

Hamburg Port Training Institute GmbH  
Dornier SystemConsult GmbH  
Rotterdam Maritime Group

Technical Proposal

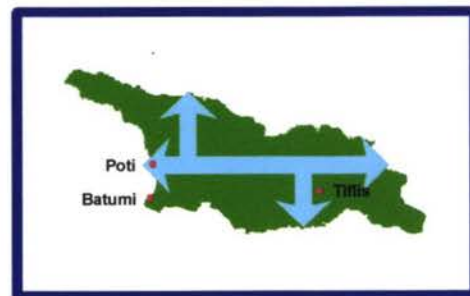
# FEASIBILITY STUDY OF NEW TERMINAL FACILITIES IN THE GEORGIAN PORTS

OFFER



Project N°:  
**TNREG9603**

April 1997



European Union  
Tacis - Traceca



HPTI, Übersee-Zentrum, Schumacherwerder, D-20457 Hamburg, Germany

Commission of the European Union  
Takis Procurement Unit  
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Hamburg, 16th April 1997  
Arlt/BB/16312

**Feasibility Study of New Terminal Facilities in the Georgian Ports**  
**Project Number: TNREG9603**  
**- Invitation to Tender -**

Dear Sirs

HPTI Hamburg Port Training Institute GmbH is pleased to submit to the Commission the enclosed Technical and Financial Proposal of the above mentioned tender under separate covers.

HPTI in Joint Venture with Dornier SystemConsult GmbH and Rotterdam Maritime Group (HPTI being the leading partner) enjoy the full support of the subcontractor International Business Planning and Development Institute, Georgia. The Joint Venture is highly qualified and motivated to carry out the study.

The exact reference of the Tenderer's Contact person is attached.

We look forward to a pleasant cooperation.

Kind regards  
HPTI Hamburg Port Training Institute GmbH

  
Capt. Wolfhard H. Arlt  
Managing Director

Enclosure

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**Signature:** 

**Date:** Hamburg, 16<sup>th</sup> April 1997

Hamburg Port Training Institute GmbH  
Dornier SystemConsult GmbH  
Rotterdam Maritime Group

Technical Proposal

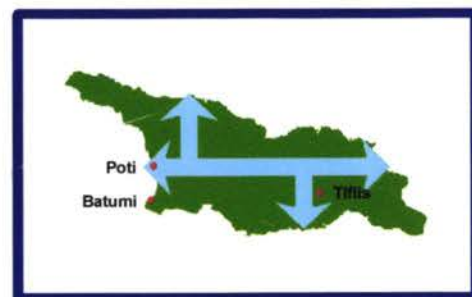
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**Project Number: TNREG9603**  
**- Invitation to Tender -**

### UNDERTAKING

I, the undersigned, **Capt Wolfhard H Arlt**, being authorised representative acting for and on behalf of **HPTI Hamburg Port Training Institute GmbH** (Leading Firm of a **Consortium together with Dornier SystemConsult GmbH and Rotterdam Maritime Group**), having read and understood the invitation to tender dossier, comprising the terms of reference, the draft contract and all annexes, including but not limited to the General Conditions Service Contracts financed from Phare/Tacis Funds which form part of the terms and conditions of the contract:

- Confirm that the proposal has been drafted according to the guidelines received
- Undertake to perform the contract in accordance with the terms and conditions of the contract
- Will remain bound by tender submitted for 3 months from the date of submission.

In the event of the contract being awarded to **HPTI Hamburg Port Training Institute GmbH**, it will be signed by:

  
Capt Wolfhard H Arlt  
Managing Director

The contact person for this project is:

**Capt Wolfhard H Arlt**  
**Managing Director**  
**HPTI Hamburg Port Training Institute GmbH**  
**Übersee-Zentrum**  
**Schumacherwerder**  
**20457 Hamburg**  
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The Company's bank details:

<b>Name of Bank:</b>	<b>Dresdner Bank AG, Hamburg</b>
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<b>Name of account holder:</b>	<b>HPTI Hamburg Port Training Institute GmbH</b>
<b>Account number:</b>	<b>0616250200</b>
<b>Sort code:</b>	<b>200 800 00</b>

*25*

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**Annex D Breakdown of Price (Seperate Cover)**

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**ANNEX A: STATEMENT AND TERMS OF REFERENCE**

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**STATEMENT OF ENDORSEMENT**

TRACECA projects, **Maritime**

Project Title: FEASIBILITY STUDY OF A RAIL FERRY TERMINAL IN POTI

Recipient Institution: Ministries of Trade and Transport of the Republics of:  
 Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyzstan, Tadjikistan, Turkmenistan, Uzbekistan

We the undersigned with principal seat at ....., hereby declare that we,

1. have carefully read the outline Terms of Reference of the Projects (hereinafter outline TORs), which are attached to the present Statement of Endorsement as Annexes .....
2. agree that the outline TORs appended hereto will serve as the basis for the development of the full terms of reference
3. accept that this Statement of Endorsement is also applicable to the full Terms of Reference, and that no further endorsement will be necessary for project implementation (e.g. launch of tenders, preparation of contracts etc.) to commence.
4. approve the TOR and are prepared to accept the technical assistance therein described;
5. accept that the experts in charge of rendering the technical assistance according to the outline TOR be selected according to the procedures of the Commission of the European Communities;
6. undertake to exert all our best efforts in order to make the rendering of the experts' technical assistance possible and to extend said experts our fullest co-operation. In particular, we undertake to put at the experts' disposal, free of charges, our facilities and staff, as they may be necessary;
7. undertake to acquire, free of charges, the ownership of the equipment purchased for the implementation of the Projects, if and when the transfer of property of said equipment is provided for under the outline TORs and/or the contract between the Commission of the European Communities and the experts, and to provide said experts with separate official statements certifying the receipt of the equipment;
8. shall allow, upon reasonable notice, independent inspectors, appointed by the Commission of the European Communities, and/or the Court of Auditors of the European Communities, to monitor the development of the Project and undertake to give said inspectors and/or the Court of Auditors the necessary assistance

For and on behalf of:

ARMENIA	Name / Date / Place
AZERBAIJAN	Name / Date / Place
GEORGIA	Name / Date / Place
KAZAKHSTAN	Name / Date / Place
KYRGHYZTAN	Name / Date / Place
TADJIKISTAN	Name / Date / Place
TURKMENISTAN	Name / Date / Place
UZBEKISTAN	Name / Date / Place

*[Handwritten signatures and dates in various languages, including Cyrillic and Latin script, corresponding to the countries listed on the left.]*

## Заявление об Одобрении

Проекты ТРАСЕКА, Морской транспорт

Название Проекта : План структуры порта и программа её усовершенствования. Техничко-экономическое обоснование для железнодорожно - паромного терминала в Потти.

Учреждение -получатель : Министерства Торговли и Транспорта республик :

Армения, Азербайджан, Грузия, Казахстан, Кыргызстан, Таджикистан, Туркменистан, Узбекистан

Мы, \_\_\_\_\_, нижеподписавшиеся, имея \_\_\_\_\_ основное \_\_\_\_\_ местопребывание в \_\_\_\_\_, настоящим заявляем, что мы:

1. тщательно изучили описание Технического задания на Проекты (в дальнейшем описание ТЗПы), приложенных к настоящему Заявлению об одобрении в качестве Приложений;
2. согласны с тем, что описания ТЗПы, приложенные к ним, будут служить основанием для развития Технического задания;
3. согласны с тем, что это Заявление об Одобрении является также полным Техническим Заданием и в будущем другое одобрение не будет необходимым для начала внедрения проекта (например тендер. подготовка контрактов и т.д.)
4. одобряем эти описания ТЗПы и готовы принять описанное в нем техническое содействие;
5. согласны с тем, чтобы эксперты, которым поручается оказывать это техническое содействие согласно описанию ТЗПы, были отобраны в соответствии с процедурами Комиссии Европейских Сообществ;
6. обязуемся приложить максимум усилий к тому, чтобы сделать возможным оказание нам технического содействия этим экспертам и полностью сотрудничать с ними. В частности, мы обязуемся, по мере необходимости, бесплатно предоставлять в распоряжение экспертов наши оборудование и персонал;
7. обязуемся бесплатно приобрести право собственности на закупленное для осуществления этих Проектов оборудование, если и когда передача права собственности на это оборудование предусмотрено ТЗП и /или контрактом, заключённым между Комиссией Европейских Сообществ и экспертами, и предоставить вышеупомянутым экспертам официальный отдельно представленный документ, удостоверяющий получение этого оборудования;
8. будем разрешать, по получении мотивированного извещения, независимым инспекторам, назначенным Комиссией Европейских Сообществ, и/или Счётной палате Европейских Сообществ, контролировать ход выполнения работ по этому Проекту и обязуемся оказывать вышеупомянутым инспекторам и/или Счётной палате необходимое содействие;

От имени и по поручению :

АРМЕНИЯ	Имя/Дата /Место
АЗЕРБАЙДЖАН	Имя/Дата /Место
ГРУЗИЯ	Имя/Дата/ Место
КАЗАХСТАН	Имя/ Дата /Место
КЫРГЫЗСТАН	Имя/Дата/ Место
ТАДЖИКИСТАН	Имя /Дата/Место
ТУРКМЕНИСТАН	Имя /Дата/Место
УЗБЕКИСТАН	Имя /Дата/Место

*Handwritten signatures and dates:*  
 \_\_\_\_\_ 29.03.96 \_\_\_\_\_  
 \_\_\_\_\_ 29.03.96 \_\_\_\_\_  
 \_\_\_\_\_ 29.03.96 \_\_\_\_\_  
 Курганков А. 29.03.96 \_\_\_\_\_  
 \_\_\_\_\_ 29.03.96 \_\_\_\_\_  
 Хасбатов М. 29.03.96 \_\_\_\_\_  
 \_\_\_\_\_ 29.03.96 \_\_\_\_\_  
 \_\_\_\_\_ 29/03/96 \_\_\_\_\_

## 2.4 COMMENTS ON THE TERMS OF REFERENCE

The Government of Georgia receives Technical Assistance from the Commission of the European Union under the Tacis Programme. The Technical Assistance Programme to be provided is aimed at supporting and promoting the on-going economic reform process of the country and the region and its integration into Europe.

The Consultants have very carefully reviewed the Terms of Reference, the details in the Letter of Invitation and in the received documentation and find that they clearly and concisely describe the activities and the work to be carried out in the project. We have, however, at this stage a few minor comments on particular aspects of the Terms of Reference, and these are included below:

### 2.4.1 Project Appreciation

Since the dissolution of the Soviet Union and the independence of Georgia the government has laid particular emphasis on the rehabilitation and modernisation of transport infrastructure, as Georgia will play a major role as a transit point in the Traceca transport corridor.

The ports of Poti and Batumi occupy key commercial positions on the Black Sea for the movement of cargo and passengers from and to the other Caucasian countries as well as the countries of Central Asia, Russia and Iran.

At present, the ports' ability to fully fulfil their role is hampered by inadequate and inappropriate port facilities and equipment. The major political and economic developments that take place in the region will result in major changes in the composition of cargo, in the modes of transport and in the cargoes' origins and destinations. The physical layouts of the ports are insufficiently prepared to cope with these developments. The port organisation, the management and staff, the rules and procedures and the commercial experience are also not geared up to the new demands and challenges.

The wider objective of the proposed project is, therefore, to take the Georgian ports into the next decade with effective and efficient suprastructure, good planning and operating procedures, cost conscious and market-oriented management and customer-oriented commercial practices to meet the anticipated commercial and economic changes and to reap the benefits of the large investments that are planned to be made in the ports.

The specific objectives of the project are to define and justify physical improvements and necessary organisational transformation to enable the ports to provide services that attract trade and that promote regular fast shipping links to the world markets. In particular, the project will

- advise on the linking of the Traceca route with the TEN
- review the present situation of the Georgian ports, of shipping services into and inside the Black Sea, of competing and complementing ports, of trade patterns and transport costs
- identify development strategies for the ports, design Port Master Plans and phased development concepts for them, analyse the financial implications of these plans and assess possible financing schemes
- advise on matters concerning management improvement, private sector involvement and investment schemes
- make engineering designs and specifications for future investments, prepare tender documents and assist in the tendering process
- assess the environmental implications of the proposed developments and their future effects.

#### 2.4.2 Comments

The Consultants are in agreement with the aims and objectives of the project as stated in the Terms of Reference.

In view of the rapid changes that have occurred in the region and in Georgia in recent times and that might have influenced the assumptions and preconditions on which the activities of the project were based, the Consultants plan to conduct Log-Frame project planning workshops at the commencement of the project (see section 3.4.2) The results of these workshops will constitute the project working plan and will be included in the Inception Report.

Within the particular sections of the stated Terms of Reference, the following specific comments are made which may serve to improve the overall appreciation of the pro-

posed study.

#### **2.4.2.1 General**

It is understood that the project is divided into four distinct phases and that after each phase a decisions to continue or terminate will be made.

#### **2.4.2.2 Phase 1: Review and Forecasting**

It is understood that this is the most decisive phase of the project as the characteristics and the scope of the subsequent activities will be defined by it. Also, it should result in a clear statement whether the work should continue according to the Terms of Reference, or, because the level of justified near term investments is very low, should be redirected to greater assistance to the ports in port management and administration matters.

#### **2.4.2.3 Phase 2: Port Master Planning**

- no specific comments -

#### **2.4.2.4 Phase 3: Preliminary Design and Outline Specifications for Tender Documents**

- no specific comments -

#### **2.4.2.5 Phase 4: Detailed Design and Production of Tender Documents**

It is understood that tender documents for construction and supply for the first phase of development, probably for EBRD financing, will be prepared.

## **2. ANNEX A: STATEMENT AND TERMS OF REFERENCE**

### **2.1 STATEMENT BY THE TENDERER**

In order to stimulate the on-going economic reform process, to render qualified know-how transfer and management advise services on behalf of the Commission of the European Community to the Government of Georgia, to define new port and terminal facilities, to assist the ports of Poti and Batumi in their efforts to prepare themselves for an enhanced future role and function in the linking of the "Transport Corridor Europe-Caucasus-Asia" (Traceca) with some of the Trans-European Networks (TEN), to enhance their commercial and operational efficiencies and to assist their endeavours to privatise, the short-listed firm

#### **HPTI Hamburg Port Training Institute GmbH, Hamburg, Germany**

has decided to co-operate in a consortium together with

#### **Dornier SystemsConsult GmbH, Friedrichshafen, Germany**

and

#### **Rotterdam Maritime Group, Rotterdam, The Netherlands**

with HPTI being the leading partner (see Co-operation Declaration, Annex C: 4.4).

The decision to co-operate has been made in view of the profound professional expertise of all three partners and their past experiences in other European Union projects.

**HPTI** is an international organisations and manpower development consultancy firm specialised in ports, transport and shipping and has conducted several organisational and human resources development projects world-wide as well as numerous training programmes both in Hamburg and abroad. HPTI has gained particular experience in training involving participants from the CIS in the port and shipping sector

(see Annex C: 4.2.2.1). Presently, HPTI is executing the Tacis-Traceca project "Management Assistance and Training for the Port of Baku, Azerbaijan". The organisational set-up, the financial and accounting procedures, the commercial philosophy and the decision structure in Baku is very similar to the conditions found in the Georgian ports. The detailed knowledge of our experts and the experiences gained while working in Baku as well as the mutual understanding that has developed between the local counterparts and the experts in the course of time will have a profound synergy effect on the project and lead to effective and efficient results.

HPTI will also integrate the extensive experience and local knowledge of its parent company HPC in the project. HPC, an international port and transport consultancy firm, conducted last year, under contract to the GTZ, an investigation entitled "Optimising and Reorganisation Study for the Ports of Poti and Batumi". Not only the published results, but also the background information, the understanding of the local conditions and peculiarities, the contacts in the ports, in the country and around the Black Sea Basin will be made available to the project team of this study.

**Dornier SystemConsult GmbH (DSC)** is a well known independent consultancy firm with world-wide experience in the transport industry. It is the consulting branch of the Daimler Benz Group for planning, consulting, systems engineering and project management in the areas of transport, logistics and freight transport as well as resources management. Being a company of the Daimler-Benz Group, Dornier SystemConsult has access to the entire special knowledge and resources of its parent group in road transport technology, rail transport technology, air transport technology, freight handling and distribution, communications, financial services and other activities. DSC has executed several projects in Georgia and in the region, some of them under Tacis-funding. Additional projects carried out in the other Traceca countries provide a good understanding of the prevailing situation (see Annex C: 4.2.2.2).

The **Rotterdam Maritime Group (RMG)** is a joint venture of over twenty public and private enterprises located in the Rotterdam area. The group has a strong position within the Rotterdam maritime services sector and is engaged in activities in the field of port development, transport, shipping and economics. The RMG's services focus on all those activities that are necessary for an optimum functioning of ports and industrial sites, both for the private and the public sectors. Three companies of the RMG have been selected to participate in this project, based on their specific knowledge and international experience in port engineering, port organisation, law aspects and financing. AVECO, a subsidiary of Royal Volker Stevin, is specialised in civil



engineering and environmental technology in the maritime field, from research through design, tendering, construction to supervision and maintenance. Port Management Consultants is specialised in the field of port and marine management, including administration, privatisation, legal aspects and information management. Reyn-De Blaey Advisory Group specialises in management consultancy in the fields of accountancy, financial investigations and tax advice. The RMG has carried out projects in Western and Eastern Europe and Russia and is well acquainted with procedures for the commercialisation and privatisation of former state owned organisations. (see Annex C: 4.2.2.3).

The consortia, HPTI, DSC and RMG, **has extensive experience in conducting projects in Georgia and the Caucasus as well as in the other New Independent States and in Russia, and has executed several assignment for Tacis and Traceca.**

Given that additional local knowledge within the scope of the project is deemed to be very significant to its success, the local firm **International Business Planning and Development Institute** will be involved and give support to the project. The company was founded by members of the European School of Management that was founded under Tacis-funding with French/German assistance some years ago, and is specialised, inter alia, in the fields business and management consultancy, including marketing, financial management, banking, business planning and privatisation. The company has carried out several projects in Georgia and Azerbaijan and is well acquainted with procedures for the commercialisation and privatisation of former state owned organisations. It possesses, therefore, a good understanding of the tasks which have to be fulfilled to determine the future operational requirements of the ports as well as to reorganise them as commercially working entities.

Thus, the partners combine extensive functional, sectoral and regional experience between them. Highly qualified staff as well as accumulated know-how and experience in the provision of consultancy services in port related projects will be made available as appropriate to the performance of the work by the partners. The rationale for joining forces for this project as well as the distribution of tasks between the partner is further elaborated in Annex C: 4.2.1.1.

Due to the combined experience, good standing, international and local knowledge of the maritime sector and the experience gained in the execution of projects of a similar nature, also within the context of the Tacis Programme, the co-operation between HPTI Hamburg Port Training Institute GmbH and its partners is considered to be well suited to fulfil competently the tasks involved and to achieve the required results. HPTI also maintains friendly relations with HPC Hamburg Port Consulting

GmbH, who executed earlier work in the Georgian ports sector, and will use these contacts to benefit this project by integrating earlier findings, experiences and recommendations into the work. A close exchange with the HPC-team will also ensure that any wasteful duplication of work is avoided.

HPTI Hamburg Port Training Institute GmbH, together with Dornier SystemConsult GmbH and the Rotterdam Maritime Group guarantee to provide the services required for the project "Feasibility Study of New Terminal Facilities in the Georgian Ports" in compliance and in conformity with the provisions and terms of the Tender Documents, i.e.:

- Letter of Invitation
- Instructions to Tenderer
- General Regulations for Tenders
- Draft Contract including Annex A to F

## 2.2 VISIT TO THE PORTS OF POTI AND BATUMI

The Consultants visited Georgia and the Ports of Poti and Batumi in the period from 26 March to 1 April 1997. The visit was carried out by Capt Wolfhard H Arlt, the Managing Director of HPTI Hamburg Port Training Institute and Ms Helga Wagner, Section Head Europe. They interviewed relevant key officers of the Ports of Poti and Batumi, as well as an official of the Ministry of Transport of the Republic of Georgia.

Thanks to the helpfulness and open attitude of the Director General and his staff a considerable amount of information could be obtained. The general approach and methodology described in this proposal is based on the documents and information received, any omissions or misinterpretations made can therefore be attributed to incomplete information. Further information have been provided by HPC who have a sound experience and knowledge of the ports due to previous work on location.

In-depth discussions were held with the following port officers and representatives of the Ministry of Transport, who proved very competent and knowledgeable and showed great interest in the visit and the project:

Mr Devi Gvalia	Deputy General Manager, Commercial Sea Port of Poti
Mr Guram Adamia	Chief Engineer Commercial Sea Port of Poti
Mr Nikolai V. Charkviani	Deputy Manager Commercial Sea Port of Batumi

Since the Minister of Transport was in Brussels during the time the Consultants visited Georgia, another representative, in charge of the future port project was nominated for discussions.

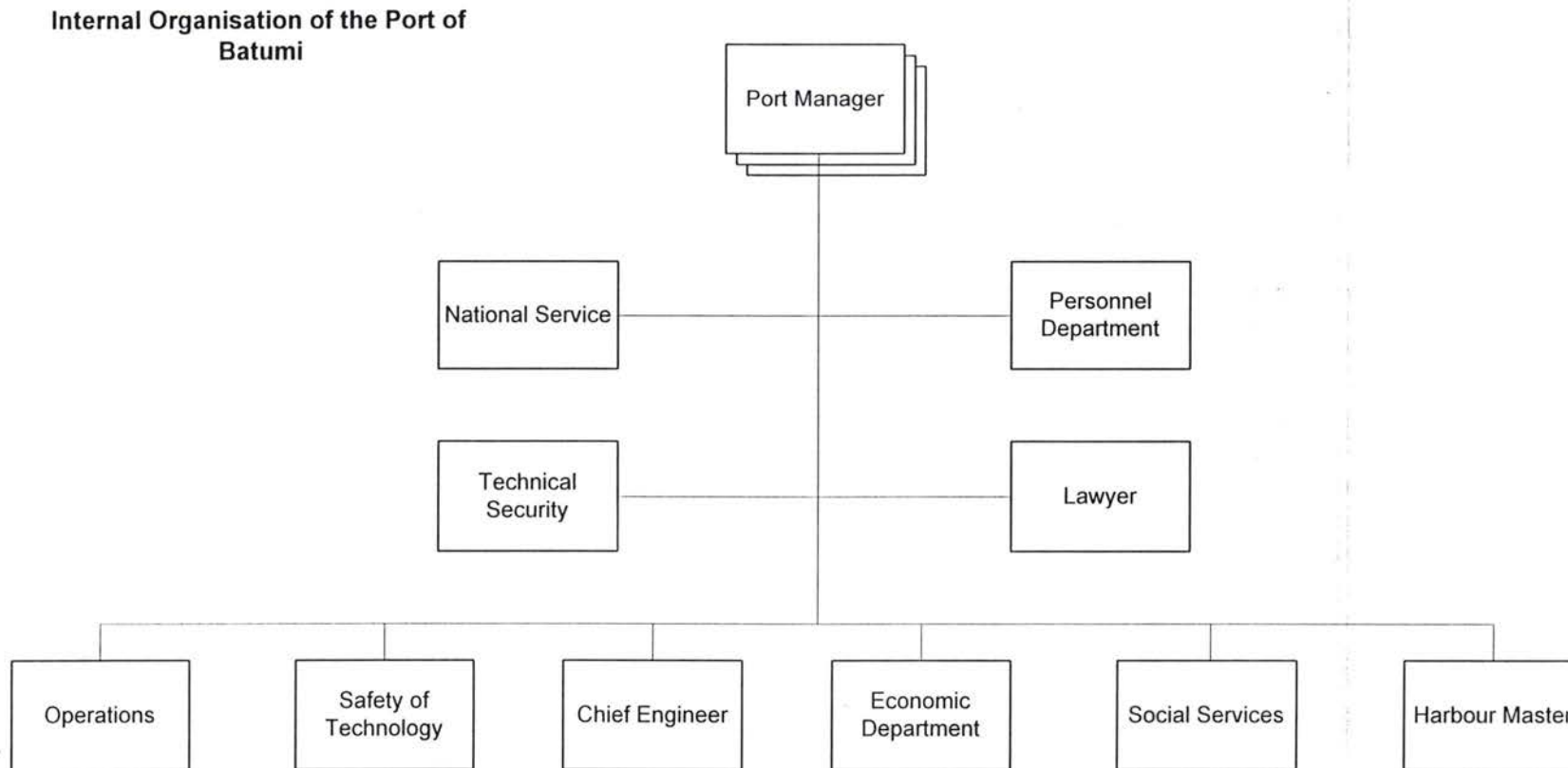
Mr Guran Dolbaia	Head of the Legal Department of the Ministry of Transport, Tblisi
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Also, the Traceca-representatives in Tblisi were contacted and informed about the purpose and the results of the visit:

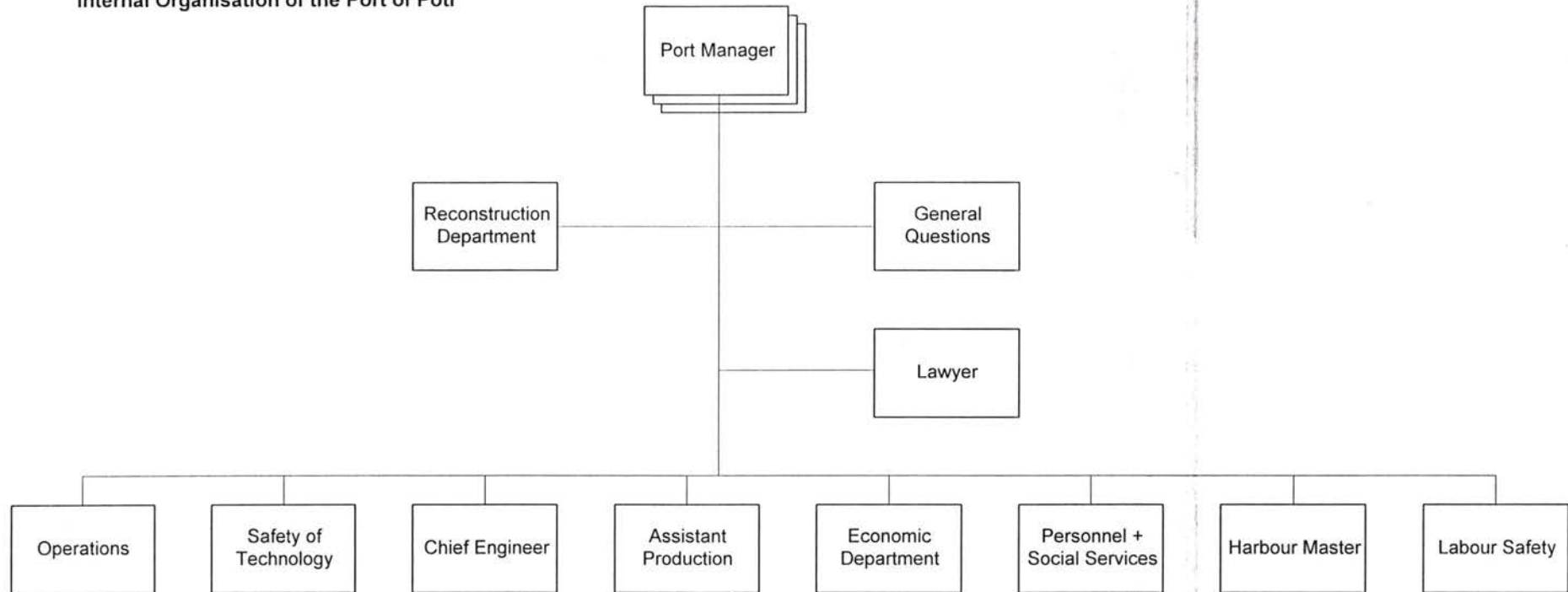
Mr Marc Graille	Traceca Coordinating Unit, Tblisi
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The port of Poti employs presently about 2,500 staff members and Batumi some 850 persons. The organisational set-up of the ports can be seen in the attached tables.

Graphic "Organisation Chart"



Internal Organisation of the Port of Poti



During the visit the tasks of the individual experts as described in the Terms of Reference were intensively discussed with the decision makers in the ports. Thus, a clear picture emerged of the work to be done, the objectives to be reached, the prevailing local conditions and the preconditions for successful execution of the work.

Also, information on the distribution of responsibilities, the chain of command, the organisational set-up and the economic and commercial difficulties the organisation faces could be established.

It appeared that the project and its aims were not very well-known within the organisation. But in all discussion partners were very enthusiastic when learning about the project and the Consultants feel that no obstacles to the progress of the project will be posed from them.

One concern of the port managers as well as of the representative from the Ministry of Transport was to avoid duplication of the work already carried out within the GTZ project. Due to the fact, that HPTI and HPC, the consulting company in charge of the GTZ project, belong to the same corporation of firms and a that good co-operation relationship between the two companies is existing, the Consultants can ensure that on the one hand duplication of work is avoided and on the other hand they will closely co-operate with the team carrying out the new GTZ project for the ports of Poti and Batumi, thus combining the results of both projects.

Due to this lack of prior information, the Consultants must strive hard, once they are on location, to involve the staff of the organisation as much as possible in the project in order to instil a sense of ownership of the project into them and, thus, secure sustainability in the medium and long term. The LogFrame Project Planning Workshops, that are planned at the commencement of the project, will aid in this matter.

During discussions, the port managers explained that a major benefit they expect from the project is the assistance of the experts to determine the major investment needs of the ports and prepare the financial documents for them.

The port managers of both ports agreed that restructuring of the ports' accounting and financial management systems is badly needed in order to provide the management with information necessary to take appropriate decisions and also to get clearer information about the financial situation of the ports.

