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UNEP-PNUE

**REGIONAL MARINE POLLUTION EMERGENCY RESPONSE CENTRE
FOR THE MEDITERRANEAN SEA (REMPEC)**

EURO-MEDITERRANEAN PARTNERSHIP



**EUROMED COOPERATION ON MARITIME SAFETY AND PREVENTION OF POLLUTION FROM SHIPS
(SAFEMED)**

EU-Funded MEDA Regional Project MED 2005/109-573

Possible Sources of Financing for Vessel Traffic Monitoring Centres

FINAL REPORT

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EUROMED

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1 Introduction

The current European Union (EU) financed MEDA regional project "EUROMED COOPERATION ON MARITIME SAFETY AND PREVENTION OF POLLUTION FROM SHIPS - SAFEMED" is being implemented by the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) in ten Euromed Mediterranean Partners, namely Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestinian Authority, Syria, Tunisia, and Turkey. The project, whose primary objective is to mitigate the existing imbalance between the Mediterranean partners that are not members of the EU and those who are members, through promoting a coherent, effective and uniform implementation of the relevant international conventions and rules aimed at better protection of the marine environment in the Mediterranean region by preventing pollution from ships, provides for the recruitment of short term experts to implement the activities of the project.

The project is divided into eight activities, which are divided into sub tasks - preliminary tasks (P) and operational tasks (O).

The present consultancy relates to:

- Activity 2: Ensuring the safety of navigation through the development of traffic monitoring systems
- Activity 3: Protection of the marine environment

Specifically, the work covers the following:

- Task 2.1P (sub action 7): identifying and describing possible sources of financing for the acquisition of equipment and infrastructure for vessel traffic monitoring centres, in particular in cooperation with the European Investment Bank; and

-Task 3.2P identifying possible sources of financing for the establishment of port reception facilities for oil and garbage, and for related feasibility studies

These two tasks are covered under separate reports. The present report deals with Task 2.1P related to vessel traffic monitoring centres.

2 Background

Vessel traffic services (VTS) contribute to safety of life at sea, safety and efficiency of navigation and protection of the environment, adjacent shore areas, work sites and offshore installations from possible adverse effects of maritime traffic. Automatic Identification Systems (AIS) also bring many benefits to mariners and the authorities. Principal among these is the automatic and immediate provision of vessel identity, thereby facilitating rapid radio communication when necessary.

The Directive 2002/59/EC (called VTMS Directive) establishes the guidelines for the Community vessel traffic monitoring system and entails requirements for the member states in respect to VTS, AIS and SafeSeaNet (SSN) infrastructure. SSN is an EU project for the development of a European platform for maritime data exchange between maritime administrations by setting up a telematic network between all the maritime EU member States for their cooperation in preventing maritime pollution and accidents at sea. SSN is not specifically mentioned in the current Directive but will be included in a proposed amendment.

The purpose of the VTMS Directive is to enhance the safety and efficiency of maritime traffic, improving the response of authorities to incidents, accidents or potentially dangerous situations at sea, including search and rescue operations, and contributing to a better prevention and detection of pollution by ships.

Compliance with Directive 2002/59/EC entails a list of actions which include among others:

- a. Development of the infrastructure for ship reporting systems, ship routing systems and vessel traffic services in accordance with the relevant International Maritime Organisation (IMO) guidelines (Article 9):

- b. Development of shore based AIS installations (para 1 of Article 9);
- c. Relay and exchange of information between national AIS systems (para 2 of Article 9);
- d. Ensure availability of sufficient and properly qualified staff (para 3 of Article 9);
- e. Develop SSN infrastructure and interface it with the European SSN Index Server to enable exchange of data between maritime administrations.

VTS systems are generally financed and managed by State authorities or by public port authorities. Vessel navigation on the high seas is free and there is no financial cost recovery and therefore little interest for the private sector to be involved. However, this does not rule out the possibility at some stage of concessioning out the operation of such facilities to the private sector against the payment of a fee by the State. In contrast, the economic case for adequate navigation facilities is strong and can be demonstrated by the cost in accidents and pollution clean up which are avoided when proper navigation systems are in place (see Annex 1).

Regarding the institutional framework currently in place in the port sector in the ten SAFEMED countries, the consultant did not have any specific country-by-country information available to him for this assignment. However, there has been a move in the region towards the establishment of public landlord type ports which are responsible for developing and managing infrastructure, while port operations are increasingly taken care of by the private sector. The institutional framework does have importance for the main lenders as many of these are concerned with reform in the transport sector and may as a result attach conditions to their lending operations.

3 Project Scope and Costs

Equipment and infrastructure requirements include radars, computer work stations, communications equipment, supporting equipment such as generators, air conditioning, CCTVs etc as well as some infrastructure works (towers, buildings etc). A preliminary estimate of equipment costs by country has been made by REMPEC and is shown in Table 1. These do not include infrastructure works, installation cost and contingencies. At least a further 50% could be added to allow for these items.

The costs¹ range from as little as Euro 0.29 million in Jordan to about Euro 13 million in Morocco, a country with a long coastline. Total costs of the whole programme for nine countries amounts to about Euro 30 million, allowing for contingencies etc. Typically, at the lower end costs per country are in the range of under Euro 1 million in Jordan, Palestinian Authority, Syria, and Israel, in the range of Euro 1-5 million in Egypt, Lebanon and Tunisia and in the range of Euro 13 million in Morocco.

