspection, the project facilities will officially start operating. Three to four years later, an ex-post evaluation will determine whether the development objectives originally envisioned have been achieved.

Annex 12

Financing Mechanism for Marine Conservation

Table 1 **Financing Mechanisms for Marine Conservation**

Financing Mechanism	Source Of Revenue
Government Revenue Allocations	
Direct Allocations from Government Budgets	Government budget revenues
Government Bonds and Taxes Earmarked for Conservation	Investors, Tax payers
Lottery Revenues	Gamblers
Premium-Priced Motor Vehicle License Plates	Vehicle owners
Wildlife Stamps	Postal Customers, Hunters, Fishers
Debt Relief	Donors, Government, NGOs
Grants and Donations	
Bilateral and Multilateral Donors	Donor agencies
Foundations	Individuals, Corporations
Nongovernmental organisations (NGOs)	NGO members and supporters
Private Sector	Investors
Conservation Trust Funds	Multi-source
Tourism Revenues	
Protected Area Entry Fees	Visitors to parks
Diving and Yachting Fees	Divers, Boaters
Tourism-Related Operations of Protected Area Agencies	Tourism operators, Tourists
Airport Passenger Fees and Cruise Ship Fees, Taxes and Fines	Tourists, Cruise lines
Hotel Taxes	Hotel clients
Voluntary Contributions by Tourists and Tourism Operators	Tourism operators, Tourists
Real Estate and Development Rights	
Purchases or Donations of Land and/or Underwater Property	Property owners, Donors
Conservation Easements	Property owners, Donors
Real Estate Tax Surcharges for Conservation	Property owners, Donors
Tradable Development Rights and Wetland Banking	Property developers
Conservation Concessions	Conservation investors
Fishing Industry Revenues	
Tradable Fishing Quotas	Commercial fishers
Fish Catch and Services Levies	Commercial fishers
Eco-Labelling and Product Certification	Seafood producers, Wholesalers, retailers and end-use purchasers of ornamental tropical fish and corals
Fishing Access Payments	Governments, Associations of and/or Individual fishers
Recreational Fishing License Fees and Excise Taxes	Recreational fishers
Fines for Illegal Fishing	Fishers
Energy and Mining Revenues	
Oil Spill Fines and Funds	Energy companies, Donors
Royalties and Fees from Offshore Mining and Oil and Gas	Energy and mining companies
Right-of-Way Fees for Oil and Gas Pipelines and Telecommunications Infrastructure	Private companies
Hydroelectric Power Revenues	Power producers
Voluntary contributions by Energy Companies	Energy companies
For-Profit Investments Linked to Marine Conservation	
Private Sector Investments Promoting Biodiversity Conservation	Private investors
Biodiversity Prospecting	Pharmaceutical companies

Source: Spergel, B. and Moye, M. 2004. Financing marine conservation - A Menu of Options. WWF Center for Conservation Finance, Washington, DC, USA. 74 pp.

United Nations Environment Programme (UNEP)
P.O.Box 30552
Nairobi, Kenya
Tel: +254 (0)20 7621234
Fax: +254 (0)20 7623927
Email: cpiinfo@unep.org
Web: http://www.unep.org

Regional Seas Programme
United Nations Environment Programme
P.O. Box 30552
Nairobi, Kenya
Tel: +254 (0)20 7624033 / 7624544
Fax: +254 (0)20 7624618 / 7624300
Email: regional.seas@unep.org
Web: http://www.unep.org/regionalseas

UNEP Global Programme of Action for the Protection of the Marine Environment from Land-based Activities (UNEP/GPA)
UNEP/GPA Coordination Office
P.O. Box 16227, 2500 BE The Hague,
The Netherlands
Tel: +31 (0)70 311 4472
Fax: +31 (0)70 345 6648
Email: gpa@unep.nl
Web: http://www.gpa.unep.org

The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden (PERSGA)
P.O. Box 53662
Jeddah 21583,Saudi Arabia
Tel: +966 (0)2 6573224
Fax: +966 (0)2 6521901
Email: information@persga.org
Web: http://www.persga.org

www.unep.org
United Nations Environment Programme
P.O. Box 30552 Nairobi, Kenya
Tel: +254 (0)20 7621234
Fax: +254 (0)20 7623927
E-mail: cpiinfo@unep.org
web: www.unep.org