Also, they wished to know more about marketing, but had neither knowledge nor experience in this matter, nor were the organisations doing much marketing at present.

A lot of additional background information that was helpful in understanding the tasks of the experts could be obtained during the discussion. Our final choice of staff as well as the descriptions of activities were guided by this.

A description of the findings of the physical characteristics of the ports is included in section 3.2.4

**2.3 TERMS OF REFERENCE**





EUROPEAN COMMISSION

DIRECTORATE GENERAL IA

External Relations - Europe and the New Independent States,  
Common Foreign and Security Policy and External Missions  
Directorate C - Relations with the New Independent States and Mongolia

## Annex A: Terms of Reference

**EUROPEAN UNION - TACIS**

**TACIS  
TRACECA PROGRAMME**

**Terms of Reference**

**for**

**FEASIBILITY STUDY OF NEW TERMINAL FACILITIES IN THE  
GEORGIAN PORTS OF POTI AND BATUMI, AND THEIR LINKS  
TO THE TRANS EUROPEAN NETWORK**

**Final Recipients:**

**MINISTRY OF TRANSPORT OF GEORGIA**

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## 1. BACKGROUND

The Beneficiary of this project is the Ministry of Transport of Georgia.

### 1.1 NEEDS OF BENEFICIARY.

During May 1993 a conference was held in Brussels organised by the European Commission and attended by authorities of the eight Republics of the south of the former USSR:

Armenia,  
Azerbaijan,  
Georgia,  
Kazakstan,

Kyrgyzstan,  
Tadjikistan,  
Turkmenistan,  
Uzbekistan.

They are the Beneficiary States of this programme.

The objectives of the conference were :

- to stimulate co-operation among the participating Republics in all matters pertaining to the development and improvement of trade within the Region
- to promote the Central Asian - Trans Caucasian - Europe Transport Corridor
- to identify problems and deficiencies in the Region's trade and transport systems
- to define, in terms of contents and timing a Technical Assistance Programme to be financed by the European Union (EU).

TRACECA (Transport Corridor Europe Caucasus Asia) was thence created as a component of the TACIS interstate programme.

1.1.2 The broad aim of the project would be to help Georgia and its hinterland countries to diversify and improve their access to international markets. The region has rich oil, natural gas reserves and minerals. It grows significant amounts of cotton and has the potential to produce and export other agriculture products. Other planned and ongoing technical assistance and investment projects in the region aim to safeguard the transit capacity throughout the Traceca Corridor.

1.1.3 Three Crete corridors of TEN (Trans European Network) have outlets at the Black Sea ports of Odessa, Varna and Constanza. The inland waterway system of the Rhine Main Danube is a potential link to the EU, as are the sea routes into and through the Mediteranean. The increasing amount of traffic between Europe and the Caucasus and Central Asia results in an urgent need for an investment programme for the Georgian ports of Poti and Batumi, especially for the upgrading and construction of terminals which would ensure efficient connections with other Black Sea ports, and of full port support facilities.

1.1.4 In order to have a general picture of the maritime trade flows from Europe to the Caucasus all important maritime links have to be examined, and their potential established. These would include links with Mediterranean ports (Greece, France, Italy and Spain), North Sea ports (France, Belgium, Holland, Germany and Denmark), the Black Sea Ports and the inland water network of Europe via the Danube.

Thereafter a feasibility study should point out which kind of general cargo facilities are required (product related) including the necessary sheds for cotton transit flow.

1.1.5 Discussions are going on between Ukraine and Georgia to establish a rail ferry service between the port of Ilyichevsk near Odessa and a Georgian port. This service would extend the existing service between Ilyichevsk and Varna. In Varna and in Ilyichevsk, a rail ferry terminal has reportedly been established and is used for the Varna-Ilyichevsk service. This service could be extended to the Georgian ports.

Two Ukraine ferries and two Bulgarian ferries are reportedly available and are used for the service. The ships have a capacity of 108 rail wagons. These ferry boats can carry rail wagons and motor cars and trucks. The gauge difference between the FSU and other European systems is an obvious complication to the wide extension of such services.

Discussions about a new terminal have been held between Ukraine officials and port and town officials of Poti. In some government documents Poti is mentioned as the candidate for the terminal. A rail ferry terminal and a Ro-Ro terminal are foreseen in the general master plan of reconstruction of Poti port. Discussions are also going on between the Government of Romania and the Port Authority of Poti in order to develop a Ro-Ro and / or Ferry link between Costanza and Poti. The construction of these terminals has not started for lack of funds.

The port of Batumi is also candidate to host a new terminal. Discussions similar to those in Poti have taken place. The pre-project of a terminal in Batumi is ready. It is claimed that the company, operating the Ilyichevsk-Varna ferry service, with the assistance of the Maritime Institute of Odessa has prepared a detailed design for a terminal in Batumi including a cost-estimate. In the port, preparatory work was started by site clearing and demolition. For the construction of the terminal and rail sidings, outside investment is sought.

The status, technical viability of these different plans and credibility of reported intentions need to be established early in the project.

## 1.2 PROBLEMS TO BE ADDRESSED.

The TRACECA programme has addressed a number of bottlenecks along the route through to Central Asia, but there is at present no finely defined strategy to link the route to the TEN, excepting the obvious fact that the Georgian ports of Poti and Batoumi must play a key role. By implication, the shipping routes to Europe, and indeed to other destinations, must be closely studied.

The lack of regular modern shipping services to the Georgian ports, for whatever reasons, must be overcome. Forwarders and traders are not overly attracted to use the ports. Rival routings also have problems, but the Georgian ports are not taking full advantage of the opportunities present. The present usage is somewhat captive, and the ports are not truly competitive.

The certain growth of the petroleum industry around the Caspian Sea imposes evolution and development of the ports. There is a risk that they will become restrictive bottlenecks on the hinterland development, rather than the poles of growth which their geographic position allows.

Masterplans are needed for the long term development of both ports involving the port areas themselves and, possibly outside related sites where developments are feasible and economically and financially justified.

This involves an extensive examination of the present adverse conditions and organisation of shipping to serve the ports, traffic forecasts by class, and realistic estimation of the costs. These expenses should be estimated per handled ton of cargo. The final cost of transportation and handling should allow the cargo to be competitive on the International markets. The speed and reliability of port services provided should match clients needs. Evidently such development also requires consideration of Customs regulations, security and insurance, to provide a convivial environment for traffic growth. The institutional structure of the ports must certainly evolve.

The subsequent problem is to determine and advise on which of the two Ports will be the most appropriate to host the expected future traffic. Factors to consider include existing facilities, traditional trades, accessibility and possible draft problems in the ports and in the approach channels. The ideal complementarity of the two ports needs to be established, in terms of national economic interest.

Specific problems concerned are the necessity to use the Ports potential storage capacity for export and import products such as cotton, ore, forest products, etc. The Ports should function as transit space for these products, and as opportunity allows, to support trading and value adding activities within and close by.

The physical infrastructure requires rehabilitated and should be adapted to meet the requirements of present and future.

Present deficiencies include:

- conditions for navigation
- the quay walls
- the quay aprons
- the crane rails and electrical supply
- the stacking areas
- the storage facilities
- the maintenance facilities
- the offices
- the existing cranes and cargo handling equipment
- the service fleet and navigational aids.

New facilities permitting modern transport methods and technologies should be introduced, possibly including:

- ferry terminal development
- stacking areas for unit loads and Project Cargo and related equipment such as heavy lift cranes, trailers forklifts etc.
- containers stacking areas with handling gear
- possible wagon cleaning/washing installations, etc.

### 1.3 RELATION TO PAST AND PRESENT TACIS PROJECTS.

Much highly relevant detailed study work has already been performed, and will be made available to the successful tenderer (but not before award of the contract).

The Commission of the European Communities financed a study on "Port of Poti Development and Freight Traffic Re-organisation in Georgia". This study was executed by Rogge Marine Consulting GmbH. The final report dates from July 1993.

G.T.Z. financed the "Optimising and Reorganisation Study for the Ports of Poti and Batumi. The work was carried out by HPC Hamburg Port Consulting GmbH.

TACIS/EBRD are promoting development of a possible privatised grain terminal in Georgia, under construction in Poti.

A TACIS project has reportedly prepared a master plan for the port of Odessa.

PHARE has commissioned several studies of the Romanian and Bulgarian ports, of the Balkans region, and the Rhine Main Danube corridor. The consultant will be required to obtain the final reports for these projects for assimilation in the present project.

A TRACECA project "Traffic Forecasting" is carrying out comprehensive data collection and modelling of traffic on the TRACECA networks. This provides a data base of customs declared commodities moved throughout the TRACECA region and to external destinations (21 commodity groups), details of costing and times on the land side transport, existing traffic flows calibrated to the commodity flows, and future projections of traffic. Detailed flows of traffic within the Black Sea and the Mediterranean are not included in this study.

A TRACECA Trade Facilitation project has developed detailed recommendations for Customs procedures throughout the region, including ports. This project has also considered in some detail the cotton trade, which is an important potential cargo source, and the problems encountered by that trade in the use of Poti port.

In 1994, the Designing Institute "Georgiaproject" of Tbilisi prepared for the account of the Ministry Cabinet of the Georgian Republic a "Technical and Economical Subsidiation" study for the Reconstruction of the Commercial Sea Port of Poti. Some estimates by FSU researchers forecast high levels of traffic.

All these projects should be taken into account by the Consultant. Particularly all TACIS and PHARE past, present and planned investment and development projects concerning Ports on the Black Sea. Traffic forecasts between these ports should be evaluated and duplication of work avoided. It is to be noted however that field visits to Black Sea and possibly to other ports will probably be necessary.

#### 1.4 CO-ORDINATION WITH OTHER DONORS.

The European Bank for Reconstruction and Development (EBRD) is seriously considering financing port rehabilitation in Georgia. This project has been developed in close collaboration with the EBRD and the consultant will be required to liaise closely with that bank's officials.

The World Bank is providing support to the transport sector in Georgia, though not as far as is known, to ports.

GTZ has been active in support of the Georgian transport sector. Other EU states are considering provision of bi-lateral aid.

Divers private investors, including Sealand, the petroleum industry, and FSU companies are demonstrating interest in the Georgian ports, and the project may be carried out in an environment of competing interests.

It is the policy of TRACECA to collaborate very closely with other donors/investors, and indeed to actively promote such collaboration where it may be absent. Also other TRACECA projects will run concurrently with this one, and the consultant will therefore be required to exchange data, and to attend regular co-ordination meetings, with other consultants and agencies.

## 2. RATIONAL AND OBJECTIVES

### 2.1 OVERALL OBJECTIVES

The ultimate objective of this project is to foster the realisation of modern cargo terminals in the Georgian ports. The two ports should be able to provide services which:

- attract trade from the TRACECA hinterland and elsewhere
- promote regular fast shipping links to the worlds markets by whatever specialised vessels that trade requires

The project should define and justify the physical improvements and the organisational transformations necessary.

### 2.2. PURPOSE OF THE PROJECT.

Long-term development recommendations are to be prepared, taking into account the traffic growth forecast to and from other Black Sea ports, Mediterranean ports, North Sea ports (detailed links to the TEN), and world wide (overview). Special emphasis should be paid to the container traffic development.

Over and above the needs of the ports, the study must also identify the present constraints on traffic with Europe, be they in the ports themselves, the organisation of the shipping lines, commercial traditions, or elsewhere, and define remedies to lift those constraints.

Undoubtedly the present general conditions of the Ports do not attract cargo, though latent demand is present. This applies not only to the equipment such as cranes, forklifts, stacking areas, sheds and power supply, but also to the organisation and management of the cargo handling activities.

At present due to these restrictions in equipment availability and low productivity, the Black Sea shippers do not send modern and efficient vessels to the ports. This, in turn, reduces productivity and increases overall cost. Normally, if the Ports were able to handle cargo properly with high productivity equipment, the shippers would follow call with modern vessels. This implies the necessity to analyse the future needs of accessibility to the Ports and eventual draft problems in the Ports and in the Channels.

A particular concern is the adaptation of ports to the cotton trade, which has a high potential but is under-served, particularly by the storage facilities.

A feasibility study is to be carried out in parallel for the Port of Poti and for the Port of Batumi. The Consultant shall report to the Georgian Ministry of Transport if the feasibility study shows that the construction of a specific facility in one of the Georgian ports has major economic advantages above its location in the other port. The consultants recommendations for the location of each specific facility shall be based on national economic interest.

### 2.3 RESULTS.

The study is to be divided into 4 phases. Each phase will be followed by a "break point" and a period during which the results of the phase will be reviewed by the Owner, Tacis and the EBRD. A decision will be taken whether to proceed with the next phase or not and the scope of work for this phase will be confirmed or amended in the light of the findings of the preceding phase. The phase outputs are as follows.



#### Phase 1

1. Review of the present pattern and trends of shipping in the Black Sea, and services to destinations in the Mediterranean and world-wide.
2. Review of the present technical facilities, strengths and weaknesses of the Black Sea ports, the potential direct service correspondencies for the Georgian ports, the technologies for those connections (RoRo, containerisation,...).
3. Definition of the principal traffic for which the Georgian ports are to be developed and the probable range of volumes of such traffic.
4. Recommendations on the most viable route connections between TRACECA and the TEN.
5. Establishment of the total unit transport cost that the various commodities transiting through Georgian ports could be expected to sustain while remaining competitive in world markets.
6. An outline review of the present Georgian port facilities and existing development projects identified during the Inception Period.
7. Definition of the functional requirements of the ports.
8. Proposals to develop the cotton storage facilities in one or both ports
9. Preliminary data collection for the environmental assessment.

#### Phase 2

1. Master Plans for the two ports;
2. Phased development plans for specific priority investments relating the costs to traffic capacity, growth and revenue;
3. Cash flow forecast for the priority investment as assumed above considering a maximum term of ten years including the construction period.
4. Economic and financial analysis of the recommended development. Before testing feasibility of the investment, the basic outline of the project structure should be proposed and discussed;
5. Environmental assessment of the development and subsequent port operations;
6. Recommendations for any improvements in management structure and systems;
7. Analytical review of possible options to introduce and facilitate the entry of private investment in parts of the envisaged port infrastructure development (e.g. build-and-transfer; build-operate-and-transfer; rehabilitate-operate-and-transfer, etc.);

#### Phase 3

1. Preliminary engineering designs and outline specifications for the principal components of the first phase of the recommended development;
2. Assessment of the Beneficiary's credit worthiness for a possible Bank loan and of possible other project finance arrangements by private investors.
3. Assistance in preparation of the relevant legal documents (which might include concession, project guarantees, etc.)
4. Should the preceding work indicate the need and opportunity for a private sector investor and recommend his selection by tender process, the Consultant will prepare tender documentation for the selection of a private partner and assist in tender process finalisation.

#### Phase 4

1. Tender Documents for the construction works and supply of equipment (if appropriate) of the planned first phase of development, and assistance in tender finalisation process, to the beneficiaries and to the EBRD.

2. Assist with inviting tenders for the development, selecting contractors and placing contracts.

3. RISKS AND ASSUMPTIONS.

3.1 Assumptions.

It is assumed that free market forces will not respond quickly and cohesively enough to permit the timely and orderly development of the two Georgian ports. In fact there is private investor interest in certain facilities, but the strength of that interest appears amorphous. It is assumed that the intervention of TRACECA technical assistance to enable EBRD investment will provide a lead, by which the ports will become viable commercial entities serving the TRACECA hinterland and its links to the EU.

3.2 Risks.

Risks to the implementation of the project are several and may for example originate in:

- government decisions concerning the ownership of the naval base of Poti
- municipal authorities decisions concerning the ownership of certain land in the close vicinity of the Ports
- conditions imposed by the investing banks which must be accepted and fulfilled by the port authorities and the Beneficiary
- possible political or social instability
- possible social objectives which could too strongly influence the authorities decision making process, overwhelming technical and economic factors.

The above mentioned risks and others should be taken into consideration, and alternative solutions should be found, where possible.

4. MAIN COMPONENTS.

4.1 Tasks

The Consultant must remain in close contact, throughout the project, with the the two port authorities. All the documents which the Consultant has to prepare for this project, need the approval of the Beneficiary, Tacis and the EBRD. The feasibility study is carried out in parallel for the Port of Poti and for the Port of Batumi.

4.1.1 Phase 1

*4.1.1.1 Review of previous studies, and of ports and shipping in the Black Sea.*

The consultant will procure and review all previous pertinent studies, including those by TACIS and PHARE (see Section 1.3), trade journal reviews, and conference papers.

He will validate findings and verify conditions by site visits as may be necessary.

He will interview representatives of shipping lines, freight forwarders, major clients, and any other agencies who are familiar with the conditions for international transport in the Black sea ring, to determin the wider patterns for traffic in the region, the logic of the present feeder and liner services and the competitive environment in which the ports of Poti and Batumi must survive.

#### *4.1.1.2 Definition of Traffic*

The study is then to focus on the major traffic on which the viability of the ports is likely to depend. Data sources should include a review and analysis of historic traffic through the ports, characterised by origin, destination, sizes and types of ships, mode of preceding or onward transport and any pronounced seasonal trends. This review should cover all parts of the ports, including the oil jetties. The product categories should correspond with those of the TRACECA Traffic Forecasting project (21 commodities) and the reports of the Forecasting project may be used as basic input data. However the consultant will be required to refresh this data locally, and to develop it on the basis of commercial potential which the consultant will be best able to determine.

In addition to the ports' traditional traffic, specific attention must be given to the potential for new trade, for example, export of cotton from the hinterland countries and project cargoes for oil related and other industrial developments. The historic data should be supplemented by an analysis of economic activity in the area of influence (hinterland) of the ports and of the present and future transportation systems serving it. The Consultant should also consider the gateway role that the ports may play for Central Asian transit traffic. Further structured interviews should be undertaken with major existing and potential shippers both in the public and private sectors. The Consultant should provide a review of all the main exportable commodities in the hinterland countries for which the ports could be used and also identify any promising import cargoes. (N.B. posted or faxed questionnaires are not to be considered as an adequate investigative tool for this task).

Specific Project Cargo related to, for example oil-field developments, should be investigated.

A review should be made of the availability of shipping to support the potential traffic in general, and the criteria for operators to service the Georgian ports with modern vessels.

Special attention will be paid to the use of containers, and to other forms of unitisation or neo-bulk, which might be introduced in the future.

The results of these studies should be presented as short, medium and long term forecasts over a period of 15 years. Each item of identified traffic should include the following information:

- The possible origins and destinations and linking trade routes;
- The constraints, conditions or qualifications on the development of the traffic; and
- Assessments of the probability of the development of the traffic and the possible variations in the volumes.

#### *4.1.1.4 Estimates of Unit Transport Costs*

The purpose of this part of the study is to set approximate yardsticks for the scale of the development that could reasonably be contemplated for each item of traffic. From the data established, the Consultant should estimate the total transport costs of foreign currency earning commodities from their source to their ultimate destination by each of the alternative routes and relate these to the current competitive market price of the commodity. In turn, he should then estimate the proportion of the total transport cost that could be allocated for port handling.

#### *4.1.1.5 Present Port Facilities and Operations*

This part of the study comprises for each of the two Georgian ports a review and engineering evaluation of the present port facilities and an appreciation of the operations. Its purpose is to establish the needs and possibilities for rehabilitation and development of the ports. It should include but not be limited to the components listed below.

The 1993 Rogge-Marine Report together with GTZ Report could be used as base document.

1. A topographical survey of the main part of the ports. This survey should cover the outline of the ports, the inland boundaries and the connecting road and rail links, marshalling and parking areas, as far as they may eventually need to be modified to improve port efficiency. Accurate benchmarks should be established on which further detailed survey work can be based. A plan should be produced to a 1 /2500 scale or finer;
2. An inventory of all existing port infrastructure, major items of equipment and port craft;
3. An engineering evaluation of the condition of the existing facilities, such as quays, pavements, buildings and equipment;
4. An appraisal of the adequacy of the existing utilities, including any external services on which the port is dependent;
5. Estimates of the productivity of the port, in terms of cargo handling rates and turnaround times etc. This should include identification of any capacity constraints imposed by shed and open storage space limitations, inefficient layouts, rail wagon availability or the like;
6. An evaluation of the organisational structure and the capability, qualifications and experience of the current port operations staff and administrative personnel;
7. A commentary on financial reporting procedures and controls, maintenance of traffic statistics and general planning data.
8. A review of the navigational conditions. This will include maintenance dredging and navigation aids;

Also, the consultant will visit the ports of Odessa and Ilyichevsk and appraise the viability of the rail ferry link, its infrastructure and equipment, which is reported to operate from there.

#### *4.1.1.5 Functional Requirements of Ports*

Based on the results of the Phase 1 work, the functional requirements of the ports necessary to handle the various types and quantities of traffic should be set out in detail. The requirements will be expressed in numbers, types and capacities of the various facilities. This should include the operating assumptions on which the estimates have been made, such as numbers of ships, average consignments, berth occupancies, handling rates, stacking densities, seasonal and peaking factors. The requirements should include external infrastructure needs and additional land area if necessary.

#### *4.1.1.6 Cotton Storage*

Cotton storage in the Georgian ports is a priority problem since there is a political will and a multi-state concessionary rail tariff agreement to encourage the shipment of Central Asian cotton through Poti. New facilities should be foreseen to modern standards in respect of size, use of handling equipment, protection against moisture and dirt, ventilation, accesses, fire prevention and protection, and construction materials used.

#### *4.1.1.7 Preparation of an outline for the environmental assessment*

The Consultant should identify at this stage any environmental factors which might eventually constrain the ports' development (see Section 3.2.4).

#### 4.1.1.8 Phase 1 Report

The Phase 1 report should cover the Consultant's recommendations:

- on the links between TRACECA and the TEN, forcibly maritime
- the development options for the two Georgian ports, and the orientation of further work in Phase 2 (which port, which type of cargo, timing).

The consultant will propose a development programme for the TRACECA-TEN links. This will inventory and analyse the advantages and disadvantages of specific routes and technologies (Odessa, Rhine-Main-Danube, Southern Mediterranean Ports....RoRo, container facilities,...Cost, time, reliability, image,...). In conclusion it will recommend actions that could be taken, complementary to those at Georgian Ports, to reinforce those links and render them more commercially attractive. The development of the Georgian Ports will be dealt with in detail by the remainder of the project.

It could be apparent at this stage that the level of near term investment justified in one of ports (or conceivably both) is relatively low, and that the Consultants further services should be reallocated to provide greater assistance with actual implementation of commercialisation, fostering links with commercial partners, institutional reform, management support, restructuring, training, and similar activities.

The effects of whatever development may take place at any one Georgian port will inevitably impact the other, and rivalry may be aggravated. The consultants recommendations are to be explained in terms of national economic interest. The two ports are to be fully implicated in the project, and if one is much more favourably placed to receive investment, then an appropriate restructuring plan is in any case to be developed for the other.

#### 4.1.2 PHASE 2

##### 4.1.2.1 Physical Master Plans

A conceptual long-term Master Plan for each port should be prepared to meet the identified functional requirements in the most efficient manner. The plans should consider and include: i) recommended zoning for land use; ii) the access and circulation patterns for maritime, road and rail traffic; iii) the locations and conceptual outlines of proposed port installations and facilities; and, iv) recommendations to reduce any negative impact of port-related activities on the environment. In designing the Master Plans, the Consultant should consider what scope there is for each port to continue to handle cargoes while the development works are undertaken. The plans should also provide guidelines to reserve the shoreline for port use and zone the land between the shoreline and the town/railway trunk lines for port related activities and industries. (The Town Administrations will be advised to stop any development in this area until the Master Plans has been agreed and adopted).

Possible installation of a wagon-cleaning facility should be proposed. This refers to cleaning of bulk wagons, oil tank wagons and eventually containers. Environmental impact of such a facility should be assessed.

##### 4.1.2.2 Phased Development Plans

The development of the ports according to the Master Plans should be divided into phases, taking account of the following criteria:

- Each phase of the development should be homogenous and capable of realisation as a discrete unit;

- Each phase should ideally provide capacity for its foreseen traffic with minimum capital expenditure, and maximum utilisation of under-utilised facilities;
- Commissioning of the first phase of cargo handling facilities should be effected as soon as possible.

Detailed capital cost estimates will be made for the first phase of the development on the basis of outline engineering concepts.

Specific priority investments shall be identified.

A cash flow forecast should demonstrate the financial feasibility of the projects considered over a maximum of ten years including the construction period. This may serve to attract involvement of the private sector in such projects.

The EBRD should be consulted during the preparation of these cash flow forecasts.

#### *4.1.2.3 Public Participation*

The consultant shall identify any requirement for public participation associated with the project and make recommendations as to how these requirements should be met. If no formal requirements are identified, measures to be taken to achieve adequate public participation will be suggested.

#### *4.1.2.4 Management Structure and Systems*

The purpose of this part of the study will determine the probable nature of, and costs associated with, necessary institutional improvements in the port operations. The Consultant shall analyse the existing port management structures in both ports and the permanent staff and recommend what changes are required to make the Owners and Port Management functions more efficiently. If appropriate, the Consultant shall recommend ways to increase the involvement of the private sector in port activities and identify the legal, regulatory and fiscal pre-requisites which need to be established to attract private entrepreneurship and investment. Specific recommendations shall also be made with respect to financial and credit controls and to improving the ports' approach to the marketing of their services.

The maintenance problems of infrastructure and equipment are an important consideration. In the management structure organisational recommendations should be given to implement an efficient maintenance policy in the Ports.

Statistics and costing methodology should be based on common standards, to assist in comparison of the performance of the ports.

Recommendations should be formulated for customs procedures (and physical facilities for customs services, as well as other ancillary services).

#### *4.1.2.5 Economic and Financial Analysis*

An economic cost/benefit analysis of the recommended development will be conducted focusing on the costs and benefits to the national economy and identifying potential project risks. Cost estimates for the economic and financial analyses should be comprehensive and include all costs that would be necessary for the development, such as handling equipment, port labour, debt servicing, environmental mitigation measures etc. Operating costs should be similarly comprehensive and include, for example, dredging, pilotage and tugs, stevedoring and all other operating expenses.

The economic analysis should be carried out based on discounted flows of costs and benefits over 15 years, leading to reporting of the common economic indicators (NPV,...). Benefits of the project are likely to be reduced transport costs for the key commodities and revenues from traffic that could otherwise not be handled and would be turned away without the proposed development. Sensitivity analyses should be carried out for all significant variables, including the cost of capital.

The financial analysis carried out for the recommended development should cover the construction period and the first five years of operation. Assumptions made to estimate cost and revenue flows should be stated, including port tariffs, loan conditions, depreciation schedules and operating costs. The results of the analysis should be reported in terms of net cash flow, profitability and financial rate of return. Sensitivity tests should be carried out on the significant variables.

#### *4.1.2.6 Environmental Assessment*

Based on preliminary environmental information obtained in Phase 1, the Consultant shall conduct an Environmental Assessment (EA) using the format outlined in Annex 5 of the EBRD's "Environmental Procedures".

Anticipated adverse environmental impacts associated with both the construction and operation stages of the port facilities shall be evaluated. Recommendations shall be made for needed mitigation measures. The need for disposal of all waste products (such as waste water, sewage, garbage, dirty ballast) shall be considered and treatment of other disposal facilities shall be included as components for the development. Attention should also be given to measures needed in order to ensure the compliance with MARPOL and the handling of the IMCO cargo (International Treaty, governing the environmental management of ports).

The Consultant shall define the scope of exceptional additional surveys or investigations that may be required, and quantify any costs associated with environmental mitigation measures.

#### *4.1.2.7 Introduction of private investors in new port infrastructures.*

The Consultant should produce an assessment of possible options to introduce and facilitate the introduction of private investment in parts of the envisaged ports on associated infrastructure development (e.g. build-and-transfer; build-operate-and-transfer; rehabilitate-operate-and-transfer, etc.)

#### *4.1.2.8 Phase 2 Report*

The port Master Plans should be issued as the Phase 2 reports. The format of issue, in one or separate volumes will be discussed with TACIS.

The recommendations should be supported by the detailed results of the preceding work, particularly the economic and financial analyses, the conclusions drawn from the sensitivity tests and a commentary on the assessed risks to the success of the development.

The cash flow analysis and the economic and financial feasibility should deal with discrete facilities which could eventually be developed privately, should interest be forthcoming.

The Phase 2 report will prioritise the investments necessary and be used for discussion with the EBRD and/or other investors, of which physical components should be the subject of further detailed work within the study.

#### 4.1.3 PHASE 3

##### 4.1.3.1 Preliminary Engineering Designs

The purpose of this part of the study is to carry out preliminary engineering for the selected development to such level that all items of the project are fully identified with outline specifications and shown on key drawings. The Consultant should carry out further topographical surveys and, if necessary, hydrographic surveys to the detail required for eventual design drawings, together with detailed inventories of utilities. It is not intended that geotechnical or hydrographic surveys should be undertaken at this stage unless crucial to decisions required (they should eventually be included in Phase 4). Cost estimates will be detailed more fully and refined on the basis of the preliminary engineering.

The output from this work should be presented as a Design Report, together with general arrangement drawings and cost tables. This report should provide a brief for subsequent production of detailed designs, tender drawings and Bills of Quantities. The report should be suitable for adoption if required as a brief for design-and-build or build, operate and transfer (BOT) contracts.

##### 4.1.3.2 Assessment of Owner's Credit Worthiness

The Consultant will amplify and extend the financial analysis prepared in Phase 2 to present financial accounts for each port (balance sheet, P & L account, source and application of funds etc.). These accounts should originate from an analysis of the balance sheets and other accounting documents of the last three years and be extended for a further 15 years. Revenues will be based on defined cargo categories and tariffs and working capital requirements will be identified.