The projects are therefore relatively modest in scope while at the same time these are technically complex and hence difficult to implement. Procurement would normally be organised among "system integrators" because of the complexity of assembly and subsequent operation.

4 Possible Sources of Financing

As VTS systems are in the public sector, financing for such facilities will therefore typically be available through development aid from the regional International Financial Institutions (IFIs). The Terms of Reference of this study specifically identifies the European Investment Bank as a source of funds given the interest of the European Community in the development of the VTS programme for the Mediterranean Sea and the need to strengthen north-south linkages. However, other regional development banks active in many of the countries under consideration should also be considered; these are specifically the African Development Bank, the Kuwait Fund for Economic Development, the Islamic Development Bank and the Arab Fund for Economic and Social Development. Each of these sources of financing are examined below. The scope for supplier credit financing has not been considered because a typical system might involve equipment from several countries making this sort

¹ Costs are taken from "Inventory of Vessel Traffic Monitoring and Information Systems (VTMIS) Infrastructure and Description of Data Exchange Systems available in the Mediterranean Partners", Safemed Project Task 2.1 P – Final Report

of financing impractical. Also, as VTS projects are typical of investments which attract development aid, the Global Environment Facility (GEF) has not been considered as a source of funds. Specifically, GEF cannot substitute for development aid and there is no evidence of GEF financing of VTS investments.

4.1 European Investment Bank

The European Investment Bank (EIB) is the bank of the Member States of the European Union, with headquarters in Luxembourg. It is natural therefore that the bulk of its financing goes to projects located in the Union (loans worth Euro 42 million out of a total of Euro 47 million in 2005). This will continue to be the case as EIB envisages stronger growth in operations in the new Member States. Nevertheless, over the years the Bank has been called on to finance projects outside of the Union through mandates handed down by the European Council. The amounts, fields of application and terms of reference of these mandates vary markedly but in some cases, such as the Mediterranean, they have now become genuine development mandates with a well defined strategic approach, financial instruments and types of conditionality. In this way the Bank's operations in the Mediterranean partner countries were brought together in 2002 under the Facility for Euro-Mediterranean Investment and Partnership (FEMIP).

FEMIP aims to help the Mediterranean partner countries meet the challenges of economic and social modernisation and enhances regional integration, particularly in the run up to a customs union with the EU by 2010. The current mandate for FEMIP runs until 31 January 2007 at which time a new five year mandate 2007-12 will enter into force. While FEMIP gives ever increasing priority to financing private sector ventures, it also supports the enabling environment for the development of private enterprise, such as infrastructure, investment in human capital, and schemes targeting environmental protection. Total lending under FEMIP increased from Euro 1.6 billion in 2002 to Euro 2.2 billion in 2005, with about half of the total going to the private sector in 2005.

Within EIB, the FEMIP Department is in the Directorate for Operations Outside of Europe, and loan operations in the ten SAFEMED countries are managed by a Maghreb Division and a Near East Division. Projects are prepared and executed by the Infrastructure Department of the Projects Directorate operating through an Air, Maritime and Urban Transport Division. Local liaison offices are now open in the region in Cairo, Rabat and Tunis. Currently, the EIB is not active in the public sector in Algeria following reimbursement by this country of its foreign aid debt.

FEMIP's operations primarily involve three types of product:

- long term loans for individual, stand-alone projects with costs of more than Euro 25 million
- indirect financing through Global Loans providing short term loans for small-medium sized projects usually to the private sector or to local authorities
- technical assistance for preparation and implementation of projects

One of EIB's primary roles is the development of infrastructure within the Community but also between the Community and neighbouring states. As such, the Bank has a strong European integration role in terms of transport infrastructure and services. The financing of maritime navigation systems falls well within its mandate. As a state sector activity, long term loan financing would be the main source of funding from the EIB.

4.1.1 Loan Financing

The EIB normally provides long term loans for public sector investments which are secured by a sovereign guarantee. The Borrower would be a public sector entity responsible for implementing and operating the project. The term of the loan would be related to the life of the facility, probably in the range of 15-20 years with a grace period corresponding to project implementation which could be around four years. The interest rate would be close to Libor. The Bank is limited to providing up to a maximum of 50% of total project costs. FEMIP technical assistance is available to help prepare candidate projects (see 4.1.3).

The main limitation for this type of financing is that to be cost effective the Bank would only provide a loan where project costs are at least Euro 25 million. This would therefore exclude all the candidate VTS projects in the FEMIP countries. However, there would be other possibilities for sovereign long term lending namely: i) where VTS investments could be incorporated as a component of a larger public sector loan being planned for port infrastructure development; and ii) where an existing port loan may have undisbursed balances or where there is possibility to reallocate funds to VTS investments.

While there are no specific plans at present for new port infrastructure projects to be financed by EIB in the FEMIP countries, there may be opportunities coming up in such countries as Egypt, Morocco and Tunisia. In fact in these countries, because of the 50% financing rule, the EIB may well find itself in a cofinancing scenario with other banks, such as the African Development Bank which is currently considering such projects (see 4.2.1).

Finally it should be noted that EIB has existing port loans in Syria (Tartous port) and Lebanon which may ultimately offer scope to finance the relatively modest VTS investments in those countries.