In the course of this work, the Consultant will review the tariff, fee and rental structure of the ports and make recommendations for changes. He will also propose methods for collecting and analysing statistical information on port operations. An organisational restructuring plan together with any new personnel requirements and an appropriate training programme will be prepared and presented to the Owner.

##### 4.1.3.3 Legal Documents.

Should earlier phases indicate the need and opportunity for private investment by concession or any other mechanism the the Consultant should prepare the full documentation for the introduction of the tender documents. This covers, for example, the necessary ownership for any proposed land acquisition or renting, possible ownership exchange, the preparation of contracts with the possible private operators or investors; the concession documentation and the financial approach to the privatisation.

The legal status of the ports presently, during and after restructuring, will in any eventuality need to be established by the consultant.

Agreements will be required between different authorities concerned with the future developments of the ports, also covering the very long-term development projects. This includes to start developing agreements with the land owners and governmental bodies concerned with the country development plans.

#### 4.1.4 PHASE 4

##### 4.1.4.1 Preparation of Tender Documents



On the basis of the Design Report prepared from the Feasibility Studies, the Consultant shall carry out detailed designs for all components of the first phase of development and prepare tender documents for international competitive bidding for the civil construction works and the supply of any equipment to be included in the development, either as one or several contracts as may be recommended in the Design Report or agreed with the EBRD, Tacis and the beneficiary. The documents will be prepared in accordance with EBRD's Procurement Rules and Policies and the construction contract will normally be based on FIDIC standard documents unless otherwise agreed in discussion with the EBRD and the beneficiary.

The scope of the procurement necessary may be comprehensive, to support the development objectives and purposes of Sections 1&2 of these TOR.

#### *4.1.4.2 Assistance with Contracts*

The Consultant's advice and assistance to the Owner in contract procurement shall include but not be limited to the following.

1. Advising on and drawing up a procurement programme.
2. Preparing and issuing Pre-qualification Documents to interested contractors responding to the EBRD's Procurement Notices.
3. Evaluating the Pre-qualification submissions and making recommendations to the Owner on the suitability of contractors for tender listing.
4. Preparing an Engineer's estimate and disbursement schedule for the contract works.
5. Preparing and issuing tender documents to selected bidders.
6. Arranging tender visits and answering tenderer's enquiries on behalf of the Owner.
7. Evaluating tenders and making recommendations to the Beneficiary on the selection of contractors.
8. Advising the Beneficiary on formal contract notices and procedures that may be necessary prior to commencement of the works and during the construction phase until completion, provisional and final acceptance of these works. Responsibility of the contractor during guarantee time should be clearly mentioned.
9. If the contract concerns the supply of equipment, the Consultant should also describe the spare parts to be delivered, the after-sale service requirements and the maintenance activity training of the future user of this equipment.

#### **4.2 OUTLINE OF IMPLEMENTATION PROCEDURE.**

The substantial technical steps required for project implementation have been integrated into the work packages.

The Consultant will carry out the assignment in close co-operation with the management of both ports and the Ministry of Transport of Georgia.

Counterparts will be expected to provide freely time for discussion, attendance at seminars, existing feasibility studies, documentation etc. An initial kick-off seminar should be foreseen early in Phase 1 of the project to widely diffuse the project programme, to prepare for broad channels of communication with local authorities, and decide the formal interfaces with counterparts.

Local counterparts will not be expected to provide routine data collection, processing or logistic support services. Local experts or Institutions must be engaged as staff by the consultant for such tasks. The evaluation of tenderers proposals will be based in part on the completeness and credibility of their dispositions to work with local entities. Time allocated to local staff (as distinct from Counterpart staff) must be clearly shown in the proposal.

EU consultants must spend a maximum of working time in the region. After no later than completion of Phase 1 of the project, the consultants Team Leader and key personnel should be permanently based in either Poti or Batumi and have permanent representation by local staff in both.

Any assemblies of counterparts or local experts within the NIS are to be arranged entirely at the expense of the consultant, including travel and accommodation of participants. Likewise office space, interpretation, secretarial services, and all other inputs required for the purposes of the work are to be provided by the consultant. Telecommunications in the region are poor and the consultant must foresee whatever dispositions are necessary to overcome such difficulties.

The consultant will be required to attend regular Co-ordination meetings in the region, to collaborate fully with the TRACECA co-ordination structure, and to attend occasional co-ordination meetings in Brussels.

#### 4.3 ROUGH TIMETABLE.

The time anticipated for the execution of the project is 12 months from inception till the submission of the draft tender documents. The Consultant will be expected to mobilise his team and start work within two weeks after contract signing. An initial planning meeting will be held with TACIS and the EBRD.

The reports at the end of each phase should be submitted as drafts. TACIS, the EBRD and the beneficiary will respond to the reports and give their instructions concerning further work within one month of the receipt of the reports. Following these comments the reports will be amended if necessary and reissued in final versions.

If it is decided, even before the submission of the reports of each phase to continue or to modify the project, the Consultant will be advised in due time in order to avoid time loss in the start of the next phase of the project.

The project schedule is as follows ( key dates are at the end of the months):

Contract signing	0
Inception Report	1,5
Phase 1 report submitted	3
Phase 2 report submitted	6
Phase 3 Final report submitted	9
Draft tender documents	12

Subsequent activities such as prequalification and finalising of the tender documents after the receipt of comments from the Owner, TACIS and EBRD will proceed in accordance with the agreed procurement schedule. This may imply an extension to the contract duration to allow for negotiations between the beneficiary and the EBRD.

The Consultant may propose the alternative schedule provided that the overall time from contract signing till the submission of the draft tender documents is not increased and the review times for the Owner, TACIS and EBRD are not reduced.

#### 4.4 GLOBAL BUDGET.

The total budget available for this project is 1.500.000 ECU.

At least 10% of the budget should be foreseen for local expert input.

The consultants technical proposal should clearly indicate the individual allocation of time to his proposed experts, and the proportion of time that each expert will spend on-site and at the home office.

## 5. REPORTING

All reports, tender documents and other deliverables are to be distributed in the numbers, languages and locations as follows:

	Bound		Loose-leaf		Diskette (Eng.+Rus)
	English	Russian	English	Russian	
TACIS Brussels	2	1	0	0	0
TRACECA Co-ordinating Team Brussels	5	1	1	1	1
TRACECA Co-ordinating Team Tbilisi	5	5	1	1	0
TRACECA CU Tbilisi	1	5	1	1	0
Poit Port	1	5	0	1	0
Batumi Port	1	5	0	1	0
EBRD	2	0	1	0	0

The word processing programme to be used will be agreed with TACIS.

The importance of high quality Russian texts, delivered on time, cannot be overemphasised..

Reporting is to be in accordance with standard TACIS Guidelines.

Additionally the consultant will be required to provide documentation to support the EBRD project development cycle which is:

Concept Clearance  
Initial Revue  
Final revue

## 6. FACTORS ENSURING SUSTAINABILITY.

### 6.1 Institutional Appraisal.

The Institutions involved are not strong and do not possess adequate resources even for their own administrative needs.

The Georgian Ministry of Transport is a new organisation which regroups previously separate entities responsible for the various transport modes.

The port authorities operate under extremely difficult technical and commercial conditions.

### 6.2 Economic and Financial Appraisal.

The port authorities have relatively small financial revenues and could not themselves provide investment follow-up to the project recommendations. Only the presence of the EBRD assures any realistic hope of the project objectives being achieved.

**6.3 Political Environment.**

The political situation in Georgia is among the most complex in the FSU, and this extends to the relationship between the ports, local and central government.

**7. ENVIRONMENTAL IMPACT.**

The Consultant shall identify the impact of the investments, developments changes in trade or modification to the existing installations and equipment. In the development of installations the Consultant should refer to the regulations applicable in the country, and the International regulations of MARPOL. In the development of container facilities, emphasis should be given to the safety regulations applicable for separation of containers, containing dangerous goods as described in the IMCO code. Special attention should be paid to fire safety and possible impact on the environment.

**8. MONITORING AND EVALUATION.**

Indicators of satisfactory progress and completion will be:

Production of the four phased progress reports and related documents, including the Master Plans and Tender Documents

Procurement and assimilation of previous studies

Establishment of adequate local offices at the ports

Engagement of sufficient and adequately qualified local personnel

Establishment of correct interfaces with beneficiary management staff at the two ports and the Ministry of Transport

Establishment of correct working relations with the EBRD, and support to their project development cycle.

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## **ANNEX B: ORGANISATION AND METHODS**

### **3. ANNEX B: ORGANISATION AND METHODS**

#### **3.1 OBJECTIVES**

##### **3.1.1 The Tacis - Traceca Programme**

###### **3.1.1.1 Introduction**

The Technical Assistance (TA) Programme for the Commonwealth of Independent States (CIS) and Mongolia has been established by the European Union (EU) to support economic growth and democratic development, based on political freedom and market oriented economies of newly established republics of the former Soviet Union. This aim shall, inter alia, be achieved with the establishment of lasting links between the new republics and the countries of the EU.

Through its supporting efforts the European Union aims, inter alia, to integrate the CIS countries into the world's political, economic and trading systems. Thus, the programme aims at developing domestic skills and know-how through the provision of advice, expertise, training and practical experience, which is required for the acceleration of the reform process. The main target areas are the sectoral institutions which need to undergo structural and organisational changes. Significant improvements in the efficiency of their management to function competently and productively by applying the principles and standards of a market based economy are required. Also included in the support programmes is assistance for the development of the private sector.

The transport sector is, among others (Human Resources Development, Energy, Financial Services and Food Distribution), a key sector for the economic development of the Newly Independent States of the former Soviet Union (FSU). Therefore, the European Union decided to place special emphasis on the reorganisation and development of the transport infrastructure and its management. In order to improve the overall system of transport and communication between the new nations and the EU Member States, the promotion of the development of Trans-European Network corridors is one of a main objective of the Tacis programme.

Hence, a conference on the development of the transport sector of the Southern Republics of the FSU and the development of the links between these republics, their immediate neighbours and with West Europe was initiated by the EU. In this confer-

ence, a common understanding that transport should be treated as a regional matter and that its development should be harmonised between the different countries developed and an agreement on co-operation in transport matters signed by all parties. The conference also promoted the idea of a trans-Caucasian route between the region and Western Europe, the Transport Corridor Europe-Caucasus-Asia (Traceca), which is considered to have fundamental potential for the future development of international trade.

Organisations, institutions and companies involved in the transport sector are supported in the various management assistance programmes within the Tacis-Traceca projects to contribute to the achievement of the above mentioned objectives.

### **3.1.1.2 Transport - a Key Sector**

In the transport sector the Newly Independent States of the former Soviet Union face severe technical and institutional constraints, especially a lack of appropriate operational transport capacity and infrastructure as well as fundamental institutional problems. These constraints hamper the states' efforts to transform both their transport systems and their economies in general and severely affect economic growth and stabilisation. As such, critical problems have emerged in the states' efforts to transform the transport sector.

The transition process from a centralised to a decentralised system by adopting the principles of a market-orientated economy requires close co-operation between individual transport modes (rail, road and waterborne) and the co-ordination of related planning and improvement activities. Since the disappearance of the centralised system, co-operation and co-ordination have ceased and productivity levels in transport services have declined along with industrial production and output. Consequently, cargo and traffic volumes have dropped significantly. Security is also poor, resulting in relatively heavy losses.

The Tacis programme focuses on the improvement of the following main activities, with the objective to encourage and develop trade and enable transport operators to make more efficient use of existing capacity by:

- The removal of transport bottlenecks
- The development of increased inter-modal traffic
- The restructuring of transport institutions including private sector development

### 3.1.2 Specific Objectives of the Project

The ports of Poti and Batumi are the main seaports of the Republic of Georgia. Due to the political circumstances and the economic breakdown of many industries since the dissolution of the former Soviet Union, the cargo turnover has considerably dropped. Thus, the ports had to bear a major decrease in income.

The Georgian ports play a key role in the transport along the Traceca route. Due to the changes in the political situation since the dissolution of the Soviet Union, composition of the cargo handled in the ports of Georgia has changed considerably concerning the origin and destination as well as the type and kind. The facilities of both ports and the commercial approach towards their customers will have to be developed accordingly, in order to cope with these new challenges. The project "Feasibility Study of New Terminal Facilities in the Georgian Ports" aims at supporting the ports in defining and justifying physical improvements by the provision of new terminal facilities and new approaches in management and operations techniques, so that in the future the ports will be better equipped to meet the requirements of the new economic situation, especially with regard to the Traceca route and the linking of Traceca with the TEN.

According to the Terms of Reference, the objective of this project is to support the Georgian ports in providing services that

- attract trade from the Traceca hinterland and elsewhere
- promote regular fast shipping links to the world markets by whatever specialised vessels that trade requires

through the realisation of modern cargo terminals.

To fulfil its intended function, i.e. to promote, facilitate and enable efficient and effective transport between Central Asia and Europe via the Caucasus, the Traceca route relies on well-functioning ports as major transport interfaces. In this respect, the Georgian ports will play a double role in future: as gateways to the world for international shipping and as a link to Trans-European Networks for ro-ro and rail ferry operations.

This role they have to play within the framework of commercial and market-oriented requirements. Therefore, in this study, all rehabilitation activities, improvements and new investments that are proposed must satisfy stringent financial demands, regardless whether the ports continue to be operated under Governmental control, are privatised as independent units or are given in parts or as a whole to private investors.



The output of the study shall be

- detailed Port Master Plans, based on a comprehensive trade and traffic forecast, an evaluation of the present condition of the ports, and an analysis of functional requirements
- phased development plans, based on forecasted needs and the ports' financial abilities
- proposal for alterations to management structures and systems in line with the proposed developments and with market requirements
- detailed suggestions on the introduction of private investors for infrastructure financing
- engineering designs and tender documents for new facilities
- an evaluation of the ports' financial standing and suggestions for the improvement of bookkeeping and financial management
- legal documents for concessions and/or privatisation

The project will also assist the ports in procurement and contracting.

## 3.2 BACKGROUND

### 3.2.1 Introduction

Within the Caucasus region, Georgia is a country with a good economic potential. Being nearly self-sustained in agriculture and having diversified industries with a big potential of high-skilled workers and engineers, the principal economic prerequisites for a rapid development are doubtlessly favourable. On the other hand, there are major difficulties which let to a sharp deterioration of the industrial output and of the Gross Domestic Product.

The armed conflict with Abkhazia became a great drain on the national budget. Worse than the economic burden of the military conflict itself is the fate of thousands of people, who became refugees. As the help of the international community for

these refugees was comparably small, Georgia also had to carry the cost burden to feed and to habitat them.

The second major difficulty for the economy was the collapse of the inner-CIS trade which followed the dissociation of the USSR. The former USSR principle of division of labour, which saw to it that no one province or republic was to have the means of manufacturing sophisticated products from components produced within that province or republic, has come to an abrupt end. Consequently, many assembly lines stand idle in Georgia since the flow of components has been disrupted, not least because the various members of the CIS now regard each other as foreign countries, expecting payment in hard currency and levying import duties on goods that before moved freely and unimpeded inside the former USSR.

Thirdly, the economic policy of the Georgian Government for some time tried to maintain mechanisms from the times of the planned economy, which hindered a quick development of market-oriented activities. Examples are the state order system, price and enterprise subsidies, government guarantees for energy imports and weak tax and budget administration and implementation.

The above mentioned facts, together with a disruption of trade routes by conflicts in neighbouring countries, caused economic activity to decline in 1994 to less than a third of its level in 1990. Massive financial imbalances emerged and the economic situation of the country deteriorated rapidly. Through great efforts of the Government and with international fiscal assistance a stabilisation process began in the second half of 1994 and, after the elections in 1995, improvements were apparent.

### **3.2.2 The Georgian Economy in Transition**

The Government's present strategy aims to promote economic growth, consolidate stabilisation and accelerate the transition to a market economy.

A strong upswing in economic activity is expected for the near future. Economic growth will depend on the recovery of agriculture, stronger private activities, especially in the service sector, foreign investments in agriculture, energy and transport, rehabilitation of the pipeline for the transshipment of oil from Azerbaijan and improved availability of natural gas and petroleum products.

Presently, the Government is privatising about 6,500 small-scale enterprises and about 325 medium- and large-scale enterprises and intends to finalise this process

by the end of 1997. In addition, the Government intends to make the legal framework for foreign investors more liberal and transparent.

The transport sector has experienced a severe decline in recent years due to lack of appropriate organisational and policy structures as well as effective cost recovery and resource mobilisation mechanisms. The Government's priorities are privatising or commercialising sector enterprises and achieving cost recovery for transport services. To reach these objectives the Government has already started a privatisation programme in the air, road and port sub-sectors. The remaining state enterprises are expected to work under commercial principles without budgetary assistance.

In short, the Government's objective in the transport sector is to restructure the sector to serve market needs by privatising transport enterprises, implement cost recovery mechanisms and rehabilitate infrastructure.

The necessary expenditure will need to be financed from external sources and international aid and grants.

### **3.2.3 Transport**

During the times of the Former Soviet Union (FSU), the transport system focused on inner-FSU trade and on the transport mode rail. Accordingly, overland road infrastructure is generally poor and rail connections to former non-Soviet countries like Iran or Turkey are either missing or hardly maintained.

Georgia's main rail tracks go from Poti/Batumi via Baku to Russia, a routing which was used in former times to serve the whole Caucasus region, i.e. Georgia, Armenia and Azerbaijan and, therefore, had a strong transit component.

Since the dissociation of the Soviet Union, several political conflicts in the region hindered the available transport routes:

1. Within Georgia, there was civil unrest up to 1993, which blockaded the access to the Georgian ports at the Black Sea and, therefore, hindered transit trade to Azerbaijan and the Central Asian Republics. Since 1994, this conflict is being solved and the use of the Traceca route has increased considerably.
2. The conflict between Azerbaijan and Armenia blocked the rail connections to Iran and trucking substituted rail.

3. Finally, there is the conflict concerning Chechenya, which blocked the rail connection to Russia. In order to solve this difficulty Russia already started to construct a 80 km long by-pass, which would avoid the use of Chechenyan territory.

Regarding the Georgian ports, the above mentioned blockades and disturbances had several adverse effects on the handling volumes. Especially, the difficulties within Georgia let to a shift from international transports via the trans-Caucasus route to the use of the Volga-Don canal. Consequently, river-sea going ships with cargo destined to or originated in Inner Asian countries sailed directly from Turkmenbashi or Aktau to overseas destinations and the transit volume via the Georgian ports became negligibly small.

Political and technical problems concerning the use of the Volga-Don canal and the political normalisation processes in Georgia and between Azerbaijan and Armenia have re-established the trans-Caucasian route and shipments via Georgian ports started to recover. Consequently, a recovery and growth of the transit volume handled by the ports can be expected.

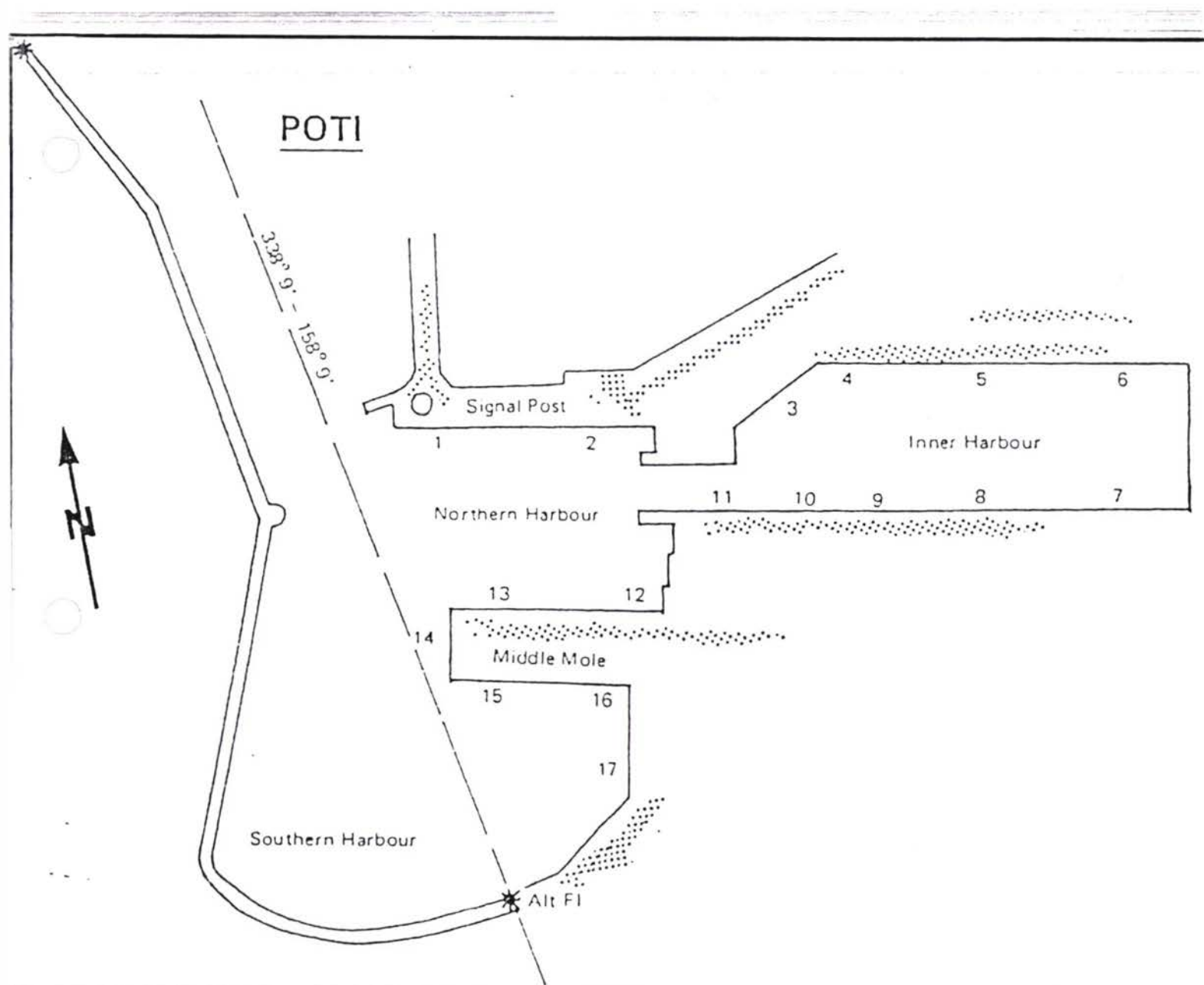
### 3.2.4 The Ports of Poti and Batumi

The Georgian Ports of Poti and Batumi are situated on the eastern shore of the Black Sea. They are the western nodal points of the trans-Caucasian railway, connecting the Black Sea with the Caspian Sea. Before independence the ports handled between 10 and 12 million tonnes of cargo. Operations were characterised by

- the handling of bulk cargoes which accounted for close to 100% of all cargo handled
- the focus on an inbound transport direction for dry cargo (about 95%)
- a transit function to other Soviet states (about 85% in value terms)
- a railway-based land transport system (about 99%).

Total cargo volumes handled dropped sharply after independence and reached a low of about 2.4 million tonnes in 1994; if one disregards humanitarian aid cargo as politically induced cargo, the turnover in 1994 was as little as 0.7 million tonnes.

The **Port of Poti**, located on the more northern part of the Georgian Black Sea coast, is the larger of the two ports. It is accessed by a 1900 meters long approach channel with a design depth of 12.5 meters. The port has four harbour basins with 15 berths in total. Eleven of these berths are used for cargo handling, three for passengers and laid-up vessels and the remainder is a grain terminal. All berths are characterised by very narrow aprons and rail lines between the quay and the sheds, reflecting the former operating philosophy of direct rail loading and discharging. Often, the aprons are not surfaced and, therefore, unusable for road transport.



The berths are served by 38 harbour cranes in various stages of disrepair. There are also about 20 forklift trucks, 13 shovel loaders, six terminal tractors and a number of ro-ro trailers.

The port has five cargo warehouses, ranging from 500 to 8700 sqm, of which only one appears to be useable, with reservations, for modern cargo operations.

Also, the port features a container terminal with two cranes with 20' and 40' spreaders. These cranes are used for loading and discharging vessels, rail cars and trucks and for stacking full containers in the yard. Further, a liquid bulk terminal with temporary oil handling installations and a grain terminal with two pneumatic grain dischargers are located in the port.

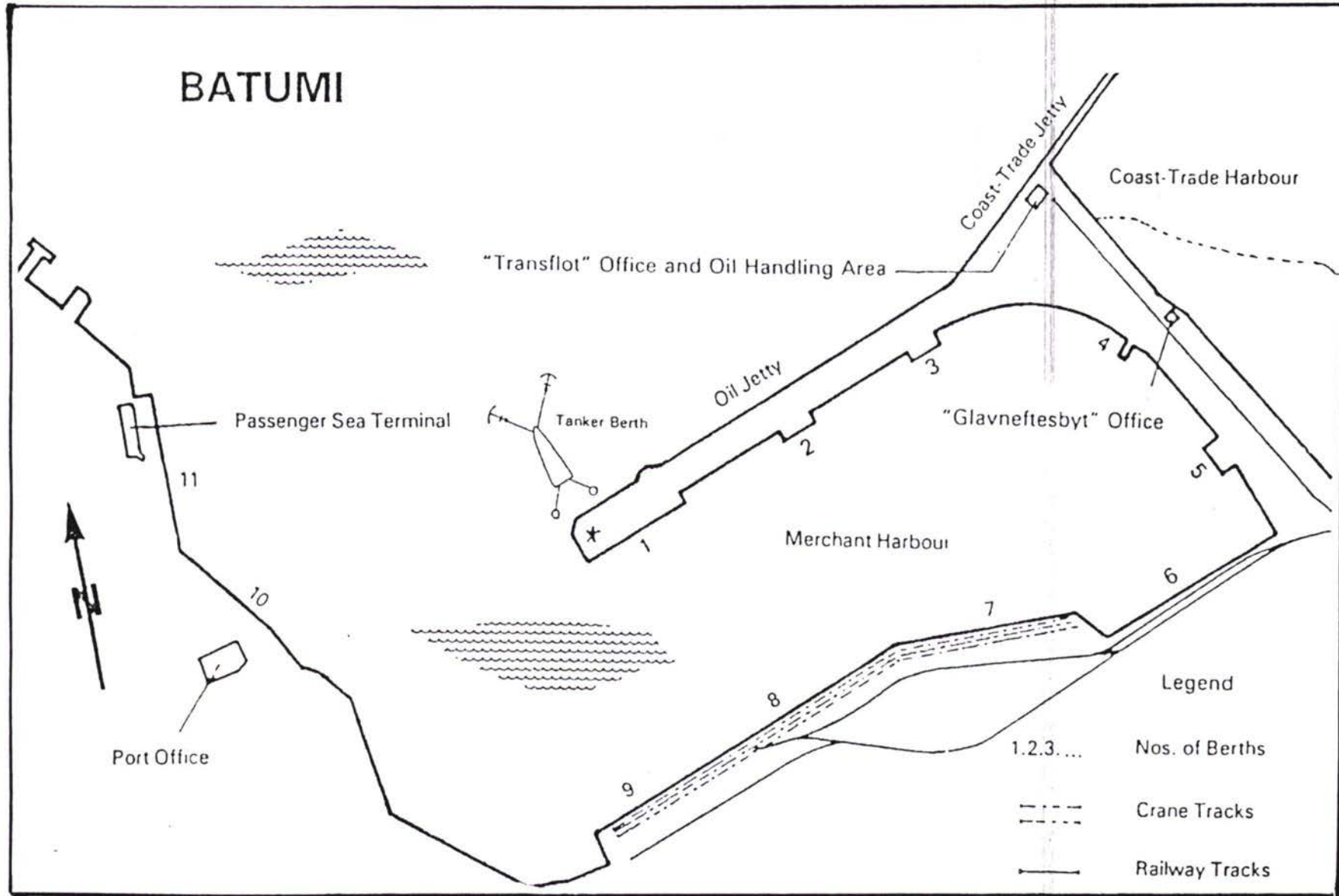
The **Port of Batumi**, located on the southern part of the Georgian Black Sea coast, is the smaller of the two ports.

Its approach channel is only about 150 meters long with a depth of over 15 meters. The port has one harbour basins and 12 berths in total. Nine of these berths are located inside the harbour basin and used for cargo handling, two are located outside the basin and used for passengers, the remainder is an offshore berth for oil tankers. All berths are characterised by very narrow aprons and six of them have rail lines between the quay and the sheds, reflecting the former operating philosophy of direct rail loading and discharging. Most of the aprons are not surfaced and, therefore, unusable for road transport.

The berths are served by 12 harbour cranes in poor technical conditions. There are also about 27 forklift trucks, 11 shovel loaders, two agricultural tractors.

The port has seven cargo warehouses, ranging from 250 to 2900 sqm, of which only four can be considered usable, with reservations to efficiency, for modern cargo operations.

Also, the port features an oil terminal, occupying five berths and an offshore mooring point. Further, a grain terminal with two pneumatic bulk cargo dischargers is located in the port.



### 3.3 SCOPE OF WORK AND METHODOLOGY

#### 3.3.1 Underlying Principles of Work

The planning, development and subsequent implementation of improvement measures within the Georgian ports should be governed by, inter alia, the following underlying principles:

*The key function of transport for effective trade*

Efficient transport capacity and services are a prerequisite for the effectiveness of regional trade, foreign trade with Western Europe in particular and with the world in general, which in turn are vital for the economic growth and stabilisation of the economy of Georgia and the region.

*Reorganisation and commercialisation must be in line with the country's economic reform programme*

The improvements in the Georgia ports should be in line with the objectives as adopted for the on-going economic reform process in order to increase the system's service quality and productivity levels.

*The requirement for regional co-operation and modal co-ordination*

The development of the Georgian ports should be harmonised and co-ordinated with similar efforts undertaken by neighbouring countries in the region, in order to enhance regional stability and to encourage and facilitate foreign trade. Co-ordination of planning and activities among the ports and all transport modes is urgently required in the course of development.