4.1.2 Global Loans

Global loans are credit lines which the EIB makes available through local intermediary banks in the FEMIP countries. These loans are actually Apex loans which are available to a number of banks in a given country. The EIB appraises the capabilities of selected local banking institutions to evaluate projects according to well defined guidelines and to manage the portfolio. Global Loans of this type are available in all the FEMIP countries, except Algeria, but they are only open to private sector projects. The single exception so far to this rule will be in Egypt in late 2006 when an Environmental Global Loan will be finalised which will be open to both public and private sector borrowers. Moreover, because the projects must be of an environmental nature, the loan will also attract interest rate subsidies from the European Commission. VTS investments in Egypt could therefore be considered under this new loan. It is possible that other loans of this type be considered in the other FEMIP countries as part of the new 2007-12 mandate.

4.1.3 FEMIP Technical Assistance

FEMIP provides grant funds for technical assistance to help prepare and implement projects for which there is a strong possibility of a future bank lending operation. Such financing increased substantially in 2005 reaching some Euro 21 million for 26 contracts undertaken by European consulting firms. The funds are available for project preparation, including economic and financial feasibility, detailed engineering and specifications, and environmental assessments. Funds can also be provided for project implementation and for institutional support to an implementing agency. Intermediary banks implementing the Global Loans also receive FEMIP technical assistance to help with sub-project preparation and appraisal.

4.1.4 Procedures

The procedures to be followed by Governments and potential borrowers for financing for VTS projects by the EIB relate to: i) ensuring that a priority project is brought to the attention of the Government agency responsible for liaising with the EIB; and ii) once a project is agreed in principle, following the steps of the project cycle including securing technical assistance for project preparation and environmental assessment.

The current FEMIP mandate ends on 31 January 2007. A new mandate will follow for the period 2007-2012. If Governments perceive that VTS investments are high priority, then they should ensure that VTS investments are discussed in each country as part of the new five year programme. If such investments can only be implemented as part of larger port infrastructure projects, then VTS components should be kept in mind wherever such larger projects might be possible. The possibility for new Environmental Global Loans, like the one in Egypt, should also be discussed.

The projects cycle or the steps in the decision making mechanism of the EIB is largely similar among the various lenders. For EIB it can be summarised as follows:

- meeting between promoter and EIB to examine project
- project preparation with assistance of consultants
- project appraisal by EIB multidisciplinary teams from technical, economic, financial and environmental aspects
- lending decision by Board of Directors
- legal and financial structuring of loan and guarantee agreements
- project monitoring during procurement and loan disbursement

The cycle can typically take up to a year in total but may be achieved in as little as six to nine months, depending upon the complexity of the project and the issues which need to be resolved².

In addition to meeting the requirements of an economic and technical feasibility study (see Annex 1), an environmental assessment should be made for each investment. At a minimum, the environmental assessment needs to meet local guidelines. A "fiche" should be provided which gives basic information about the project as well as more specific information related to environmental impact and the proposed mitigation measures. The potential impact of the project should be considered in terms of the different phases of the project i.e. location, construction and use. For each of these phases the impact needs to be assessed in terms of the different parts of the environment eg. land, water, air, flora, fauna etc. More details are given in Annex 2.

Tendering under EIB financing would be according to well defined procurement guidelines 2/³. VTS systems would be procured through international open tendering following prequalification of suppliers/systems integrators. Preparation of tender notices, bid documents and specifications, and bid evaluation, are the responsibility of the borrower but with each step requiring prior approval of the EIB. Procurement can be initiated up to tender evaluation, before consideration of the loan by the Board, but without any commitment from the Bank

4.2 African Development Bank

The African Development Bank (AfDB) is a regional, multilateral development bank whose shareholders include the 53 countries in Africa and 24 non-African countries from the Americas, Asia, and Europe. The Bank's primary objective is to promote the economic and social progress of its member countries, individually and jointly. The Bank was established in 1964 with headquarters in Abidjan, Cote d'Ivoire. However, due to the political situation in Cote d'Ivoire and the subsequent decision of the Governors' Consultative Committee, the Bank has been operating from the Temporary Relocation Agency in Tunis since February 2003. The Bank includes two main entities: the African Development Bank (AfDB) which provides non-concessional loans to middle income countries; and African Development Fund (ADF) which provides concessional funding to low income countries. Four of the ten SAFEMED countries are AfDB countries of operation - Algeria, Egypt, Morocco, and Tunisia - and all are middle income countries under the AfDB window. There are local offices in each of these countries. As in the case of EIB, public sector lending operations are unlikely in Algeria given that the country has recently repaid all of its outstanding debt.

The central goal of the Bank is to promote sustainable growth and reduce poverty in Africa through its investments in a broad range of projects and programmes. As such the Bank provides loans to the public sector, to the private sector and invests in equity. It also offers technical assistance that provides institutional support. The Bank places particular emphasis on supporting regional cooperation and integration efforts. While giving increasing priority to the private sector, the Bank does not neglect the need to support the enabling public sector infrastructure which is necessary for private initiative to develop. This is reflected in recent results where there is major focus on infrastructure investment - in 2004 Bank lending was Euro 1.3 billion of which over 40% was in infrastructure, mainly transport but also in water and power. Euro 140 million was invested in the private sector. Lending volumes are increasing at the rate of 4-5% per year.

² See website: European Investment Bank: The Project Cycle, 12 July 2001

³ See website: European Investment Bank: Procurement Guidelines, 2001

The AfDB window provides loans to clients on non-concessional terms in various currencies and at fixed or variable interest rates. The rate for fixed interest loans is based on the Bank's cost of borrowing and the variable rate is related to Libor. The terms of repayment for public sector loans are up to 20 years with a grace period not exceeding five years and for the private sector repayment between five and 15 years including a one to three year grace period. Public sector loans are associated with a sovereign guarantee which enables interest rate margins to be kept low. However, the Bank has recently introduced non sovereign public sector loans which are available to viable public sector entities on terms similar to clients in the private sector. This provides the Bank with more flexibility and responds to the reluctance of some Governments to provide guarantees to their autonomous public enterprises.

The Bank's current strategy is to strengthen its operational programme by more effective diagnostic and country programming measures. In addition, the private sector will be increasingly targeted. In practice, this means that the Bank's Country Teams will take a leading role in defining the lending programme in each country. These programmes usually tie in with the planning exercises in each specific country. In terms of operational focus, the Bank clearly supports the requirements of the IMO guidelines on maritime navigation in the Mediterranean. Moreover, the Bank has always supported transport operations because of the importance of this sector to regional integration and economic development.

Investments in VTS would be eligible under two of AfDB's lending instruments:

- public sector loans with sovereign guarantee
- public sector loans without sovereign guarantee

Both of these types of loan are discussed below:

4.2.1 Sovereign Public Sector Lending

The AfDB would normally provide a long term loan to a port entity operating VTS, secured by a sovereign guarantee. However, while AfDB has no lower limit to project size in the public sector, in practice it is unlikely that the Bank would provide a loan to a stand alone VTS project given the small size of such projects in the four countries concerned. The initial cost estimates indicate a range from Euro 2 million in Egypt to Euro 5 million in Tunisia and Euro 13 million in Morocco.

As in the case of EIB, ideally VTS investments should be included as components under larger port infrastructure projects. Such a project is possible in Morocco given that AfDB appraised a large port infrastructure project there in 2002 but this was put in abeyance pending reforms in the port sector. This project will now be rediscussed towards the end of 2006 as part of a new lending programme for Morocco. Similarly, in Tunisia, there are ongoing discussions in the port sector related to the proposed new port at Enfida. General discussions on the lending programme in Tunisia are expected shortly with the preparation of the country's new 11th development plan. In Egypt, the Government has approached the Bank for feasibility studies related to a number of ports. As institutional development in the transport sector is important to AfDB, its loans in the port subsector are likely to include conditionality regarding reform, increased involvement of the private sector and the introduction of modern methods of cost accounting and tariff setting.

There are therefore a number of opportunities to include VTS investments as components under future port projects. Related loans would be up to 20 years for repayment, up to five years grace and low lending margins to reflect the sovereign guarantee. There would be a commitment fee of 0.5% to 1% on undisbursed balances. ADB would generally finance foreign exchange costs or even up to net-of-tax costs. As mentioned previously, most of these large projects are likely to offer co financing possibilities with the EIB which would benefit from the preparatory work done in the sector by the AfDB.

4.2.2 Non Sovereign Public Sector Lending

This is a new lending instrument introduced by AfDB which responds to the reluctance of

Governments to give sovereign guarantees to their restructured and viable public enterprises, many of which are run like the private sector. In fact, the Bank treats these loans as private sector loans with reduced repayment term (five to 15 years), shorter grace periods (one to three years) and higher interest rate margins to reflect country and project risk. There is also a commitment fee as in the sovereign loan. A commercial bank guarantee may be needed. AfDB financing would be up to a maximum of one third of total project costs, as in private sector operations. These loans are managed by the Private Sector Development Department.

In theory, public sector port authorities which are established as viable financial entities, would be eligible to borrow on a non sovereign basis. However, there may be reluctance for ports to borrow for VTS projects given that there is no cost recovery in terms of navigation charges. However, it is felt that Governments should encourage this type of borrowing as it would offer a means of financing VTS projects more expeditiously without waiting for larger port projects to become available.

4.2.3 Technical Assistance

AfDB has two types of technical assistance available:

- Technical Assistance Fund
- Bilateral Trust funds

The former has limited amounts available and is to fill gaps in project preparation work. It can be used typically for economic feasibility studies. It requires competitive tendering for selection of consultants. The latter is available from about 20 Trust Funds set up in the Bank by various Governments. Funding is usually tied but it can be available in larger amounts than the other fund to cover such aspects as project design and technical specifications. Typical Trust funds which would be of interest to the VTS sector would be Belgium, France, Norway, and the Netherlands. Funding would only be approved where there is a good chance of an AfDB loan to a project.

4.2.4 Procedures

The procedures to be followed by Governments and potential borrowers for financing of VTS projects by AfDB are similar to those for the EIB. In particular, it is important that a priority project is brought to the attention of the government agency responsible for relations with AfDB, particularly during the discussions of the multi annual lending Programme. Once the project has been identified then the steps of the project cycle need to be followed including securing technical assistance for project preparation, technical specifications and any environmental assessment needs.

As with EIB, the project cycle from identification through appraisal to loan negotiations can take up to a year but can sometimes be done in a shorter time. One of the key steps is to secure upfront technical assistance from the Trust Funds for project preparation.