*The requirements for transfer of know-how and experience of the EU*

The objectives established, the know-how accumulated and experience gained in the EU and its efforts to establish a "future development of a common transport policy in the EU" and other similar development programmes should be applied the project, as far as possible in this rather early stage of modern transport development in Georgia.

*Extended use of existing capacities and services*

Emphasis shall be placed on the use and improvement of existing port capacity, rather than on investment in new capacity. This will necessitate the advancement and, to a certain extent, the remodelling of institutions and services through appropriate improvement measures.



### *Incorporation of work results of previous and on-going similar projects*

The experience, results and conclusions achieved in the Tacis Programme to date, including the conclusions of Conferences organised by the EU and their related resolutions as agreed upon as well as the results of numerous studies and consultancy assignments, will be integrated into the project work.

The principles and methods of regional transport systems and network planning, the improvement and extension of multi-modality in cargo traffic, the diversification of modern port services and logistics, the protection of the environment, increasing traffic and work safety, effective measures of trade facilitation as well as the principles of free trade as adopted in and promoted by the EU for a common transport policy will thus bear on the work to be effected within the frame of this project.

Project organisation and work methods need to be practical in their approach, consistent in planning and realistic in results and conclusions. Only then will the required outcome and the efficient implementation of improvements and strategic plans be achieved. The aspects of work approach, planning consistency and practicality will be closely related to the project tasks. At the same time, possible constraints and time requirements should be recognised in the Consultants' work performance which may be due to logistics, given particular requirements of the authorities in Georgia and the EU. This will require the Consultants to maintain a high degree of flexibility in the delegation of experts and in their work execution. Nevertheless, the Consultants expect to meet the objectives of this feasibility study programme within the proposed project duration of 12 months.

The work to be carried out comprises four specific phases:

- To evaluate earlier studies on track and transport as it effects Georgian ports, to comment on the competitive and complementary environment of the ports, to define principle traffics and route connections between Traceca and TENs, to review the ports' facilities and define their functional requirements, to forecast future traffic and its implication of the port and to assess environmental effects.
- To prepare Port Master and phase development plans, to investigate financial implications of the proposed development, to recommend improvements to management and staff and to advise on the feasibility and scope of private sector involvement in the ports.
- To prepare ongoing designs and outline specifications for civil works and

cargo handling equipment, to prepare bankable documents and assess the ports' credit worthiness, to prepare - if required - tender documents for private involvement and assist in a tender process.

- To prepare tender documents and assist in shortlisting and bidding.

### 3.3.2 Comments on Approach

This section of the proposal sets out details of the working methods that will be adopted for the project, together with the rationale behind them.

From a work point of view the project will be broadly divided into four parts:

1. Inventory of the existing situation
2. Design of Port Master Plans
3. Investigation of the financial, fiscal and organisational consequences of the future development
4. Production of tender documents

It is appreciated, however, that there is a close interrelationship between the four phases and the tasks of the experts, and thus activities in each phase would be closely co-ordinated. Close contact would also be maintained with any organisation working on other relevant Technical Assistance projects.

Each phase is discussed more in detail below, preceded by some general comments on the approach to be adopted.

#### 3.3.2.1 General Remarks

A project like the present one shall on one hand yield the anticipated results, on the other hand transfer some knowledge and experience to the beneficiaries. The study results can be attained without great problems; the successful transfer of knowledge is not that straight forward. It can be reached when the experts in the ports start to "own" the project, when they understand what is being done and why. To aid this process we plan three courses of action:

At the beginning of the works we will conduct a project planning work in each port, where the experts and their counterparts plan the project in a structured and comprehensive manner. These workshops will be followed by a third one, integrating the results of the earlier two and being additionally attended by personal of the Ministry of Transport and other bodies (see section 3.4.2 for further details). Thus, everybody

concerned with the project in one way or another will receive very early all necessary background information and a good impression of the work at hand.

1. We will station one Senior Port Development Expert permanently in each port, at least for phases 1 and 2. In phase 3 there will be an alternate presence in each port, while in phase 4, when most of the work to be done will be done in the experts' home offices, the ports will be regularly visited by one of the Port Development Experts.
2. We learned in other Traceca projects that presence on location is very important for the development of trust between the experts and the local decision makers. We, therefore, obtained the agreement from both ports that they will make office accommodation available for our team in the port buildings, close to the offices of the directors and engineers concerned with port development projects.
3. Further, we plan to execute a major part of the works on location, to stay in contact with the ports and participate in the common business, learning to understand the physical, the professional and the emotional environment they have to perform in.

Also, we will integrate local experts from the International Business Planning and Development Institute in Tblisi extensively into the team. As we have already worked with the Institute and some of the nominated experts on an earlier project, we feel quite confident that their professional knowledge and experience together with their local knowledge and understanding will have a beneficial influence on the project.

If the project develops according to the Terms of Reference, the Phase 3 Report will be a very important document, as the decisions made on the basis of it will have major consequences. For this reason we plan a comprehensive, formalised presentation of the results to all those who are concerned with or involved in the further development of the project (see section 3.4.3 for further details).

### 3.3.2.2 Phase 1: Review and Forecasting

The Georgian port presently go through a tremendous change. From centrally administered entities that where bulk handling dominated, import orientated , focused on one inland transport mode (rail) and imbedded in a regulated national transport system they have to develop to market-oriented enterprises, handling all kinds of cargoes, serving all means of transport, and fighting for their position in a competitive

and volatile freight market.

As there is no past experience to fall back to, neither in commodity handling nor in judging trade and traffic developments, the ports need assistance in traffic and trade forecasting, in the evaluation of transport costs and in designing commercially-viable development proposals.

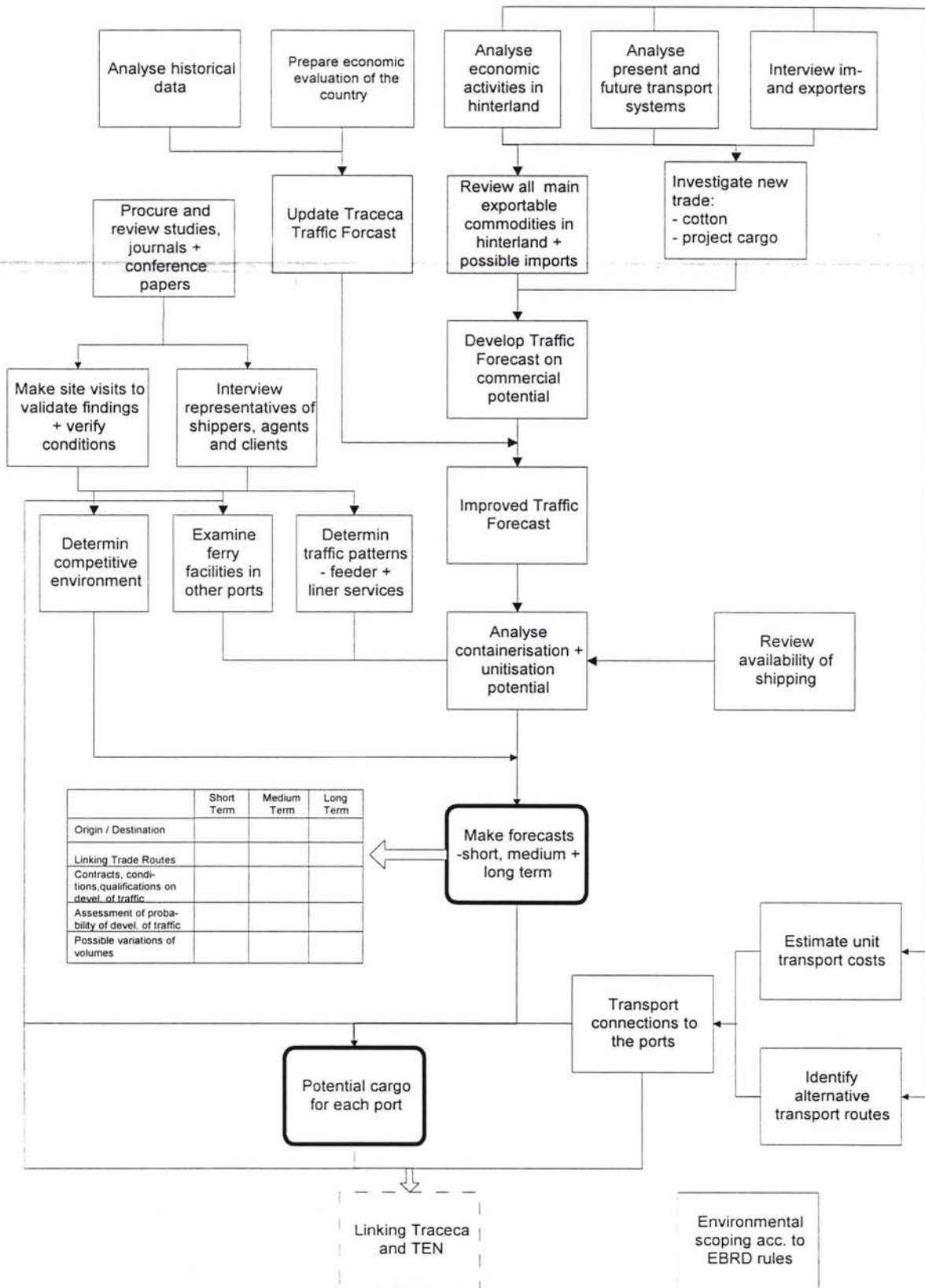
The EU, further, requests advice on the interlinkage of the Traceca system with the Trans-European Networks.

The individual work steps of this work package and the way they interlink are shown graphically in the following figure.

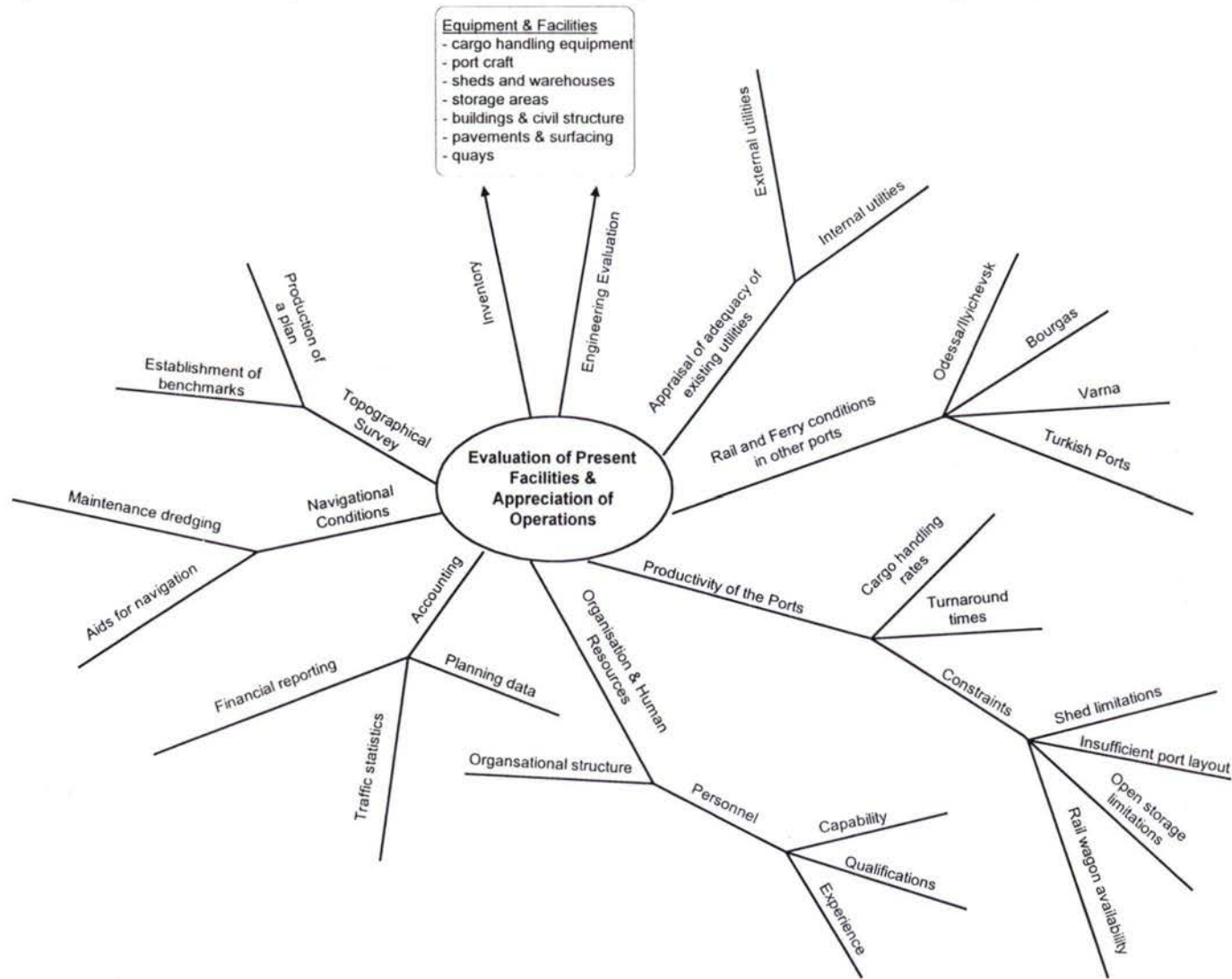
The traffic forecast will be conducted according to internationally accepted professional methodologies. The results of traffic forecasts conducted in other recent Traceca projects, especially the Port of Baku Development Project and the Black Sea tanker traffic project, will be duly considered. It will be backed up by interviews with decision makers in the transport industry around the Black Sea and in areas, where cargoes that pass through or could pass through the Georgian ports, originate or are destined to. These results will be used to develop options for the development of the Georgian ports.

In our work plan we have assumed that the Traceca Regional Traffic Database and Forecasting Model is operational as planned and available for this study.

Phase 1

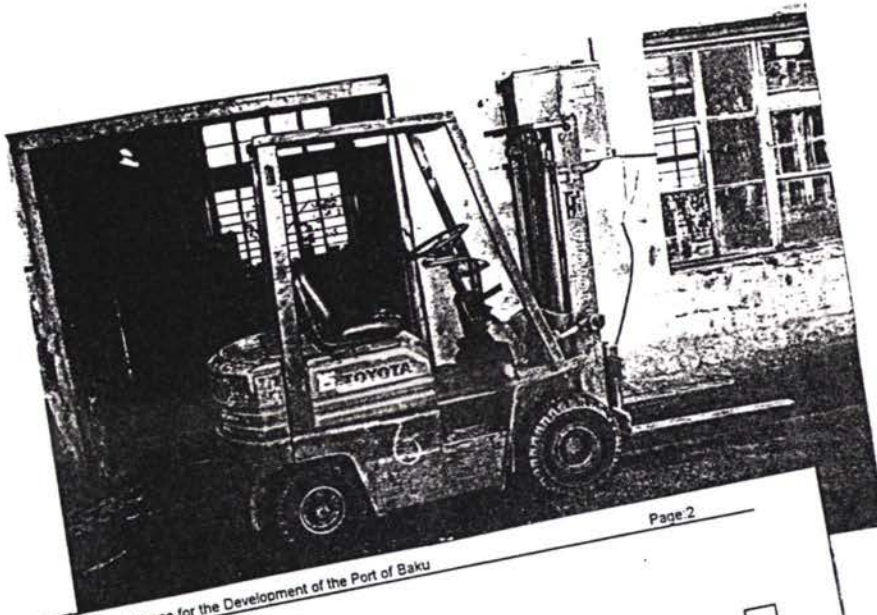


Our Port Development Experts will conduct a very detailed evaluation of the present facilities of both ports and an appreciation of operations. The conceptual model of these investigations is shown in the figure hereunder.



An important part of this evaluation will be an assessment of all facilities and of all equipment in the port, in a similar way as we did it in the Baku project. Based on a standardised evaluation sheet, each unit is inspected, the condition and other relevant facts are noted, a photographic reference is taken and an assessment in respect of reparability made. If the unit needs repairs or rehabilitation the estimated costs are assessed. **The output of this task will be a detailed register and condition report of all equipment and facilities** that can serve as background material for loan or grant negotiations, for repair and rehabilitation tenders or as a port-internal inventory.

Item No: 6  
 Номер наименования: \_\_\_\_\_



Page 2

Tacis - TRACEKA Technical Assistance for the Development of the Port of Baku

6. Cables/Chains (Lifting) Кабель/Цепи (Подъем)  
 General Condition: Общее состояние good: хор

7. Necessary Repairs / Rehabilitation Необхо

8. Comments:Комментарии:

No check on functions.  
 Engine is ready to work but could not st

9. Recommendations for Рекоме

Rehabilitation: Реконструкция:  
 Replacement: Замена:

10. Value / Cost Стоимость

Rehabilitaion  
 Replacer

Equipment Assessment - Port of Baku - Оценка состояния оборудования - Бакинский порт

Item No: 6 Department: OPERATIONS  
 Номер наименования: \_\_\_\_\_ Отдел: General Cargo Complex

Type of Equipment: Forklift  
 Тип оборудования: \_\_\_\_\_

Asset reg. No.: 55  
 Регистрационный номер основных средств: \_\_\_\_\_

Manufacturer: Toyota  
 (Фирма)Изготовитель \_\_\_\_\_

Type: 025 FD 15 (1,5 to)  
 Тип: \_\_\_\_\_

Serial No.: \_\_\_\_\_ Year of Construction: 1990  
 No. серии: \_\_\_\_\_ Год постройки: \_\_\_\_\_

1. Chassis Шасси

General Condition: Общее состояние good: хорошее:  fair: среднее:  poor: плохое:

2. Cab Кабина

General Condition: Общее состояние good: хорошее:  fair: среднее:  poor: плохое:

Wiring Электропроводка good: хорошее:  fair: среднее:  poor: плохое:

Instruments Инструменты good: хорошее:  fair: среднее:  poor: плохое:

Glas Окно кабины good: хорошее:  fair: среднее:  poor: плохое:

3. Engine Двигатель

General Condition: Общее состояние good: хорошее:  fair: среднее:  poor: плохое:

Wiring Электропроводка good: хорошее:  fair: среднее:  poor: плохое:

Lines and hoses Трубы и шланги good: хорошее:  fair: среднее:  poor: плохое:

Exhaust Выхлопные газы smoke: с дымом:  no smoke: без дыма:

Servicemeter Измеритель рабочего времени yes. reading: да, чтение:  05321  no: нет

4. Hydraulic Гидравлика

General Condition: Общее состояние good: хорошее:  fair: среднее:  poor: плохое:

Pumps Насосы good: хорошее:  fair: среднее:  poor: плохое:

Hydraulic cylinders Гидравлические цилиндры good: хорошее:  fair: среднее:  poor: плохое:

Lines and hoses Трубы и шланги good: хорошее:  fair: среднее:  poor: плохое:

5. Power Train, Tyres:Привод, Шины

General Condition, Общее состояние good: хорошее:  fair: среднее:  poor: плохое:

Tyre tread left in % Остатки резьбы в % 100  75  50  25  0



Other major output to be achieved and, according to the ToR not only important for the Georgian ports but for the entire Traceca system, are recommended actions to reinforce closer and commercially more attractive links between Traceca and the Trans-European Networks.

In order to develop well founded and realistically achievable recommendations we will perform a computer simulation. The basis of the simulation is a multimodal transport simulation tool that has been developed by Dornier SystemConsult within the ESPRIT-project LOCOMOTIVE and is exclusively at our disposal. As this tool contains already all relevant European multimodal networks it is only necessary to generate and enter the data for the Traceca countries and adapt the simulation runs accordingly. We believe that the results will constitute a very reliable and comprehensive decision basis for the further development of Traceca.

A special item to receive attention will be an investigation into the feasibility of constructing a transshipment and warehousing facility for cotton in one or in both of the ports. As the port experts in the team have practical knowledge and experience in the handling of cotton from their home ports, an efficient and appropriate facility could be proposed rather quickly, once the economic justification has been established.

We understand that the results of the Phase 1 investigations are of a decisive nature for the following steps of the project and that there might arise the necessity to re-orientate the focus of the assignment. We accept this qualification and agree with it.

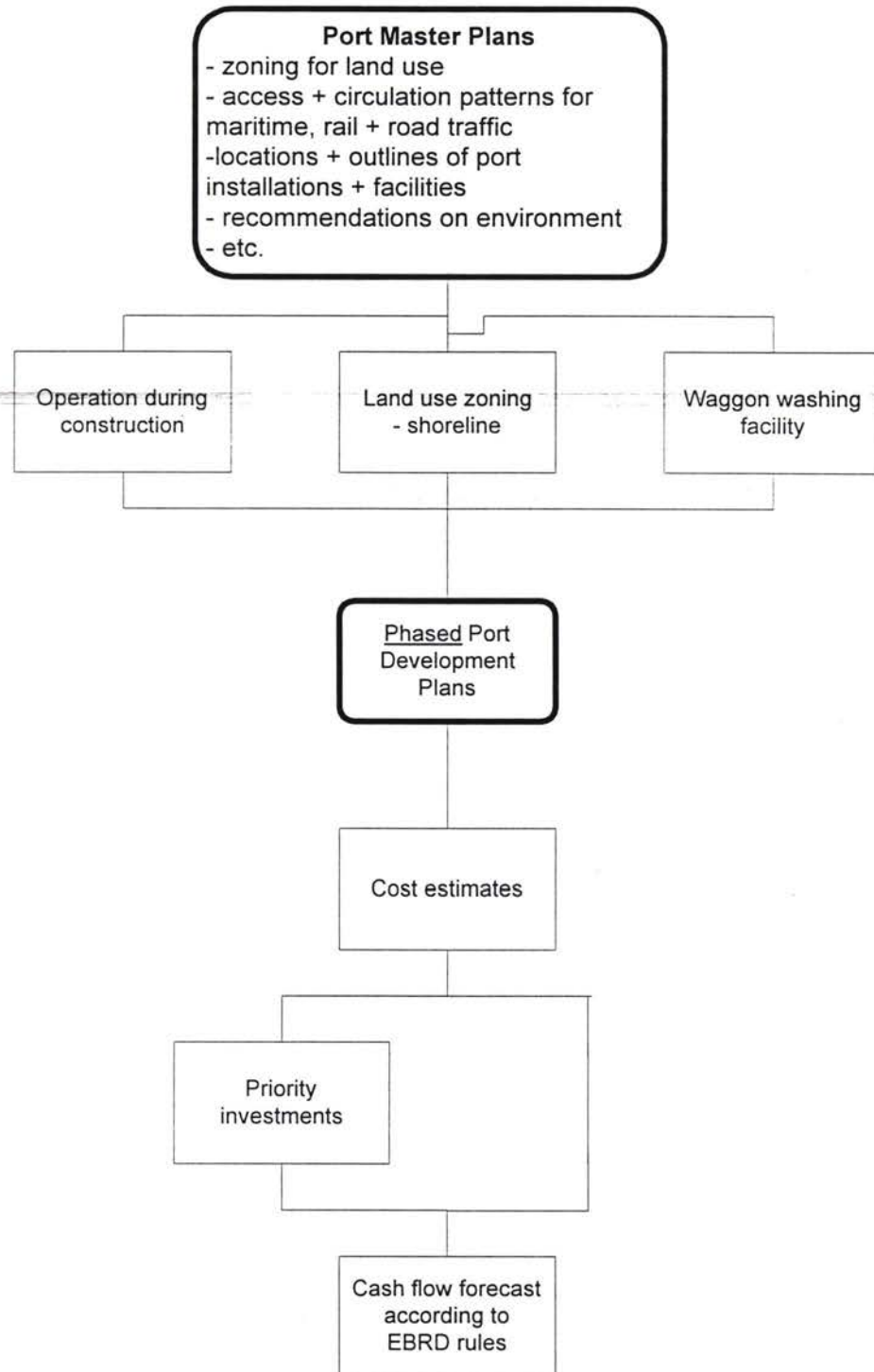
### 3.3.2.3 Phase 2: Port Master Planning

The results of the Phase 1 investigations will be the input of Phase 2, should investments be justified.

The main activity of Phase 2 will be the preparation of a physical master plan of each port. Based on this plan and on the outcomes of advice on land-use zoning, development of procedures for unhindered operations during construction and the assessment of the construction of a wagon washing facility Phased Port Development Plans will be established including cost estimates. At this stages we expect the cost estimates to be correct within a range of +/- 20%.

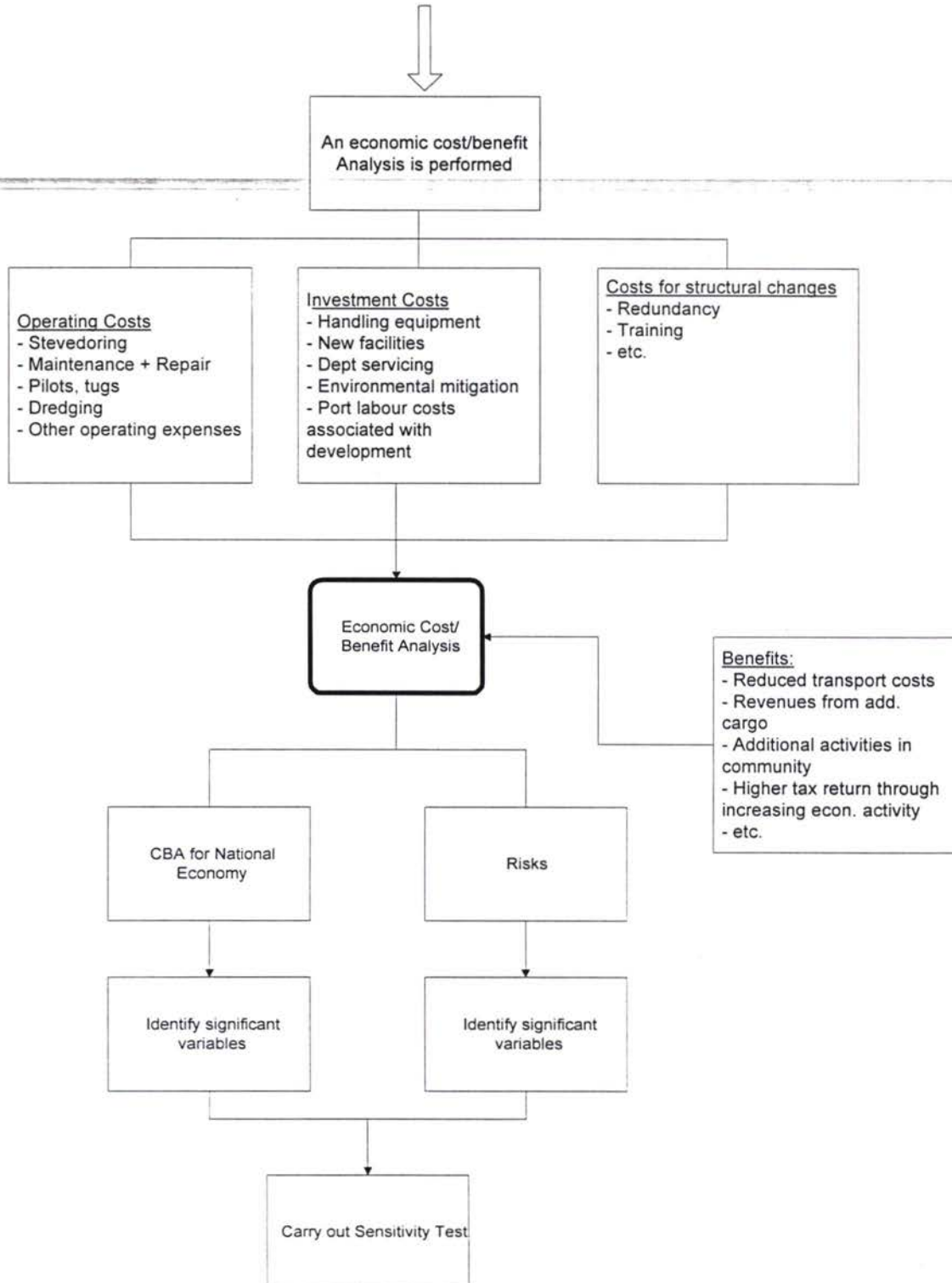
The cost estimates will be used to decide on priority investments and to prepare a cash flow forecast. This forecast will be according to EBRD rules as it is anticipated that the EBRD might be interested in financing part of the development project.

## Phase 2



Next, an economic cost/benefit analysis on the proposed investments is performed. We will not only consider the traditional cost (operating, investment, etc) and benefits, but also costs that may arise through redundancies, additional training needs, disposal of property, disengagement from unprofitable business entities, etc. To get a feeling for the rigidity of the proposed investments a risk analysis and a sensitivity analysis will be conducted.