Another important step is the environmental assessment of which AfDB has three categories depending on the degree of impact of the project on the environment. Port projects are usually in category 2. Positive and negative aspects of the projects on the environment have to be described and any mitigation measures are likely to be included in the loan conditions. These environmental assessments need to be available to the Board of Governors 90 days before Board Presentation of a particular project.

Tendering under AfDB financing is similar to the EIB, with VTS systems being procured through open international tender. All steps in the procurement process require prior approval by the Bank.

4.3 Kuwait Fund for Arab Economic Development

The Kuwait Fund is owned by the State of Kuwait and was created in 1974 with the aim of providing assistance to Arab and other developing countries in support of economic development and in promoting cooperation between the State of Kuwait and such countries. It has a capital of KD 2

billion (Euro 5.4 billion). By 2005, its cumulative lending reached KD 3.5 billion (Euro 9.7 billion) in some 675 loans, approximately Euro 14 million per loan. In 2005, the Fund provided financing for 24 operations with total loan financing of KD 197 million (Euro 537 million), equivalent to quite a high average of Euro 22 million per loan. The Fund has operated in more than 100 countries and currently funding goes about 50% to Arab states and 50% to non-Arab states. About 60% of its funding is in the form of cofinancing in parallel with other lending institutions. While high priority is given to infrastructure, particularly transport, the Fund also provides a small amount of financing to development banks for on-lending to small and medium sized enterprises (SMEs), the total funding amounting to KD 106 million (Euro 289 million) so far in some 16 loans. The Fund also provides technical assistance for project preparation and as of 2005 the total amount committed to this activity reached KD 93 million (Euro 253 million) in some 231 operations. The Fund also manages grants extended by the State of Kuwait to developing countries and institutions. It currently manages, in cooperation with the Arab Fund, a grant from the State of Kuwait to the Palestinian Authority. It also cooperates with the Islamic Development Bank in the implementation of the "Al-Aqsa Fund" for the Palestinian Authority. The Fund is also a contributor to several major international financial institutions such as the Arab Fund for Economic and Social Development, the African Development Bank, the African Development Fund and the International Development Association (World Bank).

Loan financing within the Fund is conducted within four regional operations departments: Arab Countries; Central, Southern and East Africa; West Africa; and Europe and Central Asia. These departments are supported by departments for Legal Affairs, Disbursements, Information Technology, Internal Audit etc.

4.3.1 Loan Financing

The Kuwait Fund is not subject to any restrictions as to the nature of the sectors it may participate in financing. However, in response to the needs of its client countries, the Fund's operations have been focussed primarily on agriculture, transport and communications, energy, water and sewage. With annual lending currently amounting to around Euro 500-550 million in some 25 projects, infrastructure is given high priority and transport alone can account for typically around 40% of the total. Given the importance of VTS investments to maritime transport and the related environmental aspects, such investments fall well within the objectives of the Kuwait Fund.

As a general rule, the Fund cannot finance more than 50% of project costs and also cannot finance local costs. It is partly for this reason that the Fund seeks to parallel cofinance projects with other institutions. In this way, like the EIB, it can finance specific components of a larger project up to 100% of the net-of-tax costs. In addition, in a cofinanced project the Fund can benefit from project preparation done by other institutions.

The Kuwait Fund provides loans to the public sector at highly concessional rates of between 3% and 5.5%, depending on the country and the sector, but usually to the lower end of this range. On average the grant element is about 58%. On disbursed but outstanding amounts there is a 0.5% service charge but there is no commitment fee. Loan terms can be up to 25 years with grace periods of up to five years. Given these favourable terms, the Fund requires a sovereign guarantee from its client countries. Loans are made in Kuwaiti Dinars (KD) but disbursements and reimbursements can be made in any convertible currency.

As with the EIB and AfDB, the issue for VTS investments is that none of the VTS projects, again with the possible exception of Turkey, could qualify for funding on a stand-alone basis because of the small project size. Ideally, the VTS investments need to be incorporated within larger port programmes with cofinancing being provided by several lenders, such as the port programmes which are likely to be prepared by AfDB in Morocco, Tunisia and Egypt.

4.3.2 Technical Assistance

The Fund can make grants to finance technical, economic and financial studies in relation to preparation of projects to be financed by the Fund as well as advisory services and institutional support. In accordance with its policy, these grants are then subsequently converted or rolled into the

subsequent project loans in the event of projects materialising from the studies. Typical grants for technical assistance are around Euro 1 million and procurement of consultants is conducted by calling for proposals after prequalification and drawing up of a short list, in line with the Fund's guidelines for the use of consultants.

4.3.3 Procedures

The Fund does not require that applications for funding be submitted in any particular form. The prospective beneficiary usually carries out the preparatory studies, unless the

Fund has agreed to provide technical assistance for this purpose. The Fund will conduct preliminary discussions with the beneficiary country in order to identify projects which are eligible for financing or the subject of study and establish with the country the steps to be followed including the submittal of an official request for financing.

Once a project has entered the Fund's pipeline, preparation will follow a cycle which is typical of the other financial institutions and which will culminate in the final appraisal by the Fund. The information needed for the appraisal includes:

- adequate project description , including technical, financial and economic aspects;
- importance to the country and priority ranking;
- technical, economic and financial (if necessary) justification;
- impact on the environment;
- estimated project costs, broken down into foreign, local and taxes;
- project financing plan, including co financiers and local funding;
- information on the institutional setting for the project and ability to manage the project.

The Fund's appraisal report then forms the basis of the loan agreement which is negotiated with the client prior to submitting the project to the Board of Directors.

Procurement of goods and works is conducted according to the Fund's guidelines. In general, the procurement of goods and works must be on the basis of international competitive bidding so as to ensure economy in costs and the best possible quality of goods or works to be procured. All documents related to procurement including prequalification documents, tender notices, bidding documents, evaluation report etc. must be submitted to the Fund for prior review and approval.

4.4 Islamic Development Bank

The Islamic Development Bank Group (IsDB) is a multilateral development finance institution comprising five main entities: the Islamic Development Bank (IDB), the Islamic Corporation for the Development of the Private Sector (ICD), the Islamic Research and Training Institute (IRTI), the Islamic Corporation for the Insurance of Investment and Export Credit (ICIEC), and the Islamic Trade Financing Corporation (ITFC). The Group was established in 1975, with IDB as the flagship, and the various entities were created at different times, each with its objectives and operational procedures. For instance, ITFC was only recently created in June 2006. Despite this complex structure, the various entities share common vision and mission, namely to foster economic and social development and social progress of member countries as well as Muslim communities in non member countries, either individually or jointly in accordance with Islamic Law (Shari'ah). The Group also operates a number of special funds for specific purposes including the "Al-Aqsa Fund " for the Palestinian Authority which it leads in cooperation with the Kuwait Fund.

IsDB is owned by 56 Islamic countries and is headquartered in Jeddah, Saudi Arabia. It has a capital of about Euro 9 billion. The largest shareholders are Saudi Arabia, Kuwait, Libya, Iran, Egypt, Turkey, and United Arab Emirates. The main entities involved in project finance are IDB and ICD, the former being historically involved in public sector projects but now also with large private sector operations, while ICD finances only private sector projects, mainly to small and medium enterprises (SMEs). Total lending by the Group has reached some USD 40 billion in some 4700 operations, equivalent to USD 8 million per operation. ICD has achieved about USD 350 million of private sector

lending in 67 projects, giving an average of USD 5 million per operation. Infrastructure has always accounted for the bulk of the lending with transport alone amounting for 19%.

IDB's operations are organised into three country groupings: Country Operations 1- Asia; Country Operations 2 - Africa; and Country Operations 3 - Middle East and North Africa. These departments are supported by departments for administration, legal, information technology, operations evaluation etc. The group has three regional offices including one in Rabat, Morocco.

The Group operates in all of the Safemed countries, except Israel. VTS investments, being in the public sector, is of interest to IDB.

4.4.1 IDB Loan Financing

VTS investments are well within IDB's mandate as high priority is given to infrastructure and the environment. In 2005/6, IDB lent USD 1.3 billion in 130 projects, the average loan size being therefore about USD 10 million with transport investments accounting for 15% of the total. IDB can finance both public and private sector projects. In the public sector it usually requires a sovereign guarantee and can finance up to the full direct and indirect foreign exchange cost of a project. In this case, financing is provided in Islamic Dinars (One Dinar equivalent to one Special Drawing Right (SDR) of the International Monetary Fund). However, as with the AfDB, there is an increasing trend to finance viable parastatal companies without a sovereign guarantee, in which case financing is provided in USD and with reference to the market as far as terms and conditions of financing are concerned. These projects are treated in fact as private sector projects. In private sector projects, IDB finances up to 50% of costs for expansion projects and up to 33% for new projects.

In public sector sovereign operations, the Group practices Islamic modes of financing (Sari'ah), usually though "leasing", "installment sale", and "Istisna'a", all of which involve mark-ups that are usually benchmarked on Libor. Leasing involves rental of goods to the client who becomes the owner at the end of the agreement. Installment sale involves purchasing goods for the client, then selling them on at a higher price, with repayment being in installments, the client becoming the owner on delivery. These two modes of financing are usually based on variable rates. Istisna'a is a contract for manufacturing goods or for construction, whereby the supplier provides the goods or works according to agreed specifications and price. Generally the mark-up in this case is based on fixed rates.

While a minimum loan size of USD2-3 million might be possible for public sector operations, given the poor cost effectiveness for the institution it would depend to a large extent on the priority given by a client government to a project as to whether IDB would consider such small loans. Again, as with other institutions it would be better for the VTS investments to be included within larger port programmes. In this way, IDB can act a co- financier alongside other institutions. There is also the possibility that a public sector port authority could borrow on market terms from ICD without the support of a sovereign guarantee but in this case the borrower would have to finance a large part of project costs from own resources. This is similar to the non-sovereign lending opportunity which exists with AfDB.

4.4.2 Technical Assistance

A government can request IDB to extend technical assistance to finance a feasibility study and the preliminary engineering design of a project. Usually these studies are financed through a grant for an amount of less than Islamic Dinars 300,000 (approx Euro 180,000). Preparation of more detailed tender documents and specifications can be financed through an interest free loan for 16 years.