Phase 2

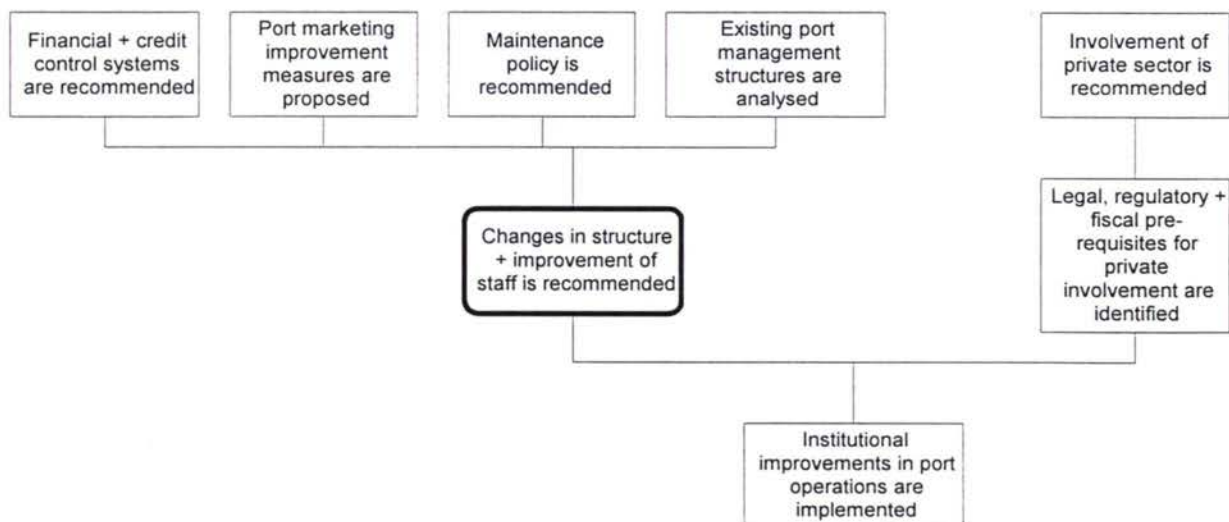


As not only investments in equipment and infrastructure will be necessary to improve

the ports' performance the experts will also have a close look at the organisation and the management structure and assess in how far changes and improvements are required to make the ports responsive to commercial requirements. The experts will also propose improvements in port marketing and recommend suitable financial and credit control systems. Based on his findings in Phase 1 the cargo handling equipment engineer will propose a new maintenance and spare parts acquisition policy.

Another important aspect concerns the involvement of the private sector in the ports. As the Georgian economy is still in a transitory phase it might be impossible to attract private investment right away, especially for BOT or BOAT schemes. Nevertheless, such possibilities will be closely investigated. A more gradual way, like private participation without great investment outlays might be a more appropriate way. Anyhow, the experts will assess possible options, define functional activities that could be attractive to private investors and advise the ports on the necessary selection procedures.

#### Phase 2

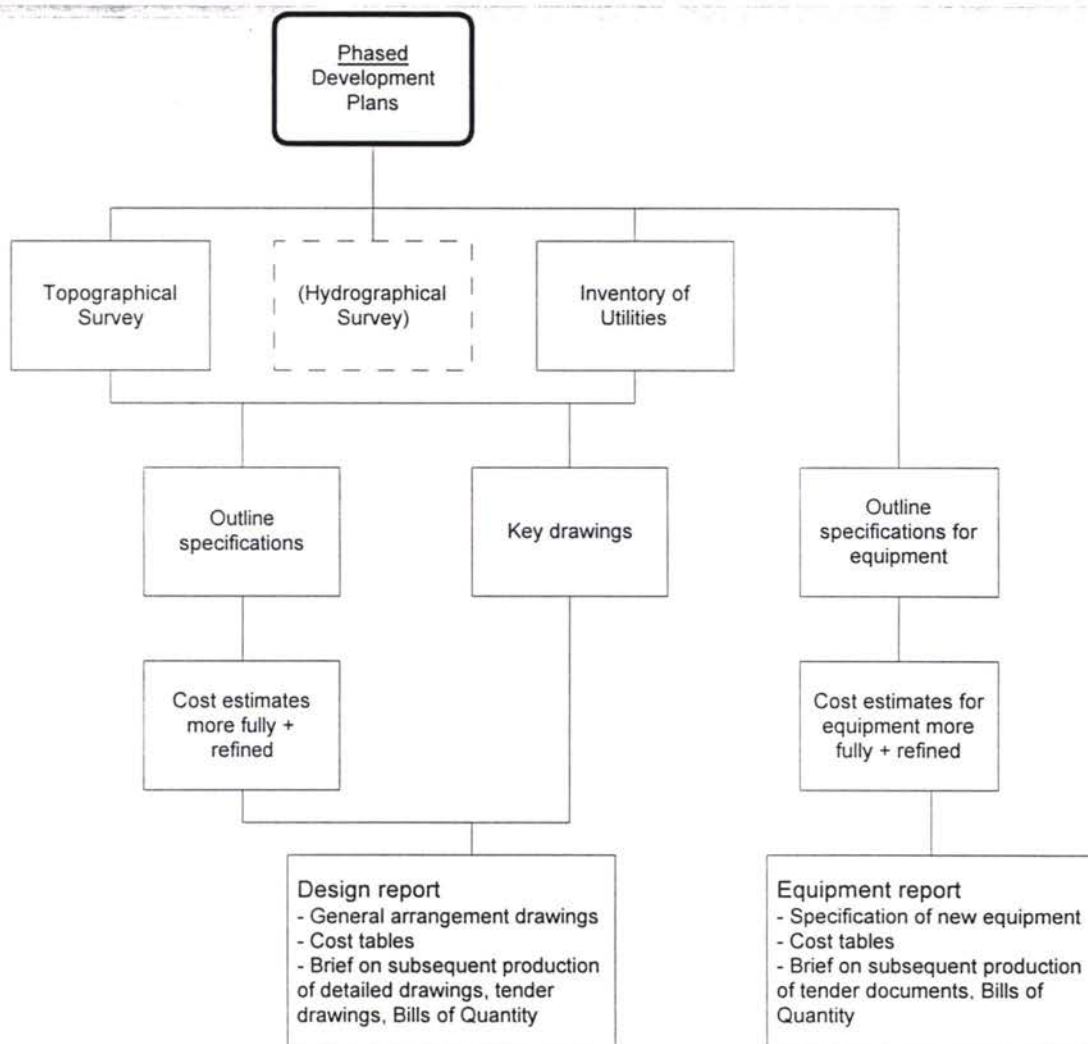


The output of Phase 2 will be the port master plan together with all the supporting documentation on economic and financial analysis, cash flow investigations and sensitivity analyses, recommendations on priority investment, prepared in a form that can be used for discussions with the EBRD or other possible investors/financiers, and on those items that should be the subject of the remainder of the study.

### 3.3.2.4 Phase 3: Preliminary Design and Outline Specifications for Tender Documents

In Phase 3 the main work will be the preparation of preliminary designs and outline specifications for the identified selected developments. Topographical surveys will be conducted, other surveys are not foreseen at this stage. The cost estimates of phase 2 will be refined further and made more detailed. The results will be incorporated in a design reports as detailed in the ToR.

#### Phase 3



As the proposed investment will most certainly be financed by grant or credit the financial analysis for phase 2 must be extended into **financial accounts** for both ports. The experts will also advise on tariffs, fees and rental charges as well as on the collection and analysing of statistical information.

### Phase 3

Amplify + extend financial analysis:  
- Balance sheets  
- Profit + Loss Account  
- Source + application of funds  
- etc.

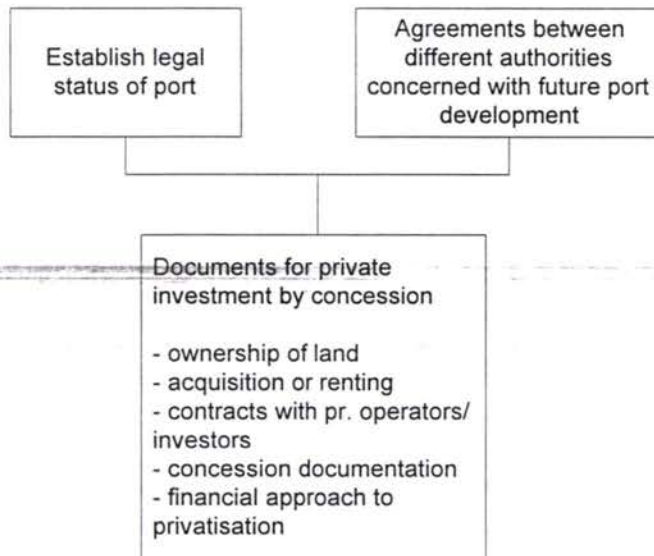
Review tariff, fee + rental  
structure of the ports

=> recommend changes

Recommend on statistical  
information on port  
operations

An important activity of this phase is the continuation of earlier legal work. Before recommendations on this respect can be made the experts will analyse the strengths and the weaknesses of the present situation, taking current developments and planned changes in the legal environment of Georgia into account. The experts will describe the institutional frame work and the relations of the ports with its various stake holders before making a detailed comparison of various models and structures of port administrations that function in market-economic environments, especially in the European Union. An evaluation of the respective merits of these models will be made in close cooperation with the decision makers of both ports. As the GTZ-study has done considerable in respect already the experts will focus on those points the decision makers of the port wish to concentrate on.

### Phase 3



#### 3.3.2.5 Phase 4: Detailed Design and Production of Tender Documents

Phase 4 serves for the detailed design of the proposed first phase developments and the production of tender documents for international competitive bidding, according to established international rules (Tacis, EBRD, World Bank, etc). Also, assistance in tendering, bid evaluation and contracting/purchasing procedures will be given.

In our opinion the requirements for rehabilitation and construction in the Georgian ports are quite considerable. If and when these can be realised will depend on the outcomes of the traffic forecast and the financial evaluations, as all investment must be closely related to market requirements and financially viable. On the other hand it might be necessary to set signs to port users for attracting them to the ports by small but effective investments in new or specialised facilities. This is what we consider the first phase developments.

This project is mainly concerned with the improvement of cargo handling making equipment and facilities available. But, the handling of cargo is not an end in itself, it must be seen as one link in the chain of logistics. The world's industrial, agricultural, mining and trade demands require logistics and transport to be carried out on the basis of reliable, secure and cost effective services.

This aspect is the more significant as Georgia's economy and the economies of the Traceca countries are still in a crucial stage of reform and development. Every effort to stimulate, stabilise and secure the on-going reform process must be made. Trade, especially foreign trade, including the effective distribution of commodities at either end of the transport chain is of immense importance to support economic reorientation efforts. The aspects of information handling and telecommunication, documentation, customs procedures, banking and forwarding, co-operation and co-ordination in transport planning and development, organisation and management, etc. will in terms of priority be as important as the development of physical elements and components, such as capacity and operational methods, in transport and logistics services. Apparently, other projects earmarked for the Georgian ports sector will address these issues. Should that not be the case and the findings of the current project warrant it, there should be a relocation of tasks to cover these points also.

### 3.4 Overall Working Programme

#### 3.4.1 Team Composition and Tasks Assignment

The Consultants consider that the expressed aims and objectives of the European Commission, as indicated by the comprehensive nature of the Terms of Reference, can result in a significant improvement of the competitive potential of the port in realigning its competitive position in the regional redistribution of market shares.

In view of the importance of the planned project the Consultants, therefore, propose to comply with the expressed and implied requirements of the Terms of Reference by providing the following categories of expertise:

#### **Port Development Experts**

We propose to nominate two Port Development Experts, one for the Port of Poti, who will also act as Team Leader, and one for the Port of Batumi. Both experts will be stationed in their respective ports, at least in Phase 1 and 2. Depending on the outcome of the investigations and the locations of the proposed development projects, in Phase 3 one of the two experts will be in Georgia at any one time, looking after "his" port, but giving attention to the other port also.

Both experts are persons that are skilful and experienced in the conceptualisation



and formulation of strategic views, economic long-term and short-term plans, investment proposals and organisational changes. They have ample experience in producing port master plans and in advising ports and transport undertakings in the transformation process from centrally-planned administration to market economic enterprises. Both are former Master Mariners and have acted as team leaders and senior advisors in many international port development projects.

The experts nominated as the team leader has from his professional background and past experience an in-depth knowledge of the maritime system of the former Soviet Union as well as practical experience with the western market-oriented system. As he has worked in many advisory and project managing capacities similar to the one of this project, he possesses the necessary diplomatic tact and sensitivity to advise on necessary changes without hurting the feelings and the pride of his partners.

He is of sufficient professional standing to defend his opinions and proposals but he is, on the other hand, very able to work in a team, to reach consensus and to respect mutual decisions.

We felt it very important to have a personal presence on location for as long as possible and therefore selected candidates for the above positions who have the professional experience and knowledge to work in different professional specialities. In this project they will perform several related professional tasks in close co-operation with their colleagues. Their main activity will be that of a Port Master Planner. They will also bring port operations and port organisation expertise to the project.

They will lead the team of experts, ensure that all tasks are performed in a coordinated manner, avoid duplications or omissions, assist the experts in collating their work into one comprehensive report and responsibly draw conclusions and develop recommendations.

## Economists

As this project demands considerable economic analysis work, both for trade and transport, and as the results must be available in relatively short time, we propose several economists for the task. Each economist will work on a specific subject area but he have made sure in our selection that they all have some knowledge of the specialisation of the other to reach a close working relationship between them.

Most of the work will be done by the Port and Shipping and by the Transport Econo-

mist. Both are experts in their sphere of work but have also worked in the others area of interest and are, therefore, well prepared to develop a common understanding of the project's requirements and prepare a joint traffic forecast. Their task is rather complicated because of factors discussed earlier and **it involves a lot of travel and interviewing.** Should we for any reasons experience any time delays we will add a third economist to the project to assist the others and keep the project on schedule. He, too, has worked in various fields of economic and transport investigation and will complement the other two perfectly. **The Port and Shipping Economist has worked already in Georgia,** the other two in other Traceca countries.

There is a fourth Economist in the team, responsible for the transport simulation concerning the linking of Traceca with TEN. He has developed the simulation model we propose to use and has a long-standing experience in modelling traffic and trade flows and in designing simulation exercises.

### **Cargo Handling Equipment Engineer, Procurement Expert**

The Cargo Handling Equipment Engineer survey all equipment and prepare a condition report on his findings together is a photographic registry of all units. Based on his findings he will prepare outline specifications for new equipment purchases and engineering designs for equipment rehabilitation projects. Together with the Procurement Expert he **will prepare final tender documents and assists** in tendering, bid evaluation, contract negotiations, surveys and inspections.

### **Environmental Expert**

The **Environmental Expert will** prepare an environmental impact assessment according to local and to EU-regulations. At the beginning of the project she will conduct a scoping meeting with EBRD staff participation, if possible, inviting representative from all walks of life who are concerned with environmental matters. In the later stages of the project she will assess the possible environmental impacts of the proposed development and advise on prevention and mitigating possibilities.

### **Financial and Accounting Experts**

Two expatriate experts, assisted by one local expert, will be conduct all the necessary financial examinations and assessments. They will also examine the book-

keeping and accounting functions in the ports and endeavour to establish the financial report the EBRD needs for their assessment. All financial documents will be to bankable standards.

### **Human Resources Expert**

The Human Resources Expert will be aided by a local training expert and will advise on personnel matters of the ports. In order to get a clear understanding of the educational background of the staff as well as of their experiences, qualifications and capabilities, the experts will conduct a formal manpower audit. This audit is based on a standardised questionnaire and will be computer-evaluated. It yields all the required information for the design of comprehensive training programmes.

### **LogFrame Workshop Moderator**

The moderation on the project planning workshops at the commencement of the project will be conducted by a highly skilled and experienced professional moderator with extensive cross-cultural experience. He has already conducted workshops in Georgia for the ports of Poti and Batumi.

### **Port Civil Engineers**

Engineering aspects and engineering work will constitute the major part of the work in the last two phases of the project. In view of the heavy workload and the diversity of the possible assignments we have included two civil engineers in the team. Both are specialised port and marine engineering experts and have conducted numerous assignments world-wide. They will be assisted by draughtsmen and designer as well as architects and other specialists, should the project execution require this.

### **Project Director**

A Project Director will be based in Germany. He will control and coordinate the activities and efforts of the experts while on location in Georgia and in the home office and also the support and back-stopping efforts which will be required from the home office. He has led several projects in Russia and the Traceca countries and is well acquainted with the region.

### **Backstopping and Support Staff (Home office)**

In view of the complexity of some of the items involved the team members will be given additional technical back-up and support from specialist staff who will be based in the Consultants' home offices in Germany and which will be assigned to work on defined tasks using the wide range of resources available through the home office organisation and its international business contacts.

More information on the experts can be found in Section 4.1

### **3.4.2 Project Planning**

In view of the rapid changes that are occurring in Georgia and the region and in order to involve the beneficiaries as much as possible into the project the Consultants feel it necessary to briefly review at the beginning of the working phase all facts, assumption and preconditions that led to the formulation of activities under that project and to reach a mutual understanding of the project as a whole and the activities to be carried out.

It is intended to conduct three project planning workshops according to the LogFrame methodology early in phase 1 after the experts had some time to get acquainted with the location, the organisation, their counterparts and the most salient features of their future tasks to execute.

**One workshop of 2 days** duration will be conducted in Batumi and one in Poti. These workshops will be moderated by an expert with professional experience in moderating LogFrame workshops. It should be attended by the experts, the experts' counterparts, one or two other key officials of the Ports of Poti and Batumi respectively. During these workshops the participants will, according to the LogFrame methodology, identify all participants to the project, analyse the problems that led to this project, work out the objectives to be reached and especially identify all assumptions and preconditions that bear on the results of this project.

The third **4 days workshop** will be held after the first two workshops in the ports, it will take place in Tblisi. The workshop will be moderated by a professional with experience in moderating international and cross-cultural audiences. It should be attended

by the experts, the Project Director from the home office, some senior managers and officials from the Ports of Batumi and Poti, officials of the Ministry of Transport of the Republic of Georgia, members of the Traceca Co-ordinating Unit in Tblisi and, if possible, by staff members of the European Commission from Brussels. During this joint workshop the participants will, according to the LogFrame methodology, identify all participants to the project, analyse the problems that led to this project, work out the objectives to be reached and especially identify all assumptions and preconditions that bear on the results of this project. Furthermore, the results of the previous workshops will be brought together and included in the outcome of this workshop.

Thus a mutual agreement of all parties involved on the approach, the activities and obstacles as well as of the results to be reached can be ensured right from the beginning of the project.

The outcome of the workshop will be a project planning matrix that specifies the objectives, the activities necessary to reach these objectives, the required inputs, the assumptions and preconditions, and factors that ensure sustainability.

Based on this project planning matrix an accurate and time-phased plan of operations for each expert will be devised. The project planning matrix as well as the plan of operations will be presented to the EU in the Inception Report. Any deviations from the Terms of Reference will be discussed and according to the EU's wishes included in the workplan.

The Consultants feel that this approach of conducting a very intensive project planning workshop with the active involvement of the key staff of the Ports involved and of the Ministry of Transport as the final beneficiary will not only assist in developing a sense of ownership of the project in the staff members of the organisation but also will result in the formulation of activities that are feasible and attainable within the course of this project.

It will also assist the Commission in monitoring the project closely.

### **3.4.3 Presentation of Results**

The results of the project planning workshops will be presented in the Inception Report.

In accordance with the outcome of the LogFrame Workshops the activities to be carried out will be fine-tuned and definitively attributed to the individual experts. If the results of the workshop requires a deviation from the initial project schedule or indicated the necessity to reallocate tasks and/or time these changes will be discussed with the Traceca Coordinating Unit and the Tacis Unit in Brussels and be presented in the Inception Report.

During the project several reports containing recommendations on various topics will be elaborated. It is of utmost importance that all parties involved, the two ports Poti and Batumi and the Ministry of Transport gain a common understanding of the recommendations given by the Consultants and also are aware of the implications of recommended changes or investments to be done.

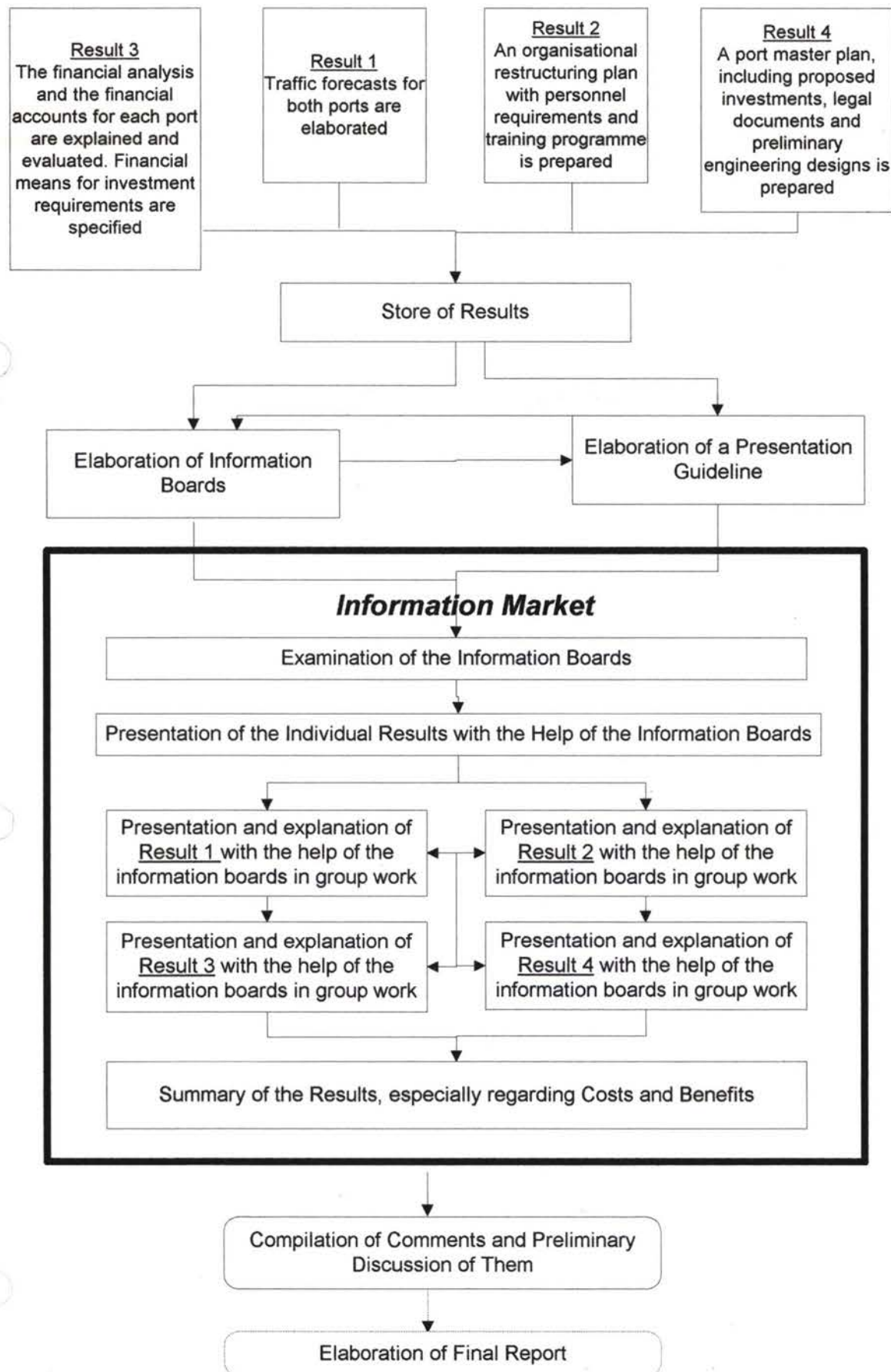
Therefore a workshop in the form of an „information market“ will be held after finalisation of Phase 3 Report, the draft final report.

The information market will be conducted in a way similar to the LogFrame method. But in contrast to this workshop it is planned that after the general presentation of the results of the report, four intensive and participative presentations of the individual results will be conducted. In each of these approximately 40 minutes workshops in principle all the participants should take part, so that each workshop will be held four times. Thus, even if the original group is relatively large, the possibility of active participation of all participants can be ensured and the experts of the individual topics can discuss within a homogeneous group objective oriented.

With the help of the information market a deeper understanding of implications and consequences of the recommendations the Consultants give in their report can be gained.

Further information concerning structure, schedule, activities and objectives of this workshops are given in the schematic presentation overleaf.

## Schematic Presentation of the Workshop



Time Schedule	Activities	Objectives of the Activities	
by	in		
<b>End Phase 3</b>	Project experts	on location + home office	The individual results are compiled in draft port master plans and investment plans, the objectives of which are desirable, objective-oriented, realistic, measurable and have a time frame
	Project experts and presenter	Home office	The results are compiled and visualised on information boards.
<b>Workshop Day 1</b>	Experts, Management of the Ports of Poti and Batumi, Officials of the Ministry of Transport, Members of Institutions involved in the Georgian Maritime Sector, representatives of Traceca and possible Investors	on location	The participants are familiar with the information and are ready for the presentation
15 min			
3 hours	Presenter		The results 1 to 4 are presented in detail and the proposed port development plans and investments are explained
4 hours	Presenter, Experts, Management of the Ports of Poti and Batumi, Officials of the Ministry of Transport, Members of Institutions involved in the Georgian Maritime Sector, Representatives of Traceca and possible Investors		The parties involved have examined the results, the underlying facts and the proposed solutions in group work during several workshops
<b>Day 2</b>			
4 hours			
1 hour	Presenter		The Participants understand the implications concerning costs and benefits of the recommended measures
3 hours	Experts, Management of the Ports of Poti and Batumi, Officials of the Ministry of Transport, Members of Institutions involved in the Georgian Maritime Sector, Representatives of Traceca and possible Investors	on location	The participants reach an agreement about recommendations and port development plans
2 weeks	Consultants	on location + home office	The Final Report with Port Master Plan and Design is finalised

### 3.4.4 Phase 1

#### 3.4.4.1 Activity Sheets

#### ACTIVITY 101

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Trade, Shipping and Ports in the Black Sea are Reviewed</b>
STAFFING: Expatriates:	Port and Shipping Economist Transport Economist Port Development Local Economist
DESCRIPTION OF ACTIVITIES:	
<p>101.1 <i>Perform a review of previous studies, and of trade, shipping and ports in the Black Sea</i></p> <p>All previous studies that can be identified and obtained concerning trade, shipping and ports in the Black Sea will be reviewed, especially:</p> <ul style="list-style-type: none"> <li>• "Port of Poti Development and Freight Traffic Re-organisation in Georgia"; EU/Rogge</li> <li>• "Optimising and Re-organisation Study for the ports of Poti and Batumi"; GTZ/HPC</li> <li>• "Black Sea Ports - Shipping Assessment and Reception Facilities"; Tacis/HPC</li> <li>• "Russian small Ports - Black Sea"; Tacis/Uniconsult</li> <li>• "Forwarding - Multimodal Transport Systems in the Southern Republics of the CIS and Georgia"; Tacis/BCEOM</li> <li>• "Regional Traffic Database and Forecasting Model"; Tacis/WS Atkins</li> <li>• "Development of the Port of Baku; Management Assistance and Training, Port Master Planning"; Tacis/HPTI</li> <li>• "Rehabilitation of the Ferry Terminals in Baku and Turkmenbashi"; Tacis/Rambol</li> </ul> <p>This will be supplemented by the Consultant's group own work in Turkey, Bulgaria, Romania and concerning Black Sea oil tanker traffic. Moreover, the Consultant's Info Center on publications will be checked. The review will include an evaluation and an cross-check of data presented and statements made.</p>	



### 101.2 *Interview representatives of the maritime industry of the Black Sea ring*

A series of personal interviews is planned with representatives of shipping lines, agents, forwarders and major shippers interested in the region. They will focus at the first step on representatives of national shipping lines or their shipping agents active in the Black Sea region supplemented by interviews with shipping associations.

During the brief stay at the respective head offices of shipping lines, supplementary interviews with freight forwarders and major shippers to be nominated by the shipping lines will be carried out.

The interviews themselves will be based on a standardised questionnaire but kept flexible, in order to comply with actual requirements of the respective interview partner. However, they will follow the target to determine the wider traffic in the region, the logic of the present services and the competitive environment of the Georgian ports. Moreover, the question on the availability of shipping services will be included.

### 101.3 *Validate findings and verify conditions by site visits to ports in the Black Sea*

The site visits will include at least the ports of Odessa/Illichevsk (Ukraine), Constantza (Romania) and Varna and Bourgas (Bulgaria), thus will cover all Black Sea ports connected by TEN. If required by the recipient, an extension by two further ports is foreseen, covering e.g. Turkish ports (e.g. Istanbul, Samsun) and/or further Ukrainian ports (e.g. Yalta, Sevastopol). A series of interviews is planned that will focus on ascertaining the respective ports' strengths and weaknesses. The technical possibilities to accommodate RoRo and Rail Ferries and to handle container trade will be investigated in detail

Further, future development plans of the ports will be taken into consideration.

### 101.4 *Determine the competitive environment of the Georgian ports*

Based on the review of the studies, on the interviews with experts from trade, shipping and ports and on the information obtained and the insights gained during the site visits, the Consultants will analyse the threats and opportunities of the competitive environment in which the Georgian ports have to stand their ground in future.

**ACTIVITY 102**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES:</b>	<b>An Improved Traffic Forecast is Available</b>
<b>STAFFING:</b> Expatriates:	Transport Economist Local Economist Port and Shipping Economist
<b>DESCRIPTION OF ACTIVITIES:</b>	
102.1 <i>Analyse historical data</i>	
<p>A brief analysis of cargo movements in the Soviet era will be made mainly by reviewing the statistics available in the ports and by looking at material and analyses contained in earlier studies. As information from that time has generally been found to be not very reliable and as the trade, production and consumption patterns have changed markedly in the near past, it is not foreseen that the results of this analysis can give any valuable hints for future developments. Therefore, at least the reference year 1989 will be considered but the following years analysed in more detail.</p>	
102.2 <i>Prepare an economic evaluation of the country</i>	
<p>The dissolution of the Soviet Union that brought independence to Georgia at the same time had a detrimental effect on the country's economy. Former trade links have vanished to a greater extent and the country has yet to fully adjust to the changed conditions. Recently, several studies have been completed as well as new trade links established and development projects started. These, together with information gathered in the country and elsewhere, will be taken into account in the economic evaluation of Georgia.</p>	
102.3 <i>Update the Traceca traffic forecast</i>	
<p>The Traceca project "Regional Traffic Database and Forecasting Model" is expected to be completed by the middle of this year and its results thus available for this project. The forecast will be examined, especially in view of data of relevance for the Georgian ports and any omissions be rectified as far as possible. The forecast will also be compared with the forecasts made for Baku port by two other Traceca projects as well as with information contained in the Tacis project report on "Forwarding - Multimodal Transport Systems". The review will cover the 21 commodities of the</p>	

Traceca forecasting model and will also cover all operational areas of both ports.

#### 102.4 *Evaluate the country's natural (land and sea) hinterland and analyse economic activities as well as the transport systems there*

Next to Georgia other Caucasian and Asian republics of the former Soviet Union have also gained independence. This had lead to a change in the traditional land- and sea-based hinterland of the ports. These changes will be identified and evaluated taking into account the political and economic changes that occurred in the region. Special consideration will be given to:

- Definition of the ports' hinterland by transport costs comparisons
- Review of GDP development and of major import and export cargoes
- Assessment of the development of the transportation system including the gateway role for central Asian transit traffic
- Estimation of future macro-economic and important sectoral trends
- Determination of relevance for Georgian ports (break-down)

#### 102.5 *Conduct structured Interviews with major existing and potential shippers*

The interview will focus on:

- Review of the ports' major customers
- Development of a structured questionnaire
- Organisation of dates
- Execution of interviews (travel to the respective location)
- Evaluation of interviews
- Cross-checks of results with existing traffic

The interviews will cover major port customers identified in the entire hinterland

#### 102.6 *Investigate potential new trade*

There are typical products to be imported in emerging markets, e.g. cars, certain fruits, dedicated paper, machinery and project cargoes. These products either cannot be produced in FSU countries or are not produced on the required quality level. In addition, there will be local peculiarities and respective potentials to import and/or to export certain cargoes in future.

Investigating potential new trades, the markets of the typical products will be investigated first. Secondly, discussions with institutions like the Chamber of Commerce and several industrial representatives will be carried out to identify additional future markets.

Both, the markets of the typical products as well the as identified new trades will be discussed locally and determined by its commercial potential. This activity will cover the entire hinterland identified and will be combined with the structured interviews detailed under sub-activity 102.5

*102.7 Prepare an improved traffic forecast*

Based on the results of the above sub-activities an improved traffic forecast will be prepared. As this forecast will be based on a greater part of "soft", i.e. non-quantifiable information, as historical data is of no value for prediction, the forecast will not only report simple results but state the underlying assumptions and their respective sensitivities.

## ACTIVITY 103

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Containerisation and Unitisation Potentials are identified</b>
STAFFING: Expatriates:	Port and Shipping Economist Port Development Expert Local Economist
DESCRIPTION OF ACTIVITIES:	
<p>103.1 <i>Examine <b>ferry facilities in other ports</b></i></p> <p>Presently, there are certain developments in the Black Sea concerning the establishment of rail and road ferry services. As these might play an important role in the future development of the Georgian ports, the present situation of the industry, the rationale for establishing these services and the commercial strength of the operators will be closely investigated. During the visits to other Black Sea ports the ferry facilities in these ports will be inspected and their operational capability assessed</p>	
<p>103.2 <i>Determine <b>traffic patterns for feeder and liner services</b></i></p> <p>Shipping in the Black Sea is presently re-orientating itself, not only has the dominance of Russian vessels stopped, but shipping technology is also changing rapidly. The introduction of dedicated container vessels will come as soon as the traffic and the facilities are sufficiently developed, the same holds for the establishment of regular liner services. Emerging patterns and plans of the various actors in the field will be identified and their effect on the Georgian ports evaluated.</p>	
<p>103.3 <i>Review availability of shipping</i></p> <p>Shipping in the Black Sea has experienced major changes in recent times. While formerly shipping inside the Black Sea as well as into and out through the Russian inland waterways system was mainly national shipping, as far as it concerned the Georgian ports, now it has become international with all the associated sovereignty, administrative and financial implications. These changes will be identified as they effect the commercial operation of the ports.</p>	

A basis for this sub-activity will be obtained by interviews with the maritime industry in the Black Sea ring, sub-activity 101.1.

During this activity, former works will be supplemented by including plans for relevant ship new buildings and the criteria of operators to service Georgian ports with modern ships.

#### 103.4 *Analyse container and unitisation potential of cargo*

The development of future container trades to and from the Georgian ports will not only depend on the total trading volume of goods but to a greater part on the potential for containerisable cargo available. In the near future most containers will travel fully laden with food stuff and consumer goods eastward and mostly return empty. Many operators will give a concessionary freight rate for non-typical cargo to go into a container, just to prevent the boxes travelling empty. This could be a potential for the ports, if such cargo could be identified and the ports could attract it.

**ACTIVITY 104**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Transport Connections and Opportunities are Investigated</b>
STAFFING: Expatriates:	Transport Economist Transport Simulation Expert Local Economist
DESCRIPTION OF ACTIVITIES:	
104.1 <i>Design the total unit cost structure for the different commodities</i>	
<p>The investments in the new port facilities, additional measures for connecting the Traceca and the TEN and especially the privatisation of the port operations will become reasonable only if the transportation charges for transiting through the Georgian ports remain competitive. Acceptable handling and operations charges in the Georgian ports are important. But it is decisive that the total unit costs for the whole transport chain are within the range of the expectations of the world market. Therefore, the design of the total unit cost structure for the different commodities has to include all relevant costs and quality factors which are relevant to the forwarders and shippers. The cost structure for the commodities differ. According to this at first for each commodity the cost structure will be designed:</p>	
<ul style="list-style-type: none"> <li>• Design for the estimation of the acceptable costs for the whole transport chain (minimum and maximum sale/transportation cost ratio)</li> <li>• Specification of the cost structure of the total transport chain costs: <ul style="list-style-type: none"> <li>• Capital costs</li> <li>• Logistic management costs (including EDI costs)</li> <li>• Handling and packaging costs</li> <li>• Transportation costs of the different transport modes</li> <li>• Transshipment costs</li> <li>• Storage costs</li> </ul> </li> <li>• Specification of the further cost relevant factors: <ul style="list-style-type: none"> <li>• Security of transport</li> <li>• Time constraints</li> <li>• Additional risks</li> <li>• Environmental restrictions</li> </ul> </li> <li>• Definition of the final evaluation and decision criteria: <ul style="list-style-type: none"> <li>• Knock out criteria</li> <li>• Relative criteria</li> </ul> </li> </ul>	

#### 104.2 *Perform the cost simulation*

The basic data for the different transport chains and commodities are used from the route connection analysis between Traceca and the TEN (see activity 106). For the estimation of the present and future transport costs additional data have to be collected

In this step, the cost influences will be simulated for the different commodities on the basis of the analysed and recommended route connections between Traceca and the TEN. The execution of the cost simulation of the alternatives comprises the validation of the cost simulation model and the runs:

- Validation of the cost simulation model (pre-runs)
- Comparison of the cost simulation results with actual data
- Execution of about 20 cost simulation runs
- Recommended route connections vs. competitive transport chains
- Cost scenarios (short term, mid term, long term; estimated minimum and maximum costs)

#### 104.3 *Evaluate the cost simulation results for the different commodities*

- Comparison of the competing transport chains
- Quantitative and qualitative cost criteria
- Analysis of the consequences for the Poti and Batumi port development
- Minimum and maximum volumes according to the cost situation

#### 104.4 *Recommend the most viable route connections between Traceca and the TEN*

- Best fitting commodities for transiting through the Georgian ports
- Selection of the commodities with the range of possible volumes and the range of realisable port handling costs
- Derived recommendations for the Georgian ports and their connections
- Development of Port-Hinterland relations
- Modernisation and development of the ports
- Improvement of the international route connections
- Marketing procedures

#### 104.5 *Identify alternative transport routes*

Additionally to the model run an investigation of alternative transport routes, especially routes that could develop in the near future, will be made. Spe-



cial consideration will be given to commercial activities aimed at reducing the commercial distance by special transport services, like block trains, and to possible non-commercial political arrangements that are not cost but rather opportunity-based

**ACTIVITY 105**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES: Traffic Forecasts are Prepared</b>	
<b>STAFFING:</b> Expatriates: <ul style="list-style-type: none"> <li>Port and Shipping Economist</li> <li>Transport Economist</li> <li>Port Development Expert</li> <li>Local Economist</li> </ul>	
<b>DESCRIPTION OF ACTIVITIES:</b> 105.1 <i>Prepare short, medium and long-term forecasts</i>  Based on above analyses and reviews of product markets and shipping, short, medium and long-term (15 years period) forecasts will be prepared for the Georgian ports of Poti and Batumi.  The methodology of forecasting will assume that political aspects in the region will calm down to the extent that transports between Caucasian countries and onwards to Inner Asian Republics will not be hindered, thus will prioritise economics as opposed to politics.  In addition, the market analyses will assume that the economies concerned will continue to develop towards a more market-oriented system.	
105.2 <i>Identify the cargo potential for each port</i>  The forecasts will give an indication of the cargo potential but additional it must ascertained what share of this potential the individual ports can obtain. For cargo that is not destined to Georgia the market is very competitive, Turkish port vow cargo for Armenia and Azerbaijan plus on-carriage to the central Asian republics, while Russian Black Sea ports and the Russian inland waterway system will compete for cargoes to Azerbaijan, to the Caspian Sea and onwards.	

**ACTIVITY 106**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES:</b>	<b>The Most Viable Route Connections between Traceca and the TEN is Recommended</b>
<b>STAFFING:</b> Expatriates:	Transport Economist Transport Simulation Expert Port Development Expert Port and Shipping Economist
<p><b>DESCRIPTION OF ACTIVITIES:</b></p> <p>106.1 <i>Model the multimodal transport simulation model</i></p> <p>The recommendations for the most viable route connections between Traceca and the TEN will be based on the results of a multimodal transport simulation. In the first step the multimodal transport simulation will be specified and modelled. An existing multimodal transport simulation tool which has been developed within the ESPRIT-Project LOCOMOTIVE will be used for this modelling. This model includes all European multimodal networks and it only has to be extended by the Traceca connections. The specification and modelling includes:</p> <ul style="list-style-type: none"> <li>• Extension of the multimodal networks to the Traceca connections</li> <li>• Definition of the relevant origin-destination relations between TEN and Traceca regions</li> <li>• Definition of the alternative corridors between TEN and Traceca regions</li> <li>• Specification of the multimodal transport conditions of the TEN and Traceca corridors</li> <li>• Specification of relevant conditions of the transported goods</li> <li>• Preparation of the alternative simulation scenarios</li> <li>• Preparation of the evaluation criteria</li> </ul>	
<p>106.2 <i>Collect and select data of representative relations and their volumes</i></p> <p>The simulation shall be executed for selected relations and goods flows. Selection criteria are the volume of relations and goods for transshipment via the Georgian ports. The simulation will be based on different volume scenarios for short-term and long-term developments both for the Poti and Batumi solutions. The data collection activity involves statistical analyses, interviews with relevant ports, shipping lines, forwarders, etc. and officials</p>	

of the transport sector. In detail, data for the following aspects of the simulation will have to be gathered and prepared:

- Data collection and preparation for the relevant origin-destination volumes
  - Actual volumes
  - Future volumes
- Data collection for the alternative corridors
  - Traffic volumes
  - Transport infrastructure
  - Transshipment facilities
  - Points of transshipments and logistic centres
  - Customs restrictions
- Data collection for the multimodal transport conditions of the preferred chains of transport
  - Traffic volumes
  - Transport capacities
  - Transport frequencies
  - Transport costs
- Data collection for the conditions of the transported goods
  - Time restrictions
  - Preferred transport modes
  - Maximum costs for transport and handling
  - Special handling equipment (e.g. for hazardous goods)
  - Security requirements

The data collection and preparation process includes the following steps:

- Analyses of existing sources
  - Eurostat
  - National statistics
  - Transport statistics and estimations of private and official organisations (e.g. ports, shipping lines)
  - Forecasting (e.g. Traceca Forecasting project)
- Estimations in the case of missing data
  - Interviews
  - Expert validation
- 80-100 interviews and 2 workshops with European and Trans-Caucasian transport specialists:
  - Shippers
  - Forwarders
  - Shipping lines
  - Ports
  - Railways
  - others
- Preparation of the overall data model
  - Short-term data model
  - Mid-term data model

- Long-term data model

### 106.3 *Simulate alternatives*

The Execution of the simulation of the alternatives comprises the validation of the simulation model and the execution of about 30 simulation runs:

- Validation of the simulation model (pre-runs)
- Comparison of the simulation results with actual data
- Execution of about 30 simulation runs
- 3 alternative volume scenarios (short-term, mid-term, long-term)
- 3 alternative corridor-scenarios (different volume scenarios for the corridors, variation of market shares between different transport modes)
- 2 alternative ports (Poti, Batumi)
- Occasional runs

### 106.4 *Evaluate simulation results*

Comparison of the alternatives

- Frequencies
- Load of the European and Georgian ports
- Volumes of the corridors
- Transport conditions
- Environmental impacts
- Analysis of the consequences for the Poti and Batumi port development
- Minimum and maximum transshipment volumes
- Required storage and transshipment capacities
- Handling conditions

### 106.5 *Recommendations for the most viable route connections between Traceca and the TEN*

Best fitting route connections

- Land connections
- Sea connections
- Inland waterway connections
- Derived recommendations for the Georgian ports and their connections
- Development of Port-Hinterland relations
- Modernisation and development of the ports
- Improvement of the international route connections
- Marketing procedures

**ACTIVITY 107**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>The Present Facilities are Reviewed under Civil Engineering Aspects</b>
STAFFING: Expatriates:	Civil Engineers Port Development Expert
DESCRIPTION OF ACTIVITIES:	
107.1 <i>Prepare a topographical survey of the main parts of the ports</i>	
<p>This tasks comprises an investigation and a clearly description of</p> <ul style="list-style-type: none"> <li>• the present outline of the ports including the adjacent areas</li> <li>• dimensions of quay-walls, harbour basins and open storage areas</li> <li>• surface condition of port areas, concrete, asphalt, sand, gravel etc.</li> <li>• areas inside the port boundaries used for road transport, parking and despatch of trucks</li> <li>• areas inside the port boundaries occupied by rail tracks; it must be stated whether these tracks are paved in or not</li> <li>• parking areas for trucks and marshalling areas for rail wagons outside the port boundaries</li> <li>• possible port extension areas including present users and an realistic assessment whether and under which conditions these areas might be used for port operations purposes</li> <li>• road and rail connections and distances to the next highway and rail station</li> <li>• review of existing development plans executed by the port administration</li> <li>• review of existing plans of local, regional and national authorities for urban development which might be of impact to port development</li> </ul> <p>also</p> <ul style="list-style-type: none"> <li>• length of quay walls and water depths at each berth</li> <li>• technical construction and condition of quay walls and other mooring facilities like offshore buoys for oil handling at Batumi and others</li> <li>• condition and permissible stack load of quay apron. This is of utmost importance in case of installation of new cranes or other cargo handling plants like grain unloaders</li> <li>• administration buildings inside and outside the port boundaries</li> <li>• other port owned buildings and facilities outside the port boundaries; if</li> </ul>	

these facilities (apartment houses, holiday resorts, hospitals etc.) are not directly linked to port operations only a short enumeration will be presented.

Description of benefits and bottlenecks; especially the bottlenecks and all hampering factors of influence to port operations, productivity and development must be stressed.

#### 107.2 *Conduct a condition survey on civil installations and identify reasons for condition deficits*

Most of the port's civil installations are in a sorry state of repair. A lack of maintenance plays an important role. Additionally, it appears that some civil installations have capacities that are below the operational requirements of the port operations that are carried out in the port. A survey on the conditions of all installations, storage areas, quay walls, sheds, ro-ro ramps, oil transfer installations, etc. should not only establish the present condition of these installations but also try to identify the reasons for the condition deficits.

#### 107.3 *Conduct topographical surveys of the ports*

All engineering documentation in the ports will be checked, especially documents of recent production, in order to establish what additional surveys are needed for the design work. It is anticipated that topographical surveys need to be conducted in both ports. The results will be shown on plans of a scale of 1/2500. As much details as necessary for future design work shall be integrated in these plans.

#### 107.4 *Appraise the adequacy of the utilities*

For proper functioning the ports have to rely on utilities like communication, heating, power, water, sewerage, etc. Some of these utilities the ports produce themselves, some they obtain from external sources. The supply of these utilities as well as their means of "transport" need to be thoroughly appraised, especially in view of the very critical national and regional supply situation of some of them. Also, all physical installations for electricity, water, communication, etc. need to be appraised, especially:

- electrical supply to the ports by public sources and port owned emergency generators
- port fresh water supply
- sewage water treatment
- safety installations like fire fighting equipment

### 107.5 *Review the navigational conditions of the ports*

#### Single activities:

- visual inspection of all navigational aids (buoys, navigational lights etc.)
- review of present water depth in the approach channel, the harbour basins and alongside the berths
- review of decrease in water depths due to siltation over the past 5 years
- review of maintenance dredging carried out during the past 5 years
- determination of responsibility for maintenance/repair/renewal of navigational aids and maintenance dredging
- interviews with persons in charge for navigation in the ports (pilots, ship's captains)



**ACTIVITY 108**

Tacis - TRACECA Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>The Present Facilities are Reviewed under Mechanical Engineering Aspects</b>
STAFFING: Expatriates:	Cargo Handling Equipment Engineer Port Development Expert
DESCRIPTION OF ACTIVITIES:	
<p>108.1 <i>Make an inventory of all cargo handling equipment and mechanical engineering installations of the ports</i></p> <p>The following items will be clearly described and evaluated regarding their number, dimensions and technical and constructional condition:</p> <ul style="list-style-type: none"> <li>• crane rails at each berths</li> <li>• rail tracks alongside the berths and at other areas in the ports</li> <li>• open storage areas</li> <li>• fence and gates</li> <li>• warehouses including number/size of doors, existing loading ramps, illumination and ventilation, present purpose etc.</li> <li>• repair facilities including number and condition of equipment and mayor tools</li> <li>• rail mounted cranes and other loading/unloading equipment</li> <li>• floating cranes</li> <li>• mobile equipment like forklifts, mobile cranes, port owned trucks, trailers, busses and cars</li> <li>• safety installations like fire fighting equipment</li> <li>• small cargo handling equipment like grabs, pallets, stevedoring gear etc</li> <li>• floating equipment like pilot boat, tugs, water supply boats, pollution fighting equipment, fire fighting boats etc.</li> </ul>	
<p>108.2 <i>Conduct a condition survey on cargo handling equipment and identify reasons for condition deficits</i></p> <p>The conditions of the present cargo handling equipment is extremely wanting. The port has numerous brands of equipment, some of them out of production, and all of them requiring foreign currency to purchase spare parts. Also, the repair and maintenance facilities are technologically rather aged. Before maintenance and repair plans can be established, it is necessary to</p>	

conduct a survey on the present condition of the equipment as well as an identification of the reasons for condition deficits

### 108.3 *Specify repairs and necessary improvements*

Some of the installations have deteriorated to such an extent that they need to be repaired or rehabilitated to be useful for port operations again. These installations and equipment units should be identified, the necessary work specified and a plan of repair activities established in close coordination with the anticipated development of future operations. On one hand, it must be avoided that future operations are hampered by shortages of equipment and installations, on the other hand it must equally be avoided that scarce financial resources are spent on installations and equipment that are not yet or no more required.

**ACTIVITY 109**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES:</b>	<b>The Productivity of the Port is Estimated</b>
<b>STAFFING:</b> Expatriates:	Port Development Expert
<b>DESCRIPTION OF ACTIVITIES:</b>	
<p>109.1 <i>Analyse the present port performances</i></p> <p>In order to get a good overview of operations in the ports at present, it is necessary to analyse the performance of different port activities like ship handling, stevedoring, working in the storage areas, storing in warehouses, dispatch and delivery, railway operations, truck operations, as well as ferry operations in detail. This analysis should be conducted in close cooperation with decision makers of the ports' operations department. The experts should take account of the fact that port performance norms were mutually agreed between management and workers and that all operations were geared towards a centralised command structure. It should also be taken into account that the future cargo structure might be very different from the past one and that, therefore, some of the historical data is already invalid.</p>	
<p>109.2 <i>Estimate the productivity of the port</i></p> <p>Based on data made available by the port's management and observations on spot the following port performance factors will be determined for the last 5 years</p> <ul style="list-style-type: none"> <li>• handling rate per commodity per gang per vessel per hour</li> <li>• handling rate per commodity per vessel per hour</li> <li>• handling rate per commodity per man per vessel per hour</li> <li>• handling rate per commodity per vessel per day</li> <li>• dwell time of cargo in the port</li> <li>• work interruptions</li> <li>• berth utilisation</li> </ul> <p>Identification of present cargo handling bottlenecks and constraints within the entire handling chain from the vessel via the storage facilities to the hinterland means of transport and vice versa. The very limited storage facilities, the unusual high percentage of direct delivery and the concentration on rail for hinterland transport will be duly considered.</p> <p>Also, an assessment of attainable realistic cargo handling performances</p>	

and the identification of bottlenecks in port performance and productivity will be addressed.

**ACTIVITY 110**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>The Structure of the Organisation and the Capability of Staff are Assessed</b>
STAFFING: Expatriates:	Port Development Expert Human Resources Development Expert Local Training Expert
DESCRIPTION OF ACTIVITIES:	
110.1 <i>Analyse the organisational structure and the capabilities of personnel</i>	
<p>In the course of the project it might become necessary to propose a new organisational structure for the ports to become more responsive to market and customer demands. Before doing this one needs to analyse the present organisation to get an understanding of its structure, the distribution of responsibilities, the reporting rules and official and unofficial communication channels. This activity, therefore, includes the following tasks:</p> <ul style="list-style-type: none"> <li>• scrutinise the present organisational structure of both ports under due consideration of the findings stated in the other studies</li> <li>• assessment whether the proposed structure will meet the requirements of the future</li> <li>• review of the planned organisational changes towards a market orientated enterprise</li> <li>• endeavour to obtain a feeling of the informal structure of the organisations</li> <li>• review official and unofficial reporting and communication channels</li> <li>• Identify bottlenecks</li> </ul>	
110.2 <i>Conduct a manpower audit</i>	
<p>In order to obtain a picture of the present staff in the organisation, a manpower audit will be conducted. This audit, which is questionnaire-based, will give an inventory of all staff members. Also, it will yield information on education, training and job tasks. Additionally, information on the employees' present jobs and responsibilities will result. The evaluation of the audit will be computer-based and the results will be used for future human resources planning as well as for the identification of training requirements.</p>	
110.3 <i>Identify new skills necessary to fulfil the future demands on management</i>	

By comparing the personal profiles of management personnel, which have been established in the manpower audit, with the future demands on management, which have been deduced from the strategic plan, it will be possible to identify the additional skills that management needs in future to perform its new tasks and responsibilities. The outcome of analysis will be the basic input to the future management training plan.

**ACTIVITY 111**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Commentaries on Financial Reporting Procedures are given</b>
STAFFING: Expatriates:	Financial Expert Port Development Expert Local Finance Expert
DESCRIPTION OF ACTIVITIES:	
<p>111.1 <i>Comment on financial reporting procedures and controls, traffic statistics, general planning data</i></p> <p>This task will be executed by analysing the respective documents and conducting in-depth interviews with the respective managers and employees in charge and by mutually agreeing on new procedures. In particular, the Consultant will</p> <ul style="list-style-type: none"> <li>• review existing financial reporting procedures and controls (in the light of the proposed transition of the ports into commercialised/market orientated enterprises)</li> <li>• review port traffic statistics, keeping in mind the statistical requirements of governmental authorities</li> <li>• review general planning data (in the light of the proposed transition of the ports into commercialised/market orientated enterprises)</li> <li>• perform a weak point analysis</li> <li>• develop together with the respective managers improved procedures and output</li> </ul>	



## ACTIVITY 112

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES:</b>	<b>Proposals for the Development of Cotton Storage Facilities are Made</b>
<b>STAFFING:</b> Expatriates:	Port Development Expert Cargo Handling Equipment Engineer Local Economist
<b>DESCRIPTION OF ACTIVITIES:</b>  This activity will be carried out as follow: <ul style="list-style-type: none"> <li>• The traffic forecast will indicate the quantity of cotton to be exported per year via each port. It must be checked clearly, whether the entire amount of cotton will be exported via Poti only or whether part of the cargo might be shipped via Batumi as well. The split between the ports will be made according to existing contractual agreements, intention of the shippers, rail transport capacities, appropriate transport chains and other relevant factors of influence.</li> <li>• The traffic forecast will as well indicate any peak seasons in cotton transport from the central Asian countries to the Georgian ports</li> <li>• The mode of transport for cotton from the countries of origin to the ports must also be specified, whether the transport will be carried out exclusively on rail according to contracts between the shippers and the railway company or whether part of the cargo might be transported by truck as well.</li> <li>• Assessment of number and kind of vessels used for sea transport of cotton.             <ul style="list-style-type: none"> <li>• Number of sailings per month/year</li> <li>• Average amount of cotton per sailing</li> </ul> </li> <li>• The result must be to determine the maximum amount of cotton to be stored in the ports at one time.</li> <li>• The storage requirements for cotton will be specified like size and weight of bales, tons per square meter, maximum stacking height, number of different consignment to be stored simultaneously and therefore to be separated, ventilation requirements, constructional protection against moisture and dirt, kind of equipment used for cotton handling and resulting constructional requirements for the warehouses (number and dimensions of doors etc.). This investigation will result in determination of required storage space like square meters of ground floor and cubic meters of storage capacity.</li> </ul>	



- Specification of additional warehousing installations like fire alarm system, fire protection and fire fighting system, ventilation systems, natural or technical, depending on the prevailing weather conditions.
- Specification of construction material to be used, depending on the general technical requirements, possibilities of local/national supply, price and delivery time.

The specification of the material used should be at this stage a rough guideline only. It will be more specified in detail during phases 3 and 4

**ACTIVITY 113**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>The Functional Requirements of the Port are Defined</b>
STAFFING: Expatriates:	Port Development Expert Cargo Handling Equipment Engineer Civil Engineer
DESCRIPTION OF ACTIVITIES:	
<p>This activity will be carried out as follow:</p> <p>The traffic forecast will yield the following required data as input:</p> <ul style="list-style-type: none"> <li>• kind and quantity of cargo for each year within the time frame of 15 years; this forecast will comprise 21 commodities corresponding to the Traceca traffic forecast project.</li> <li>• these 21 commodities must be transformed into „port handling commodities“, that means it must be stated clearly how these commodities are shipped and what kind of handling procedures in the ports are required. Example: sugar can be transported in bulk, in bags handled as general cargo, bags staffed in containers and handled respectively, bulk or bagged sugar loaded on trucks or rail wagons and transported on ferry as ro-ro cargo.</li> </ul> <p>For port development the determination of „port handling commodities“ is finally more important than the a.m. 21 „Traceca“ commodities. It is essential to know whether the different cargoes are handled in bulk, as general cargo in containers or on ferries.</p> <p>In addition, it must be determined on which kind and size of vessels the cargoes will be shipped. This depends to a great extent on the origin and destination of the cargo; example: container service by feeder vessels from hub ports or direct connections to/from the countries of origin. The average kind and amount of cargo per vessel must be determined.</p> <ul style="list-style-type: none"> <li>• Based on the results of the productivity assessment (activity 109.2) in combination with the average amount of cargo per vessel the lay time per vessel will be calculated.</li> <li>• Assuming a certain realistic berth occupancy under consideration of seasonal changes and peak situations the required berth length per</li> </ul>	

commodity and in total will be assessed.

- Comparing the calculated berth demand with the existing berth requirements will result in the determination of any additional demand for berth space in future.
- The future type, size and draft of vessels will indicate the requirements for improvement of dredging.
- The demand for storage facilities will be assessed by considering the amount of cargo per commodity, the average stack load per commodity (t/sqm) and the average dwell time. This results in demand for storage facilities per commodities and in total for open storage and warehouse storage.
- In this context it must be stated which commodities will be directly or indirectly (storage) delivered.
- Based on the results gained so far, the operational requirements for port services not directly linked to cargo handling like pilotage, tugs, maintenance and repair, security services must be defined. These services depends very much on the number and types of vessels and number and kind of cargo handled.
- Additionally, the area demand for roads, railway tracks, parking and handling areas for trucks and wagons, handling area alongside the berth (quay apron), repair and maintenance facilities, administration buildings, parking space for private cars must be determined.
- The comparison of existing facilities with future demands will result in the requirement for additional land area and any other infrastructure facilities if any.

**ACTIVITY 114**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES:</b>	<b>The Data for the Preparation of an Outline for an Environmental Assessment are Collected</b>
<b>STAFFING:</b>	
Expatriates:	Environmental Expert Port Development Expert Local Legal Expert
Participants for the Scoping Exercise:	Heads of Environmental Authorities, Head of the Georgian Activity Centre of the Black Sea Environmental Programme, Black Sea Ecology and Fishery Institute, Batumi Marine Inspection Department Ministry of the Environment <b>Port Directors</b> Environmental Specialist - EBRD
<b>DESCRIPTION OF ACTIVITIES:</b>	
114.1 <i>Review previous studies</i>	
Existing studies that can be identified and obtained will be reviewed and used as base documents. They will include the following:	
<ul style="list-style-type: none"> <li>• 1996 IMO Mission Report: "Needs Assessment and Programming Mission within the Framework of the Integrated Technical Co-operation Programme CIS/Eastern Europe Region" - Ukraine and Georgia</li> <li>• 1997 Tacis "Feasibility Study for Reception Facilities in Black Sea Ports of Georgia, Ukraine and the Russian Federation"</li> <li>• 1993 Rogge Marine Report "Port of Poti Development and Freight Traffic Reorganisation in Georgia".</li> </ul>	
114.2 <i>Review the national legal and administrative framework</i>	
Further, the country's laws on the subject of environment will be reviewed:	
<ul style="list-style-type: none"> <li>• National Environmental Law,</li> <li>• EIA-regulations,</li> <li>• Requirements for public participation,</li> <li>• Pollution control standards,</li> </ul>	

- Guidelines on emission limits etc.