4.4.3 Procedures

IDB's project cycle is similar to other institutions and covers the life of a project from identification in terms of needs and priority, through preparation, appraisal, loan negotiations and implementation to final completion and post evaluation of the results and the Bank's role. Given that IDB has a specific Three Year Country Assistance Programme for each country, a project needs to be

flagged as a priority by the government concerned during IDB's periodic country programming missions. Once identified, a project is included in a rolling three year work programme that forms the basis of the bank's future operations in a given country.

- After identification, a project then follows the normal steps of the project cycle and covers:
- Technical appraisal concerned with physical scale and layout, types of equipment and infrastructure and cost estimates;
- Economic appraisal including cost benefit analysis;
- Institutional appraisal in terms of ability of existing institutions to manage and operate the project;
- Financial appraisal to ensure sufficient funding is available for the financing plan and to demonstrate the financial viability of the project (where appropriate);
- Environmental impact assessment, depending on the nature and scale of the project, which is done at an early stage so as to incorporate mitigation measures into final designs.

Following appraisal the loan is negotiated and the project presented to IDB's Board of Directors for approval. As with other institutions, implementation is the responsibility of the borrower but procurement is carried out according to IDB's guidelines. These call for open, international tendering, comparable to other institutions. All steps in the tendering process require prior review and approval of the Bank.

4.5 Arab Fund for Economic and Social Development

The Arab Fund is located in Kuwait and is owned by members of the League of Arab States. The Fund operates only in Arab countries. It provides long term loans at concessional rates to the public sector and loans at market rates to private sector borrowers. Cumulative commitments since the Fund's creation in 1974 have reached KD 5.1 billion (Euro 13.9 billion), making it a major player in regional development finance. In 2005, it lent USD 1.15 billion in 19 projects, the average loan size being therefore very high at USD 60 million. So far, the Fund has lent USD 58 million to four large private sector projects. The Fund also manages a number of special funds along with other Middle East institutions, including funds for the Palestinian Authority. It also has technical assistance grants and in 2005 awarded 27 such grants amounting to a sizeable KD 4.5 million (Euro 12.3 million). Significantly, in 2005 the Arab Fund made a new loan to Algeria.

The Arab Fund gives priority to infrastructure, transport typically counting for half of the total, and usually co-finances with other institutions. Funding of VTS investments would therefore be possible but only within the framework of larger port programmes. Technical assistance grants might also be available to governments to assist with institution building for VTS operations as providing institutional support in member states and enhancing efficiency in project implementation are stated objectives of the Fund.

All requests for funding and assistance must be made through the appropriate channels in each country, usually through the Fund Governor who is normally the Minister of Finance or the Minister of Planning.

5 Conclusions

Infrastructure projects, particularly transport, are high priority for all of the development finance institutions because of the economic and private sector development which infrastructure supports. VTS investments are port related, have important cross border aspects as well as significant positive environmental benefits. These investments are therefore important for the financing institutions and as a result it should be possible to find development financing under the right circumstances.

It is not possible in this assignment to be precise about specific opportunities for financing of VTS investments. The financial institutions interviewed during the assignment all have formal relationships with their countries of operation and specific requests for financing must come from the countries concerned, usually via the respective Ministry of Finance. The possibility for financing depends therefore on the priority given to VTS investments by the respective government, in relation to competing demands from other development needs. The following conclusions can only therefore be considered as a rough guide to financing possibilities and the conclusions need to be adjusted as the situation develops in each country, particularly in regard to developments in overall financing in the port sector.

One major conclusion is that VTS investments in each of the SAFEMED countries are modest in size and scope. As a result, with one exception, the financing needs are well below the typical loan size provided by the financial institutions. In countries such as Egypt (project size Euro 2 million) and Tunisia (project size Euro 5 million), it is likely that VTS financing would be included in broader port investment programmes. The African Development Bank (AfDB) has traditionally taken the lead in project preparation in the transport sector in North Africa and is currently considering a number of port programmes in Morocco, Tunisia, and Egypt. Governments in those countries need to be aware that VTS investments can be included in the larger port programmes. These large projects will offer cofinancing opportunities to the EIB, Kuwait Fund, Arab Fund, and the Islamic Development Bank (IsDB). Given the lack of cost recovery for VTS investments, Governments may wish to line up concessional funding such as from EIB, Kuwait Fund or Arab Fund.

The IsDB seems to offer somewhat more flexibility than the other institutions in that it may, in some cases, consider public sector loans as low as Euro 2 million if so requested to do so by the member country governments and a good case is made in terms of VTS investment priorities. In addition, IsDB and AfDB are the only institutions offering non-sovereign lending to viable public sector entities such as port authorities. While these loans come at a higher cost in that they are treated as private sector operations, and financing is limited to less than 50% of total costs, it might be possible for certain port authorities to proceed relatively quickly and secure loans for VTS without waiting for larger port programmes.

As to the smaller amounts needed in Jordan and Syria, these countries need to examine whether the VTS investments could be covered under ongoing loans in the port sector provided by the EIB. This would be either by reallocating loan proceeds or by using up undisbursed amounts.

Egypt has a possibility to consider VTS investments under an upcoming Global Environmental Loan from the EIB which is expected to be open to both public and private sector sponsors.

Finally, the procedures to be followed for applying for finance and for preparing and implementing projects are similar among all the institutions and can be summarised as follows:

- Responsibility of the governments to demonstrate priority for VTS investments in order for projects to be included in the lending programmes of the institutions
- All financing institutions will be concerned with the institutional arrangements for implementing and operating VTS projects. Such institutions as AfDB have a specific mandate for reform in the transport sector and may impose loan conditions and supporting technical assistance for institutional development
- All financial institutions have some technical assistance available, mainly grants, for project preparation and supporting institutional development. The needs should be

established during initial discussions for a project, as should the requirements for an environmental assessment.

- Procurement arrangements are similar for all institutions in that they all support open tendering for reasons of efficiency. All steps in the procurement cycle require prior review and approval from the respective financial institution. Because of the highly technical nature of the investments, engineering consultants may be needed to supervise the procurement and installation process.

Annex 1: Cost/Benefit Analysis

The principal benefits of VTS are in the following areas:

- increased safety of navigation
- more efficient port services (pilotage, dredging etc) reducing costs to commercial vessels and the public organisations providing those services
- improved state control over illegal activities in territorial waters

Moreover, there are overall environmental benefits which follow from the additional protection afforded the environment. However, VTS systems are costly and to build and operate and cost/benefit analysis (CBA) is needed to justify public expenditures. Even if the CBA cannot always be translated into monetary terms, it can be specific on the types of benefits and can help in the decision making process.

Project Costs

The cost components of VTS projects fall into two distinctive groups, namely the initial investment costs and the lifetime operating costs. Investment costs include infrastructure works such as towers and buildings, equipment such as radars, communications, computers, software, work consoles etc and project management costs. Operating costs include personnel costs, utilities, maintenance etc and should be estimated on an incremental basis over and above the “without” project situation.

Benefits

The determination of benefits is more difficult than that of the project costs. The main benefits are:

- reduced risk of damage to life, infrastructure and environment
- improved economic performance

The benefits related to reduced risk of damage to life, infrastructure and environment are the most difficult to quantify. In each case a categorisation needs to be made for the different types of incidents which could be prevented or reduced by a VTS (eg groundings, collisions) and of the different incidents where a VTS would reduce the consequences (eg by coordinating assistance in case of fire). An assessment can be made of the number of incidents that can be prevented by a VTS and those that can be attenuated by a VTS.

The benefits to improved economic performance can be estimated by measuring for instance the reduction in down time for both vessels and related shore based activities, resulting from fog and other circumstances as well as the better programming of arrivals

in port.

1. Accidents

Without a VTS system, ships are required to follow a recommended route, report their position at given intervals and estimate their arrival time at the next way point. With a VTS system the ships are constantly monitored by radar. A VTS will reduce the number and severity at accidents at sea by:

- providing information to ships on their position and on the position and movement of other ships in the area;
- enforcement of navigation rules, including compliance with traffic separation, proper use of fairways, prevention of collision courses etc;
- verification that all navigation aids are operating satisfactorily;
- giving precise instructions as to where to meet with pilots;
- coordinating rescue activities.

An analysis can be made of all accidents and groundings which have taken place over a given period in the project area without the VTS, including circumstances and cost of each incident. Based on this analysis the expected reduction in accidents can be estimated in the case of installation of a VTS. Empirical data suggest that in areas of high traffic density, a full VTS can reduce accidents by as much as 50%.

2. Improved Efficiency of Port Services

The efficiency of port services can be improved in a number of ways:

- reducing the cost and improving the quality of vessel control;
- through streamlining pilot age services
- increasing efficiency of dredging, buoying and related work;
- reducing ship transit times; and
- providing the port authority, ship owners, agents etc with advance information on vessel movements, allowing in turn better planning and use of port infrastructure and services.

Many of these benefits are difficult to quantify but an understanding of them in each particular project case is important to decision makers.

3.Improved State Control over Territorial Waters

This is an important benefit which in this day and age should not be neglected. A VTS can provide information about incoming vessels to Customs, Immigration and Health Authorities. It can notify coastguards of violations in navigation rules, provide information to patrol boats and monitoring of unusual vessel activity.

Comparing Costs and Benefits

Incremental costs and benefits should be estimated over a period which usually corresponds as closely as possible to the life of the system. This would probably be in the range of 12 years, with a possible residual value in the last year on some of the investment items such as infrastructure. Based on the stream of costs and benefits, the internal rate of return would be estimated and sensitivity analyses undertaken on project costs and most of all on the level of benefits.

Annex 2: Guidelines for Environmental Assessment of Project

These guidelines apply to all EIB projects including those submitted through Global Loans.

For each project a summary table or “fiche” should be prepared summarising basic information about the project as well as more specific information related to its environmental impact and proposed mitigation measures.

The potential impact of the project should be considered in terms of the different phases of the project I.e. location, construction and use.

For each of these phases the potential impact needs to be assessed on different parts of the environment, namely:

	Location	Construction	Use
---Air			
---Land			
---Water			
---Natural resources			
---nature (flora and fauna)			
---Built environment			
---People (health, safety, labour rights etc)			
---Society (relocation, poverty, cultural heritage)			

In completing the table, a judgement is to be made as to:

- Whether there is an impact (positive or negative)
- If yes, a description of the impact, including possible mitigation measures
- Whether the overall project will have positive or negative effects on the environment

The overall assessment of the project should summarise the net environmental impact of the project over its life cycle, using the following rating system:

- Acceptable
- Acceptable with minor reservations (specify)
- Acceptable with major reservations (specify)