Compliance or non-compliance with the existing international and regional binding conventions as

- MARPOL 73/78
- Black Sea Environmental Programme, Black Sea Strategic Action Plan
- Bucharest Convention
- and others

will be checked.

For this activity, close co-operation with agencies, institutes or other national bodies as well as NGOs is aspired to.

#### 114.3 *Analyse the present environmental situation in the area of the two ports.*

This task comprises:

- Classification of ambient water and air quality
- Description of the marine environment, i.e. sensitive habitats, fishing or spawning grounds, nature conservation areas etc.
- Identification and description of areas and/or port activities of highest environmental concern, like transshipment and storage areas for chemicals, dangerous cargo, oil, fertiliser etc., with regard to possible run-off from storage
- Casualty statistics, numbers and types of spillages recorded
- Surveys and inspections according to MARPOL and SOLAS
- Maintenance dredging and disposal of dredged material
- Summary of the key environmental regulations and environmental policy in the ports and its compliance
- Identification of environmental management practices, i.e., existence of waste management, description of the key wastes and their sources, facilities of reception, storage and treatment of wastes from vessels and the ports' industry
- Description of the ports' emergency plans for dealing with environmental incidents including training of personnel and exercises
- Inventory of the ports' emergency response equipment, type and condition

Interviews and close co-operation with persons in charge of environmental protection in the ports' areas as Marine Inspection Department, Ecological Department, will be necessary in order to make use of existing data as far as possible. In case that gaps in the required environmental baseline data are found, it has to be decided whether further surveys will be necessary or not.

#### 114.4 *Conduct a scoping exercise*

As a priority-setting activity an initial scoping-meeting will be carried out with the aim to identify, from a broad range of potential problems, the key issues which should be included in the environmental assessment.

This scoping-meeting will be carried out in discussion between the consortia, competent authorities, an environmental specialist from the EBRD and other relevant agencies likely to be affected by the project.

The list of major concerns identified during this scoping-meeting will be incorporated into the guidelines for the preparation of the environmental assessment. Issues that should later be monitored might be identified as well.

#### 114.5 *Analyse the present socio-economic environment*

Areas and/or persons influenced by port activities as

- Residential and recreation areas affected by noise or dust emission, visual impacts
- Public beaches and sea resorts
- Tourist industry
- Fishing industry
- Land use and cultural heritage or ecologically important habitats in the surroundings of the port (with regard to port extension areas)

as well as the local employment situation will be described.

### 3.4.5 Phase 2

#### 3.4.5.1 Activity Sheets

#### ACTIVITY 201

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>The Master Plans for the two Ports are Prepared</b>
STAFFING: Expatriates:	Port and Shipping Economist Transport Economist Cargo Handling Equipment Engineer Civil Engineer Local Economist Local Legal Expert Environmental Expert
DESCRIPTION OF ACTIVITIES:	<p>For each port, Poti and Batumi, the following activities will be carried out:</p> <p>201.1 <i>Recommend zoning for land use</i></p> <p>Based on the results of activity 103: functional requirements of the ports, an assessment will be made whether the existing port areas will be sufficient or not for the development of the ports within the planning period. If additional land will be required, it must be clearly stated which part(s) of the proposed extension areas should be used. Each extension area will be evaluated according to its pros and cons for development purposes. A sufficient explanation for the selection and priorities of each area will be given. It will be described which areas will be used in any case and which areas might be used in case the traffic forecast shows different scenarios with different development alternatives. In case different alternatives will be feasible, these alternatives will be clearly described and explained. The presentation of alternatives can be very useful in case the future access to areas outside the present port boundaries is not clear at the time of elaboration of the master plan or in case that there are different interests for certain areas and no decision regarding the future use is made by that time. But within the scope of this project the consultancy team will express their priorities for certain areas to all parties involved.</p>

### 201.2 Investigate access and circulation patterns for maritime, road and rail traffic

The following requirements must be described in detail:

#### a. Maritime transport

- type and number of vessels calling at the two ports (average length, breadth, draft, deadweight) for each kind of commodity
- average amount of cargo per call for import and export
- anchorage off the port area
- length, width and water depth of approach channel
- alterations of the breakwater if required
- location and diameter of turning basin
- required water depth in the harbour basin(s) and alongside the different berths
- required aids to navigation as far as required by the ports (number and kind of buoys, beacons, lighting to jetties etc.)

These proposals will be based on international maritime rules and regulations, national rules and regulations and experiences in other ports world wide

#### b. Rail transport

- expected number and kind (type, length, payload) of railway wagons per day/week, month, year during the planning period
- average amount of cargo per wagons
- rail access to the port from outside
- rail access to different port facilities like berths, silos, other storage facilities
- required length and number of rail tracks inside the port boundaries
- shunting yards inside and outside the port boundaries required for port cargo handling purposes
- shunting requirements of rail wagon for optimised port cargo handling operations

#### c. Road transport

- number and kind (length, payload, number of axles) of trucks per day, week, month, year during the planning period
- average amount of cargo per trucks for each commodity
- road connection port to city and port to highway
- road access to the port, port gate(s)
- parking/waiting facilities in front of the port gates
- parking, loading and manoeuvring areas for trucks in the ports at different locations (alongside the berths, at storage locations etc.)

For the time being, the portion of road transport of the entire hinterland



transport is low and the port are hardly prepared for efficient truck despatch. But it can be foreseen that this will change considerably in future and this expected development must be duly considered in port master planning.

### 201.3 *Specify locations and conceptional outlines of port facilities*

Based on the results of the traffic forecast the following facilities must be included in the port master plan for optimised port operations:

#### a. Berths and mooring facilities

- length of berths including required water depth for cargo operations
- mooring facilities for off shore handling operations
- mooring facilities for harbour fleet, like tugs, pilot boat, floating crane, water supply boat, floating pollution fighting equipment etc.
- number and kind of berths, like ro-ro berths, berths for container, grain, dry bulk, oil etc.
- requirements to the quay apron
  - length, width and stacking load
  - constructional installations (bollards, illumination, fenders, fresh water supply line etc.)
  - type of equipment to be operated (flexible ro-ro ramps, gantry cranes, grain unloaded etc.)
  - crane rails
  - manoeuvring/loading area for trucks
- specification of storage facilities;
  - dimensions, stacking load, pavement of open storage
  - dimensions and constructional details of warehouses and silos
- number and kind of cargo handling equipment like quay cranes, grain unloaders, conveyor belts, forklifts, trucks, trailers etc.
- repair and maintenance facilities;
  - workshops of different kind; port equipment and containers
  - cleaning facilities for different kind of wagons and containers
- administration buildings and facilities
- social facilities like port canteen and rest rooms

Possible negative impacts of port related activities must be regarded at all stages of the port development plan. It will be dealt with by an environmental impact assessment and the respective recommendations and proposals will be duly considered in the elaboration of the master plans.

### *201.5 Prepare land-use plan for shore line and other competing land uses*

As a port is not independent from local/regional and national development planning other plans must be duly considered. But it will be of utmost importance to reserve the shore line areas and areas directly bordering the port areas for future development, if any extension will be required, due to the fact that port activities must be located at the sea side, while other industries are not that closely linked to the water and are much more flexible regarding their location. To minimise any conflict of interest the consultancy team will keep very close contact to all other institutions involved in urban planning from the commencement of the project. The same applies to port access roads, railway lines and marshalling railway yards. The sizes and locations must be presented and agreed with the authorities in charge, if possible.

### *201.6 Prepare a work plan for continuous operations during construction*

The Port Master Plans must be elaborated in such a way that the ports will be in the position to handle the full potential of cargo without being substantially hindered by the development works. As the ports will commercially independent from each other, each port must try it utmost not to loose any customer due to development/construction activities. The details of this task must be elaborated in the phased development plans and when specifying the tender documents

### *201.7 Investigate the installation of a wagon cleaning facility*

The ports handle already, and will continue to do so for some time, increasing amounts of liquid bulk cargoes, for instance oil arriving by train from Azerbaijan. In future, this traffic as well as the transshipment of dry bulk is likely to increase. This cargo will mainly move by train. At present, cleaning facilities for tank wagon (and for road tankers as well) are in very short supply, insufficiently equipped and in no way complying with present environmental standards. The Consultant will investigate plans by other body in this respect and report on the necessity and viability of including the construction of such facility in the port development scheme.

## ACTIVITY 202

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>A Phased Development Plan is Specified</b>
STAFFING: Expatriates:	Port Development Expert Cargo Handling Equipment Engineer Civil Engineer Financial Analyst
DESCRIPTION OF ACTIVITIES:	
<p>202.1 <i>Elaborate a phased development plan</i></p> <p>Without going too far into the details of the projects, which can not be fully identified for the time being, the project shall be split as follow:</p> <p><u>a. immediate and short measures</u> The proposals presented will cover the period of about one year after completion of the project. It will comprise mainly organisational and operational improvements, which can be realised practically by the ports' own means. Mayor financial investment will not be foreseen, except if serious bottleneck will be identified, which can be eliminated by short term procurement.</p> <p><u>b. medium term measures (5 years)</u> During this period all investments in construction and equipment will be done, which can be clearly identified during the execution of the project.</p> <p><u>c. long term measures (10 years)</u> comprise all other investments which will be essential for the long term development of the ports. As the development in Georgia like in other transition countries is subject to a high grade of uncertainty, these investments must be re-evaluated prior to realisation.</p> <p><u>d. measures later than 10 years</u> comprises an outlook to the long term future of the ports. These measures will be excluded from the economic evaluation.</p> <p>Methodology:</p>	

- the kind and amount of cargo to be handled will be specified for the end of the respective phase. Similar applies to maritime, rail and road traffic.
- the constructional and procurement measures to meet the requirements of the forecasted volume will be specified regarding the quantity. It goes without saying that the new constructions and procurements must be minimised. The overall objective in port master planning is to make best use of the existing facilities first by upgrading and conversions prior to installations of new facilities.
- All measures will be indicated according to their priority for port development.
- It must be assured that each development phase will be based on the preceding phase. It must be avoided that any measure realised in one phase must be eliminated in the succeeding one.
- the costs/expenditures for each item will be determined
- the revenues resulting from each measure will be estimated for the foreseeable future

### *202.2 Develop cost estimates for the first development phase*

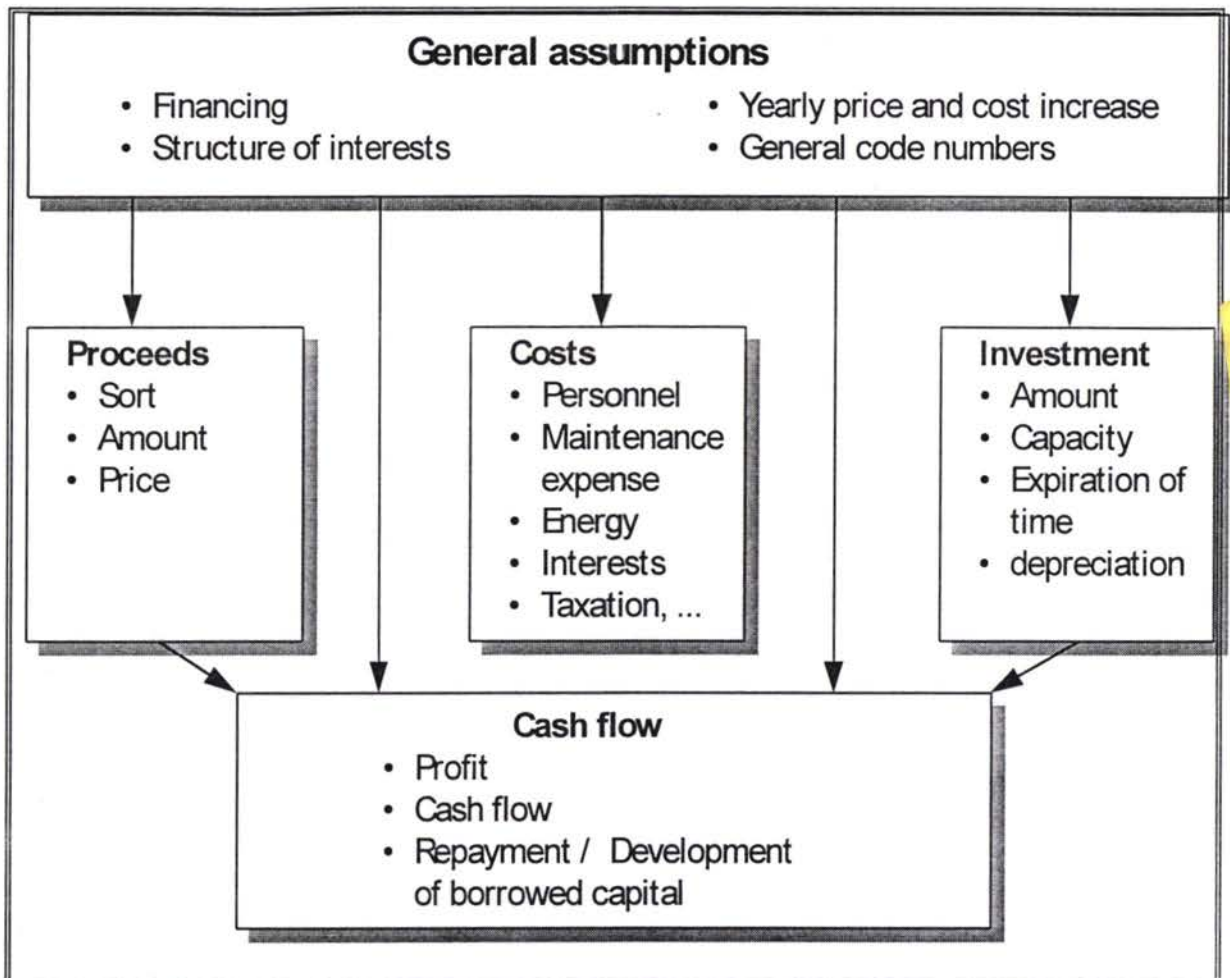
Based on the phased development plan, cost estimates for the proposed rehabilitation, construction and procurement items will be prepared. These estimates are appropriations for future planning and should be within a 10% range of the final costs. The costs shall be based generally on international competitive bidding but indicate where national or regional procurement is possible or where national or regional alternatives are feasible. Even though these cost estimates are for the first phase only, when developing them, the entire future development plan of the ports will be kept in mind.

### *202.3 Identify priority investments*

The economy of Georgia as well as the economies of some of the neighbouring states are developing rapidly at present, Georgia and Azerbaijan being the fastest developing economies in 1996 and 1997 of all former Soviet Union states. Such developments always put great pressure on transport and it is foreseeable that certain urgent rehabilitation or new construction requirements manifest themselves during the study period. Once such demands are identified, the Consultants will immediately prepare suggestions for priority investments.

**ACTIVITY 203**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Cash Flow Forecasts for the priority Investments are Prepared</b>
STAFFING: Expatriates:	Transport Economist Financial Analyst Finance and Accounting Expert Local Finance Expert Local Banking Expert
DESCRIPTION OF ACTIVITIES:	
<p>Cash flow forecast for the priority investment are developed, considering a maximum term of ten years including the construction period</p> <p><i>203.1 Evaluate the financial terms of the investment</i></p> <p>This phase is devised to evaluate the financial terms of the priority investment. Therefore, the dynamic liquidity is analysed by payment-stream-calculation. Essential factors are:</p> <ul style="list-style-type: none"> <li>• proceeds and spendings</li> <li>• payments according to financial plans.</li> </ul> <p>The considered time span is ten years, including the construction period.</p> <p>For calculating the economy a model has to be established which is based on general assumptions, proceeds, costs and investment. As a result it provides the yearly cash flow, which can additionally help to calculate the cash value of the investment.</p>	



The following shows the individual working steps:

a. Assumptions for financing:

- owned capital
- borrowed capital
- subsidies
- contributions

b. Evaluation of yearly revenues

- according to transshipment forecast with regard to growth for transshipment, storage, transport and other services
- considering price increase

c. Evaluation of yearly costs

- personnel
- depreciation of investment goods regarding taxation and economic life
- interests
- energy, maintenance expense, insurance and taxation
- considering cost increase

d. Evaluation of taxable profit and of profit after further taxation, which has a non-reduced profit

e. Evaluation of yearly cash flow

- calculating of cash value with assumed different interests

**ACTIVITY 204**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Economic and Financial Analysis of the Recommended Development is Performed</b>
STAFFING: Expatriates:	Transport Economist Financial Analyst Local Financial Expert
DESCRIPTION OF ACTIVITIES:	
204.1 <i>Design a cost/benefit and financial analysis</i>	
<p>An economic cost/benefit analysis of the recommended development, focusing on the costs and benefits to the national economy and identifying potential project risks will be carried out. Additionally, a financial analysis covering the construction period and the first five years of operations will be conducted. For these two analyses, the tools are prepared, taking into account the specific situation of the Poti and Batumi ports. These are:</p> <p>Preparation of the tool for the cost-benefit analysis</p> <ul style="list-style-type: none"> <li>• Definition of the scenarios with and without the development of the ports</li> <li>• Specification of the cost and benefit data required</li> <li>• Plan of approach for the data collection and the use of benchmarks</li> <li>• Plan of approach for the data processing and evaluation of the results</li> <li>• Adaptation of an approved EXCEL-tool</li> <li>• Preparation of the tool for the financial analysis</li> <li>• Preparation of basic data from activities 202 and 203 and specification of additional data requirements</li> <li>• Detailed plan of approach for the data collection</li> <li>• Definition of the benchmarks for the financial evaluation</li> <li>• Cash and cash equivalents</li> <li>• Net worth of total assets</li> <li>• Liquidity ratio</li> <li>• debt-redemption</li> <li>• working capital ratio</li> <li>• average collection period for outstanding receipts</li> <li>• average collection period for outstanding debts</li> <li>• Plan of approach for the data processing and evaluation of the results</li> <li>• Adaptation of an approved financial analysis tool</li> </ul>	

### 204.2 *Collection Data*

The data collection for the cost/benefit analysis comprises:

#### Cost data collection

- Compilation of the investment costs according to the development plan
- Infrastructure costs within the ports
- Costs for connection to infrastructure networks (road, rail)
- Energy, water and waste water access costs
- Technical port equipment costs
- Training costs
- Compilation of the operating costs
- Transshipment costs
- Dredging costs
- Pilotage costs

#### Benefit data collection

- Estimation of business data
- Operating income ports
- Additional operating income of port related companies within the region
- Estimation of labour-related benefits
- Tax incomes
- Income of private households
- Multiplier effects
- Additional effects during the construction phase
- Operating income of construction companies
- Additional labour incomes
- Additional tax incomes
- Traffic effects
- Additional traffic
- External effects of traffic (e.g. environmental effects)

The data collection for the financial analysis includes:

- Estimation of expenditures for costs
  - Personnel expenses, interest charges, manufacturing supplies, energy, maintenance
- Operating income
  - Port tariffs, logistic services, lease of land, buildings and equipment

### 204.3 *Execute the cost/benefit and financial analysis*

In the third step of the cost/benefit and financial analysis the calculations will be conducted.

- Execution of the cost/benefit analysis



- Comparison of the scenarios with and without the port development with specification of the effects (15 years)
- Expert validation of the results
- Execution of the financial analysis
  - Calculation of the indicators (5 years)
  - Calculation of the indicators for the construction period
  - Expert validation of the results

#### 204.4 *Evaluate the results and recommend further activities*

- Evaluation of the overall cost/benefit ratio (including sensitivity analyses and risk: assessments for significant variables) and recommendations for the basic decisions and additional measures
- Evaluation of the financial results (including sensitivity analyses and risk assessments for significant variables) and recommendations for the port operator, the EBRD and other potential financing organisations

**ACTIVITY 205**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Improvements in management structures and systems are recommended</b>
STAFFING: Expatriates:	Port Development Expert Cargo Handling Equipment Engineer Finance and Accounting Expert Human Recourses Expert
DESCRIPTION OF ACTIVITIES:	
For each port the following activities will be carried out:	
<i>205.1 Propose efficient port management organisational structures</i>	
<ul style="list-style-type: none"> <li>• Analysis of present management structures of the two ports; partly executed during phase 1</li> <li>• Review of the „Optimising and Reorganisation Study for the Ports of Poti and Batumi“</li> <li>• Determination of the distinctive objectives of the ports' management structure to achieve the overall target of transforming the two ports into highly efficient and profitable entities</li> <li>• Recommendations for modified management structures in the ports</li> <li>• Proposals for the establishment of an efficient working sales and marketing department in each port.</li> </ul>	
<i>205.2 Suggest a new organisation for maintenance and repair</i>	
<p>In order to keep installations and equipment in operational conditions at all times proper maintenance plans and schedules must be developed and implemented. The expert will design such plans and schedules in close co-operation with the operations managers and the engineering staff. These plans should be designed in such a way that future additions of equipment and installations can easily be integrated into the existing plans. They will be based on:</p>	
<ul style="list-style-type: none"> <li>• Analysis of the present maintenance and repair scheme and procedures</li> <li>• Recommendations for improvements in this field</li> <li>• Recommendations for „make or buy“ decisions</li> <li>• Recommendations for outsourcing of certain activities</li> </ul>	

Also, the experts will advise on efficient workshop and stores layouts and on spare parts administration.

### 205.3 *Advise on statistics and cost accounting*

- Review of the present reporting and cost accounting system
- Determination of key figures for port performance
- Proposals how to achieve these figures and data
- Proposals for establishing an efficient cost accounting system

The target is to obtain clear data regarding the financial performance of the ports as well as basic figures for a market orientated cost based port tariff system.

**ACTIVITY 206**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES: Port Marketing is Improved</b>	
<b>STAFFING:</b> Expatriates: Human Recourses Expert Port Development Expert Local Marketing Expert Local Business Planning Expert	
<b>DESCRIPTION OF ACTIVITIES:</b>  <b>206.1 <i>Identify the ports' customers</i></b>  The port as a service organisation has as its prime obligation to satisfy the needs of its customers. To do this, it has first and foremost to clearly identify its customers. Due to the recent political and economical changes, the old customer base has changed and it is therefore necessary to re-evaluate who are the customers of the port. This investigation not only has to identify the direct customers, i.e. the customers who use the port at present, but more importantly all potential customers as well. The identification of potential customers is necessary as the port will be required to develop new services in order to stay or to become economically healthy. Customers do not only include cargo dispatchers and receivers but also all transport operators, especially in view of the trend to increased intermodal operations.	
<b>206.2 <i>Prepare a marketing plan</i></b>  To attract customers and to develop further service activities, it is necessary to have a comprehensive marketing plan for the entire marketing organisation. The outline of such plan must be established as the basis for individual plans to be worked out by the different departments involved. The marketing plan should be designed in such a way that it will become more and more refined in the course of time in line with the commercial development of the organisation and the requirements of prospective clients. It should be of a dynamic nature and be able to be revised and updated regularly.	

**ACTIVITY 207**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES:</b>	<b>Possible Options to Introduce and Facilitate the Entry of Private Investment in Parts of the Envisaged Port Infrastructure Development are Assessed</b>
<b>STAFFING:</b> Expatriates:	Port Development Expert Privatisation Expert Local Business Planning Expert
<b>DESCRIPTION OF ACTIVITIES:</b>  <i>207.1. Recommend private sector involvement</i>  When investigating to which extent private entrepreneurship involvement in port activities should be recommended and in which business fields, the present and future Georgian situation of privatisation of strategic industries must duly be considered.  The recommendation of private sector involvement in parts of the envisaged port infrastructure development comprises of: <ul style="list-style-type: none"> <li>• Selected private sector investment projects</li> <li>• Potential private partners</li> <li>• Measures for improving the conditions for privatisation of parts of the envisaged port infrastructures</li> </ul>	
<i>207.2 Identify the success factors and barriers for the assessment of the options for privatisation</i>  The assessment of the options for privatisation will be based on approved success factors and barriers for privatisation, taking into account the present state of privatisation in the country, the socio-economic conditions and the willingness of partners in the port sector to cooperate. In the first stage these success factors and possible barriers will be identified and defined: <ul style="list-style-type: none"> <li>• Pre-conditions for the privatisation</li> <li>• Need for the extension of the private sector role in port development</li> <li>• Openness for private sector investments in port activities</li> <li>• Governing factors of privatisation</li> </ul>	

- Legal regulations
- Port structures and development
- Resources
- Business standards
- Existence of promoters, encouraging private sector investments
- Donors
- Georgian authorities including the ports
- Private sector promoters
- Existence of private sector investment ideas, projects and strategies
- Georgian investors
- Foreign investors
- Fund pooling

#### *207.3 Identify and project potential private sector investment projects for both ports*

In the subsequent step potential private sector investment projects will be defined for both ports. The projects will be focused on functional activities that can be the basis of independent firms. These include

- Build-and-transfer projects
- Build-operate-and-transfer projects
- Rehabilitate-operate-and-transfer projects etc.

#### *207.4 Validate the project for the defined private sector investments*

For the above mentioned private investments, project validations will be conducted:

- Investment volume
- Project viability
- Required credit worthiness of the private sector investors and conditions under which present or future port firms can mobilise funds to invest in port infrastructure
- Required experience of project management

#### *207.5 Assess the best fitting privatisation projects*

- Promising private sector investment projects (if any)
- Impracticable private sector investment projects

#### *207.6 Mobilise investors*

Potential investors outside the port community (if any) will be mobilised, who are able and willing to invest in the port infrastructure and who help to define the conditions under which they would invest and under which they

can mobilise funds to invest in port infrastructure. The mobilisation of investors will be organised in a two days workshop:

- 2 days investors platform
- 1 day visit to both ports
- 1 day presentation and discussion

**ACTIVITY 208**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Certain Factors in the Port Environment are Analysed</b>
STAFFING: Expatriates:	Port Development Expert Local Legal Expert
DESCRIPTION OF ACTIVITIES:	
208.1 <i>Analyse customs procedures and other ancillary services</i>	
<ul style="list-style-type: none"> <li>• Review of customs procedures and others ancillary services which might affect port performance and productivity (maritime administration/harbourmaster, immigration, port health, shipping agents and forwarder)</li> <li>• Review of Tacis study on customs procedures etc. in Traceca countries</li> <li>• Identification of bottlenecks</li> <li>• Recommendations for improvement for procedures and physical facilities.</li> </ul>	
208.2 <i>Advise on Public participation</i>	
<p>All authorities and institutions involved in the port and in port related planning in the town/region and country will be informed and integrated and their concern will be duly considered. As they are the decision makers, good cooperation is essential. Any mayor conflicts will results in serious delays and eventually non-implementation and both can not be the intention of the project. How other parties of the Georgian public will participate or being informed, depends on the common national/regional habits and standards. The consultants will act accordingly in close cooperation with the authorities.</p>	



**ACTIVITY 209**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>An Environmental Impact Assessment of the Developments in the Ports and of Subsequent Operations is Prepared</b>
STAFFING: Expatriates:	Environmental Expert Port Development Expert Local Legal Expert
DESCRIPTION OF ACTIVITIES:	<p>All activities will be carried out, using the format outlined in Annex 5 of the EBRD's "Environmental Procedures" as well as National EIA Regulations. Impact prediction, evaluation and mitigation.</p> <p>209.1 <i>Identify beneficial or adverse environmental impacts associated with both the construction and operational stages of the port facilities</i></p> <p>The identification of impacts will be based on:</p> <ul style="list-style-type: none"> <li>• Results of the scoping-meeting (see Activity 114)</li> <li>• Background data is collected in phase 1 of the project</li> <li>• The engineering design of the ports / the master plans</li> <li>• The predicted increase of vessel traffic / traffic forecast</li> </ul> <p>209.2 <i>Assess impacts on water quality</i></p> <p>Construction phase:</p> <p>The effects of civil works, such as</p> <ul style="list-style-type: none"> <li>• Deepening of access channels</li> <li>• New building or lengthening of quay walls</li> <li>• Construction of cargo/container storage and handling areas</li> <li>• Construction of wave-protection</li> </ul> <p>have to be assessed since they might result in disturbance of sedimentary deposits (remobilization of pollutants from the sediment into the water), changes in wave and current patterns as well as sediment transport and lead thereby to a destruction of parts of the natural environment.</p> <p>Operational phase:</p> <p>Potential adverse impacts that are associated with:</p> <ul style="list-style-type: none"> <li>• Cargo handling - dry and liquid bulk: spillage of fertilisers, minerals,</li> </ul>

grain, oil and petrochemical products and others that may reach the port waters, either as runoff or may be blown into the water causing eutrophication, environmental pollution, additional risks in terms of immediate danger to the health of the workers, risk of fire and explosion in the vicinity of the spilled product

- Handling and storage of dangerous cargo: accidental release that may lead to severe environmental impacts, danger to safety and health of the workers
  - vessel traffic - accidental or unauthorised discharges of oily or other wastes, higher risk of collision with increasing traffic, introduction of unwanted organisms by deballasting of clean or segregated ballast
- have to be described and assessed with regard to future amount of cargo and ships' traffic.

Potentially beneficial impacts which can be expected from

- Construction of a new pavements of the terminals, including a drainage system which will prevent runoff of spilled material into the water of the port
  - Construction of port reception facilities
  - Construction of special areas/facilities for storage and handling of dangerous cargo
- will be evaluated.

### 209.3 *Assess air quality and noise impacts*

Construction phase:

- The generation of dust and noise by construction traffic will be assessed.

Operational phase:

- The amount of dust, odour, smog generated by dry cargo, emission of cargo vapours as well as exhaust from vessels has to be assessed with regard to the increase of vessel traffic

### 209.4 *Assess any socio-economic impacts*

Construction and operational phase

Beneficial and/or adverse impacts which have to be assessed are i.e.:

- Direct local employment effects (which could be encouraged through appropriate training - programmes), effects on local services
- Upgrading of the ports' values by adaptation to change in market, economic growth
- Attraction of modern shipping services
- Impacts on or possible loss of residential or recreational areas
- Influence on tourist or fishing industry

Impacts on landscape or land use in the surroundings of the ports

### 209.5 *Propose alternatives and mitigating measures*

After having assessed and evaluated the relative significance of potential negative impacts on the environment, measures to avoid or mitigate adverse impacts and/or to enhance the environmental benefits have to be proposed and elaborated.

These measures could be of organisational, operational or structural nature and will be discussed continuously during the planning stages. A mitigation plan will be elaborated proposing cost-effective means to avoid or to reduce adverse environmental impacts to acceptable levels on sustainable basis.

### 3.4.6 Phase 3

#### 3.4.6.1 Activity Sheets

#### ACTIVITY 301

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Preliminary Engineering Designs and Outline Specifications for the Principal Components of the first Phase of Recommended Development are Prepared.</b>
STAFFING: Expatriates:	Civil Engineer Port Development Expert
DESCRIPTION OF ACTIVITIES:	
301.1 <i>Prepare preliminary design</i>	
	The preliminary engineering design works for this study are to elaborate the chosen ideas developed during Phase 2 of this study, for the first phase of development of the project, into general arrangement drawings and specification profiles. Where appropriate the environmental impact of the activity will be taken into account too.
301.2. <i>Prepare drawings and specifications</i>	
	For the port infrastructure, the works include the preparation of key drawings and outline specifications for quay construction, site works (dry earthworks), terminal buildings, utilities, equipment, facilities, roads and rail, dredging works and ancillary works.
	Once having prepared these more detailed plans the costs estimates prepared in Phase 2 of this study can be reviewed and more specified budgets prepared. Estimates will be based on quantities, unit rates and usual margins for indirect and overhead costs. Where necessary transport costs will be included.

### 301.3. *Decide about surveys*

If required additional topographical surveys will be made. However, it is proposed that relevant surveys (topographical, hydrographical and geotechnical) are already executed during Phase 1. For the time being it is assumed that local authorities can supply adequate basic documentation to form the base the design works.

### 301.4. *Compile Design Report*

The result of the works will be presented in a Design Report, containing a concise description, sketches and cost tables of the selected development projects.

**ACTIVITY 302**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Preliminary Engineering Designs for Equipment Rehabilitation and Outline Specifications for New Cargo Handling Equipment are Prepared</b>
STAFFING: Expatriates:	Cargo Handling Equipment Engineer Procurement Expert
<p>DESCRIPTION OF ACTIVITIES:</p> <p>302.1 <i>Prepare outline specifications for cargo handling equipment</i></p> <p>Based on the identified requirements for additional cargo handling equipment and machinery to be procured, outline specifications will be prepared for tendering. The specifications will be based on international standards, useable for EU-wide or world-wide tendering. They will be based on good international equipment engineering practice and take the prevailing local conditions into account. Economical operations, easy maintenance and repair, and environmental friendliness shall be guiding principles.</p>	
<p>302.3 <i>Produce preliminary design specifications for equipment rehabilitation</i></p> <p>It is anticipated that certain items of cargo handling equipment need to be rehabilitated. The Consultant will prepare preliminary design specifications for these tasks and advise on efficient and cost-effective means of execution. Local capabilities will be considered in the design of activities.</p>	
<p>302.3 <i>Develop financial requirements for repairs, improvements and maintenance</i></p> <p>The Consultant will develop financial requirements based on the earlier established plans for repairs and improvement as well as for running maintenance. He will negotiate the financial implications of these plans with the finance department and adjust the repair and maintenance plans according to available budgets. In this, he will clearly state the cost and revenue penalties that arise out of insufficient maintenance and repair.</p>	

## ACTIVITY 303

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES:</b>	<b>Assessment of the Beneficiary's credit worthiness for a possible Bank loan and of possible other project finance arrangements by private investors.</b>
<b>STAFFING:</b> Expatriates:	Financial Analyst Finance and Accounting Expert Local Banking Expert
<b>DESCRIPTION OF ACTIVITIES:</b>  303.1 <i>Analyse the financial position of the port</i>  Analyses will be made on the financial position and the financial performance of the Port of Poti and the Port of Batumi. The analyses will be in depth and among others be based on the financial analyses from phase 2. As a result the balance sheet, the profit and loss account and the source and application of funds will be produced in a standardised and internationally accepted format and detail. The last three years will be taken into account, to establish the trends for all important elements. Key figures for relevant elements of expenses and revenues will be calculated taking into account the quantities with respect to labour, supplies, number of ships, tonnages loaded and unloaded etc.	
303.2. <i>Develop financial projections</i>  Financial projections will be made for the coming 15 years, the projections will be in the format of profit and loss accounts, and balance sheets. The projections will highlight the financial position as well as the lending capacity. Key figures from the above-mentioned analyses will be taken into account as well as traffic forecasts, investment plans etc. If necessary, the projections will be calculated for different scenarios.	
303.3. <i>Advise on a tariff structure for the ports' services</i>  In a commercial environment conforming to market economic conditions, pricing of services has to be flexible to a certain extend. To be able to implement such flexibility, a general pricing strategy for the different areas of service has to be developed. These pricing strategies take into considera-	

tion the anticipated or planned future development of the ports, the services the ports will offer and their comparative contribution to results as well as any government policy on that matter. With these prerequisites in mind, pricing strategies for cargo handling, port services and storage will be developed.

The tariff structure will be analysed in the light of effectiveness and simplicity. If possible and applicable, recommendations for simplification and other changes will be made. The fee and rental structure will be reviewed and changes will be proposed.

#### 303.4. *Proposed statistical information system*

The current system for port statistics will be analysed and the needs for statistical management information will be set up in close cooperation with management. The layout of a computerised statistical information system will be set up.



**ACTIVITY 304**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>An Efficient Organisational Structure as well as Training Programmes are Proposed</b>
STAFFING: Expatriates:	Port Development Expert Human Resources Expert Local Training Expert
DESCRIPTION OF ACTIVITIES:	
All the following activities will be executed by a concentrated team effort by the human resources expert with the local training and the ports' finance experts. They will work as a team and prepare a comprehensive training scheme	
304.1 <i>Set up an efficient organisational structure</i>	
The structure of an efficient organisation will be set up, together with an organisation scheme, manning schedule and task descriptions in headlines. The factor of human resources will included job requirements, human capacities and training schedules. The translation in costs of this part of the proposal will be input in at least one of the scenarios of the projections.	
304.2 <i>Design training programmes</i>	
Based on the results of the training needs assessment, training programmes for all levels of management will be conceptualised. The programmes will be designed in contents and probable outcome and a decision on priority will also be made. The final result of this activity will be a comprehensive management and training scheme that includes budget requirements.	

**ACTIVITY 305**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Legal Documentation for Private Investments by Concessions is prepared</b>
STAFFING: Expatriates:	Legal Expert Local Legal Expert Local Business Planning Expert
DESCRIPTION OF ACTIVITIES:	
305.1 <i>Establish the present legal status of the ports</i>	
<p>The ports industry in Georgia is in a phase of legal and constitutional changes. The port of Poti is said to be a company under private law already, while Batumi is said to be still debating such step. Also, the legal system in the country itself is undergoing tremendous changes at present. Further, the port of Batumi might have to respond to other legal pressures brought about by regional self-determination than Poti. For all these reasons, it will be necessary to establish as conclusive as possible the formal, but also the operational, legal status of both ports</p>	
305.2. <i>Prepare legal documents</i>	
<p>Should earlier phases indicate the need and opportunity for private investment by concession or any other mechanism, the Consultant will prepare the full documentation for the introduction of tender documents. This covers for example the necessary ownership for any priority land acquisition or renting, possible ownership exchange, the preparation of contracts with the possible private operators or investors; the concession documentation and the financial approach for the privatisation</p>	
305.3 <i>Advise on the possible future legal status of the ports</i>	
<p>There is a fundamental difference between a concession system which is mainly used in Southern Europe (especially Italy and France) and the Northern European system where a long (land) lease is the main instrument for the port authorities to utilise their port land. Therefore, the preparation of these legal documents are dependent on the management model which is chosen by the Government. Generally, one can say that a system of land lease contracts is only useful when there is a good banking system in place and private land ownership is based on a balanced legislation. A</p>	

concession system on the other hand requires a professional port authority, able and willing to permanently monitor and control a concessionaire.

The following activities are envisaged:

- Determination of the investment areas in the port business that can be privatised such as terminals, pilot operations, services.
- Economic, financial (incl. asset valuation) and organisational analysis of the present organisations active in these fields and their willingness to privatise (and invest)
- Preparation of a draft concession agreement, land lease or rent contracts and presentation to the parties concerned
- In case that there are no existing organisations in a specific field, tender documentation will be prepared to either grand concession or to rent/lease land, superstructures, such as sheds and warehouses, and equipment, such as cranes

#### 305.4. *Facilitate discussions with concerned parties on the future legal status of the ports*

In order to attract private sector investment into the port, it might be necessary to amend or change certain legal or regulatory instruments. An investigation of such instruments will be made, necessary modifications identified and changes to be implemented proposed to the relevant authorities. Discussions with them will be initiated in view of attaining a new legal framework that supports private sector investment

**ACTIVITY 306**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
<b>OBJECTIVE OF ACTIVITIES:</b>	<b>Should the preceding work indicate the need and opportunity for a private sector investor and recommend his selection by tender process, the Consultant will prepare tender documentation for the selection of a private partner and assist in tender process finalisation</b>
<b>STAFFING:</b> Expatriates:	Privatisation Expert Legal Expert Local Legal Expert
<b>DESCRIPTION OF ACTIVITIES:</b>  <i>306.1 Prepare documentation for the decision to tender</i>  The Consultant will prepare the draft paper for the basic tender decisions to be done by the principal and moderate the decision process of the involved parties. <ul style="list-style-type: none"> <li>• Preparation of the draft decision paper <ul style="list-style-type: none"> <li>• Draft of the paper</li> <li>• Presentation and final version</li> </ul> </li> <li>• Coordination of the decision process <ul style="list-style-type: none"> <li>• Advance discussion</li> <li>• Final decision</li> </ul> </li> </ul>	
<i>306.2 Prepare tender documents and other documentation for negotiations with private investors</i>  In order to attract private investment into the port, certain documentation for negotiation purposes must be prepared in advance. The format and the contents of this documentation shall be identified and the documents prepared accordingly. They should address all possible questions that can arise in negotiations and offer sufficient background material for the negotiators to rely on it in the process. The will be used for: <ul style="list-style-type: none"> <li>• Consultation with the potential partners</li> <li>• Design of the draft tender document</li> <li>• Presentation of the draft</li> <li>• Final version of the tender</li> </ul>	

### 306.3 *Assist in tender process finalisation*

The Consultant will assist in the tender process finalisation.

- Mobilisation of potential partners
- Evaluation of the proposals of the partners
- Preparation of a draft for the final decision of the partner

### 3.4.7 Phase 4

#### 3.4.7.1 Activity Sheets

#### ACTIVITY 401

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Tender Documents for the Development Project are Prepared</b>
STAFFING: Expatriates:	Procurement Expert Civil Engineer Cargo Handling Equipment Engineer Legal Expert
DESCRIPTION OF ACTIVITIES:	
401.1 <i>Prepare tender documents</i>	
<p>Once all development plans have been devised and agreed with the relevant decision makers and finance has been secured for investment, tender documents must be prepared. As a considerable amount of finance will come from international lending agencies, tender documents should be prepared along the guidelines of those agencies. (Tacis, EBRD, The World Bank or FIDIC standard). Technical specifications should be in line with international standards. The expert should also assist in the compilation of lists of prospective bidders and be involved in pre-qualification procedures. Based on the recommendations made in the Design Report prepared during Phase 3 of the study and the discussions held with the Client and the Beneficiary, tender documents will be prepared for tender purpose. These documents will consist of written documents and drawings.</p> <p>The written documents will contain: instructions to tenderers, administrative specifications, standard (technical) specifications, special specifications, scope of works, bills of quantities, method of measurement and contract documents. It is assumed that local authorities will provide standard administrative and technical specifications in the English language.</p> <p>The drawings to accompany the written documentation will be of the so-called 'tender drawing standard'. This means that they can be used for tender purpose only and form the basis for construction drawings to be prepared by Contractor.</p>	

**ACTIVITY 402**

Tacis - Traceca Project No. TNREG9603	Feasibility Study of New Terminal Facilities in the Georgian Ports
OBJECTIVE OF ACTIVITIES:	<b>Assistance in Procurement is Given</b>
STAFFING:	Expatriates: Procurement Expert Civil Engineer Cargo Handling Equipment Engineer
DESCRIPTION OF ACTIVITIES:	
402.1 <i>Assist in tendering procedures</i>	
<p>Detailed tender procedures will depend on the type, scope and price of goods and services that need to be procured. To make this process efficient and effective the Consultant will draw up a procurement programme and assist in the contractors' and suppliers' pre-qualification process or in the establishment of short lists, as circumstance require. He also will produce sufficient numbers of tender documents and dispatch them to selected bidders, giving, when required, advice to the beneficiary or the bidders on the documents.</p>	
402.2 <i>Assist in the evaluation of offers</i>	
<p>Once offers have been received, they have to be evaluated from a technical and a financial viewpoint. Such evaluation will need the expertise of different professionals, but general advise on the establishment of a ranking system, on control of plausibility, on weighing of different technical or financial solutions can be given by the expert.</p>	
402.3 <i>Establish an investment project coordination unit</i>	
<p>Depending on the amount of investment projects and their relative size it might be necessary to establish a project coordination function or unit. The task of this function or unit is to follow all investment projects, supervise their progress, monitor compliance with legal and contractual obligations, check and release payments, liaise between contractors, consulting engineers, borrowers, the government and the organisation.</p>	

#### *402.4 Monitor budget compliance of investment projects*

Investment projects have major financial implications, therefore, close monitoring of budget compliance is of utmost importance. The daily monitoring will be done by the project coordination unit or function, but the expert will be required to do his own monitoring at specific intervals. Especially, he will be concerned with identifying as early as possible any cost increases, find out their reasons and devise ways of preventing them, if possible. Also, he will see to it that expenditure is dispersed according to plan and in compliance with construction progress. Additionally, he will assist the organisation in matching the disbursement of funds from the lending institutions with the contractual outflow of funds into the projects.



### **3.4.8 Study Trips for Senior Executives and Managers**

Within the project it is proposed to conduct three study tours in order to familiarise the participants with organisation and work structure of modern western European ports and thus facilitate the co-operation between the western experts and the port management of Poti and Batumi.

#### **3.4.8.1 General Remarks to all Study Tours, Approach and Objectives**

##### Target Audiences

For the first study tour a group of six participants consisting of senior executives from the Ministry of Transport of the Republic of Georgia, from the Ports of Poti and Batumi and from local institutions in charge of maritime affairs shall be selected. This one week study tour is proposed to take place during the first phase of the project.

Two further study tours for senior managers from both ports are proposed to be carried out. For one study trip senior managers from the economics and commercial departments should be nominated. Participants for the other study tour shall be selected from the senior technical and operations managers. The consultants will gladly offer their advice and services to the selection process, should the Ports of Poti and Batumi want to avail themselves thereof.

The participants shall be from upper management, have a good academic background, some years of relevant professional experience and are seen as belonging to the group of decision makers that will propel the Georgian ports into the future.

It would be a major advantage, if they possessed a working knowledge of English, the language of the international transport sector - this, besides the fact that each group will be accompanied by a Russian speaking training expert and, when appropriate, a competent and qualified interpreter will be provided.

##### Objectives

The programmes will give the participants comprehensive insight into all aspects of port management in West European sea ports.

Within the study tour a holistic approach towards port management will be chosen. The programme will give the participants a comprehensive introduction into the organisational structures of ports. The port managers will gain insight into the division of tasks between the public and the private sector and acquaint themselves with the different ways in which port operations and port administration are carried out and in which infrastructure and suprastructure in ports is planned and financed.

The participants will familiarise themselves with different aspects and levels of planning, e.g. strategic port planning, investment planning, and financial planning in ports. Also they will be introduced to efficient working relationships between private port enterprises and the port authority.

Within the two study tours for the senior port managers another important aspect in effective port management is the exchange of information inside the port between different port sections as well as between port and the other parties involved in maritime transport. Availability of data is also an important feature of a functioning accounting system and effective and rational cost control. Therefore, the participants of the study tours will be familiarised with edp- and edi-systems and the overall organisation of exchange of information. A major focus of the programme will be on the edp-systems used in financial and commercial departments. In addition, the participants shall understand the output of a client-orientated marketing policy. They shall be aware of the fact that it is the market that determines the traffic and the cargo flow in West Europe, and not political decisions that steer the demand. The managers from Poti and Batumi ports will gain insight into tariff policy as one marketing instrument of ports and understand the implications of tariff and marketing policy for the successful work of the port.

Especially the managers from the technical and operations departments shall acquaint themselves with state-of-the-art cargo handling equipment as well as with the organisation of work. Another important topic will be maintenance and repair of equipment and installations. Therefore, a major focus will be laid on pre-planned maintenance and efficient workshop organisation. Further, they will get insight into infrastructure planning and construction methods.

Finally the participants shall build an awareness of the importance of personnel policy. They will understand that the decisive factor of success is well trained and skilled personnel and will familiarise themselves with personnel development and training systems applied in West European ports.

The study tour shall enable the participants to

- understand systems applied in Western Europe
- adapt them to conditions in Georgia and implement them in the port and
- work effectively with European counterparts.

## Methodology

In order to present a broad overview of European ports three study tours to different western European ports will be conducted. In view of the seniority of the participants a highly practice-orientated approach is chosen.

Only in rare cases will the lectures be given in the traditional style, i.e. by verbal presentation of the lecturer and passive listening by the participants. Rather, a free exchange of opinions and experiences will be stimulated after an organisation or a subject area has been introduced by the lecturer in a short and concise manner. All visits and presentations will be highly participative and demand from the participants constant attention, a willingness to take part in deliberations, open mindedness to new concepts and the readiness for critical but positive discussions.

During the study tour the participants will gain insight into basic administrative procedures in the West European port sector. They will be introduced to the organisational structures of ports in discussions with leading executives and managers and by site visits to financial departments.

The site visits will develop the participants' sense of reasoning to identify in differently structured organisations, the fundamental technical and organisational requirements universal for efficient management and operations in the international port sector. Additionally, the participants will get first-hand information on the profit/cost centre and controlling systems established in most European ports.

The visits will be organised in such a way that always sufficient briefing time is available and the participants can prepare for the discussions. During the visits the participants will discuss with practitioners and experts practical experience concerning management, marketing, financial and development aspects, organisation and procedures in the technical sector, short-term and long-term planning as well as the financing of investment, particularly with a view towards the unique tasks and responsibilities of management.

An important feature of this programme is that during the entire course time a Russian-speaking port training expert will permanently accompany the group. He will always be at hand to guide the flow of information in quality and quantity in the interest of the participants. In discussions this programme director will be able to point out important aspects and to correct misunderstandings.

He will

- have permanent contact with the participants and guide them through work and life in the visited countries
- conduct and supervise tutorials, workshop session, presentations and site visits
- supervise regularly and formally the course and secure follow-up and feedback of experience
- liaise with all organisations and institutions involved
- co-ordinate all training events
- assist the participants in understanding and mitigating any social and cultural difficulties they might encounter
- report regularly and in the requested manner to the Contracting Authority

After the discussions and visits of the study tour the participants will possess a deeper understanding of the port sector in Europe. This understanding should have a positive effect on their later work back home.

The travels within the study tours will be undertaken by minibus. Thus, a maximum of flexibility and mobility can be achieved without being dependent on public transport.

## Locations

Basic location as well as point of commencement and termination of the tour will be Hamburg. In Hamburg the organisation of a municipal port and the work of private

port operators with special regard to port planning and management aspects will be presented to the participants through visits to port companies and through lectures.

From Hamburg the tour proceeds to other European ports, where the organisational structure of the port as well as questions of ownership will be explained.

The countries and ports are chosen with regard to the different legal framework defining the conditions under which the ports work. The ports will be visited to demonstrate to the participants the impacts of the legal structure governing the work of the ports and to point out the universal aspects of management in ports, regardless of the different structures of the ports.

The study tour will end with a training session in Hamburg, where a final discussion about the organisation of the port sector in Europe will take place, taking into account the new knowledge and experiences of the participants. Also, a final evaluation of the study tour will be conducted.

### 3.4.8.2 Study Tour for Senior Executives

#### Contents/ programme

Within the study tour EU-ports are proposed to be visited:

Hamburg, Germany  
Rotterdam, Netherlands

#### Course outline

Working Days	Port
1 <sup>st</sup> day	Arrival in Hamburg
2 <sup>nd</sup> day	<p><b>The port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Introduction to the organisational structure of the port of Hamburg: The sharing of responsibility between the public and the private sector, with special regard to the planning and financing of port infra- and suprastructure</li> <li>• Basic information about strategic port and terminal planning</li> <li>• Introduction to accounting and cost control systems in port</li> </ul>

	<p>companies</p> <ul style="list-style-type: none"> <li>• Visits to private port operators and stevedoring companies</li> </ul>
3 <sup>rd</sup> day	<p>Transfer to Rotterdam, Netherlands</p> <p><b>The port of Rotterdam</b></p> <ul style="list-style-type: none"> <li>• The organisational structure of the port</li> <li>• Questions of ownership</li> <li>• Controlling systems in the port</li> <li>• Port marketing</li> <li>• Port development and planning and financing of infrastructure and suprastructure investment</li> </ul>
4 <sup>th</sup> day	<p><b>The ports of Bremen and Bremerhaven</b></p> <ul style="list-style-type: none"> <li>• Organisational and administrative structure of the port</li> <li>• The management organisation regarding strategic and investment planning</li> <li>• Relations between the port authority and private operators</li> <li>• Planning and financial justification of infrastructure and suprastructure</li> <li>• The personnel development system in the port</li> </ul>
5 <sup>th</sup> day	<p><b>The port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Personnel training and human resources development</li> <li>• Port marketing: explanation of the marketing of the port of Hamburg and of private port operators</li> <li>• Summary of topics which have been covered during the study tour</li> <li>• Evaluation of the study tour</li> </ul>

### 3.4.8.3 Study Tour for Senior Managers of the Economical and Commercial Departments

The study tour for senior managers of the Economical and Commercial Departments from the ports of Poti and Batumi in Europe will comprise the following locations:

Germany  
Netherlands  
Belgium

## Course Outline

Working Days	Port
1 <sup>st</sup> Day	<p>Arrival in Hamburg</p> <p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Harbour Cruise</li> <li>• Organisation structure and division of tasks between the public and the private sector</li> </ul>
2 <sup>nd</sup> Day	<p>Transfer to Rotterdam via Port of Delfzijl</p> <p><b>Port of Delfzijl</b></p> <ul style="list-style-type: none"> <li>• Explanation of the organisational set-up</li> <li>• Strategic port planning</li> <li>• Visit to terminals</li> <li>• Ferry operations</li> </ul>
3 <sup>rd</sup> Day	<p><b>Port of Rotterdam</b></p> <ul style="list-style-type: none"> <li>• Visit to general cargo terminals and warehousing facilities</li> <li>• Operation of a container freight station</li> <li>• Organisational structure of the port</li> <li>• Accounting systems in port companies</li> </ul>
4 <sup>th</sup> Day	<p><b>Port of Antwerp</b></p> <ul style="list-style-type: none"> <li>• Port development demonstrated in the old and the new parts of the port</li> <li>• The organisation of work and division of tasks between public and private sector</li> </ul>
5 <sup>th</sup> Day	<p><b>Port of Rostock</b></p> <ul style="list-style-type: none"> <li>• The privatisation of a port company</li> <li>• Organisational set-up</li> <li>• Strategic port planning</li> <li>• Visit to specialised terminals</li> </ul>
6 <sup>th</sup> Day	<p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Visit to a multi-purpose terminal</li> <li>• Grain handling and storage</li> <li>• Handling of containerised cargo</li> <li>• Additional port services</li> </ul>

7 <sup>th</sup> Day	<p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Warehousing and storage facilities</li> <li>• Container freight station</li> <li>• Port marketing: explanation of the marketing of the port of Hamburg and of private port operators</li> </ul>
8 <sup>th</sup> Day	<p><b>Ports of Lübeck and Travemünde</b></p> <ul style="list-style-type: none"> <li>• Ferry operations: Handling of railway, trucks and passenger traffic</li> <li>• Handling of general cargo</li> </ul>
9 <sup>th</sup> Day	<p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Multi-modal cargo handling concepts</li> <li>• Visit to a multi-modal terminal</li> <li>• Accounting and controlling functions in port companies</li> <li>• Investment financing</li> </ul>
10 <sup>th</sup> Day	<p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Summary of topics which have been covered during the study tour</li> <li>• Evaluation of the study tour</li> </ul>

#### 3.4.8.4 Study Tour for Senior Managers of the Technical and the Operations Department

The study tour for senior managers of the Technical and the Operations Departments from the ports of Poti and Batumi in Europe will comprise the following locations:

Germany  
Netherlands  
Belgium



## Course Outline

Working Days	Port
1 <sup>st</sup> Day	<p>Arrival in Hamburg</p> <p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Harbour Cruise</li> <li>• Organisation structure and division of tasks between the public and the private sector</li> </ul>
2 <sup>nd</sup> Day	<p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• The organisational setup of the Port of Hamburg</li> <li>• Fees and tariffs in the Port of Hamburg</li> <li>• Visit to cargo handling terminals <ul style="list-style-type: none"> <li>- Multipurpose Terminal</li> <li>- Fruit handling</li> </ul> </li> </ul>
3 <sup>rd</sup> Day	<p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Services provided in the Port of Hamburg</li> <li>• Hinterland connections and the relation between port, railway and road</li> <li>• Multi-modal cargo handling</li> </ul>
4 <sup>th</sup> Day	<p><b>Port of Hamburg</b></p> <p>Port Planning</p> <ul style="list-style-type: none"> <li>• Infrastructure planning according to a port's specific conditions</li> <li>• Terminal planning concepts</li> <li>• Visit to a container terminal</li> </ul>
5 <sup>th</sup> Day	<p><b>Port of Rotterdam</b></p> <ul style="list-style-type: none"> <li>• Organisational set-up of the port</li> <li>• Port development plans</li> <li>• Tendering Procedures</li> <li>• Feasibility Calculation</li> <li>• Technical Specification</li> </ul>
6 <sup>th</sup> Day	<p><b>Port of Rotterdam</b></p> <ul style="list-style-type: none"> <li>• Restructuring of Port Facilities: Conversion of old berths and quay walls into modern ones</li> <li>• Port renovation and construction work</li> </ul>

	<ul style="list-style-type: none"> <li>• Visit to cargo handling facilities</li> <li>• Maintenance and repair of equipment and cargo handling facilities</li> </ul>
7 <sup>th</sup> Day	<p><b>Port of Antwerp</b></p> <ul style="list-style-type: none"> <li>• Organisational Setup of the Port</li> <li>• Cooperation between the Port Authority and Private Port Operators</li> <li>• Strategic port development planning</li> </ul>
8 <sup>th</sup> Day	<p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Handling of General Cargo, Containers and Bulk Cargo</li> <li>• Adjustment of Port Facilities to Future Needs</li> <li>• Handling and storage of grain</li> <li>• Workshop organisation</li> </ul>
9 <sup>th</sup> Day	<p><b>Port of Lübeck and Travemünde</b></p> <ul style="list-style-type: none"> <li>• Planning of a ferry terminal</li> <li>• Ferry operations: Handling of railway, trucks and passenger traffic</li> <li>• Handling of paper products</li> <li>• Organisation of work</li> </ul>
10 <sup>th</sup> Day	<p><b>Port of Hamburg</b></p> <ul style="list-style-type: none"> <li>• Strategic Port and Terminal planning: Long, medium and short term planning</li> <li>• Summary of topics which have been covered during the study tour</li> <li>• Evaluation of the study tour</li> </ul>

### **3.4.9 Organisation and Institutional Arrangements**

#### **3.4.9.1 Home Office Support**

##### **3.4.9.1.1 Project Co-ordination and Control**

An efficient controlling, based on solid professional background is of vital interest for this project, in order to guarantee intensive and efficient communication between the experts on location, the home office in Hamburg and between the three companies involved.

The Project Director within HPTI will be responsible for overall conceptual and technical support and management of the project. This will enable the tasks assigned by the client to be implemented as efficiently as possible. The Project Director's duties will involve:

- development and harmonisation of the consultancy approach in close collaboration with the Client
- co-ordination of management and evaluation activities
- co-ordination of long term and short term missions of the Consultants on location as well as in the home offices
- co-ordination of report writing and submission
- execution of visits to Georgia in order to discuss relevant, current questions with the beneficiaries, to clear strategic and operative project matters and to directly solve organisational and administrative backstopping questions
- assessment and appraisal of technical experience gained during the course of the project
- the execution of special tasks relevant to the project (task-force principle)
- the co-ordination of activities involving the use of expert knowledge drawn from HHLA Hamburger Hafen- und Lagerhaus AG, Dornier SystemConsult GmbH, HPTI Hamburg Port Training Institute, Rotterdam Maritime Group and other independent institutions
- Be contact partner for the Traceca Coordinating Unit in Tblisi and Brussels and Tacis office in Brussels.

In addition the head of each relevant department within HPTI, Dornier and Rotterdam Maritime Group will assume responsibility for the best possible support within his own area of expertise and will also perform the corresponding higher co-ordination functions.

The project co-ordinator will be in charge of the internal project monitoring and evaluation, which are two activities necessary for efficient project management:

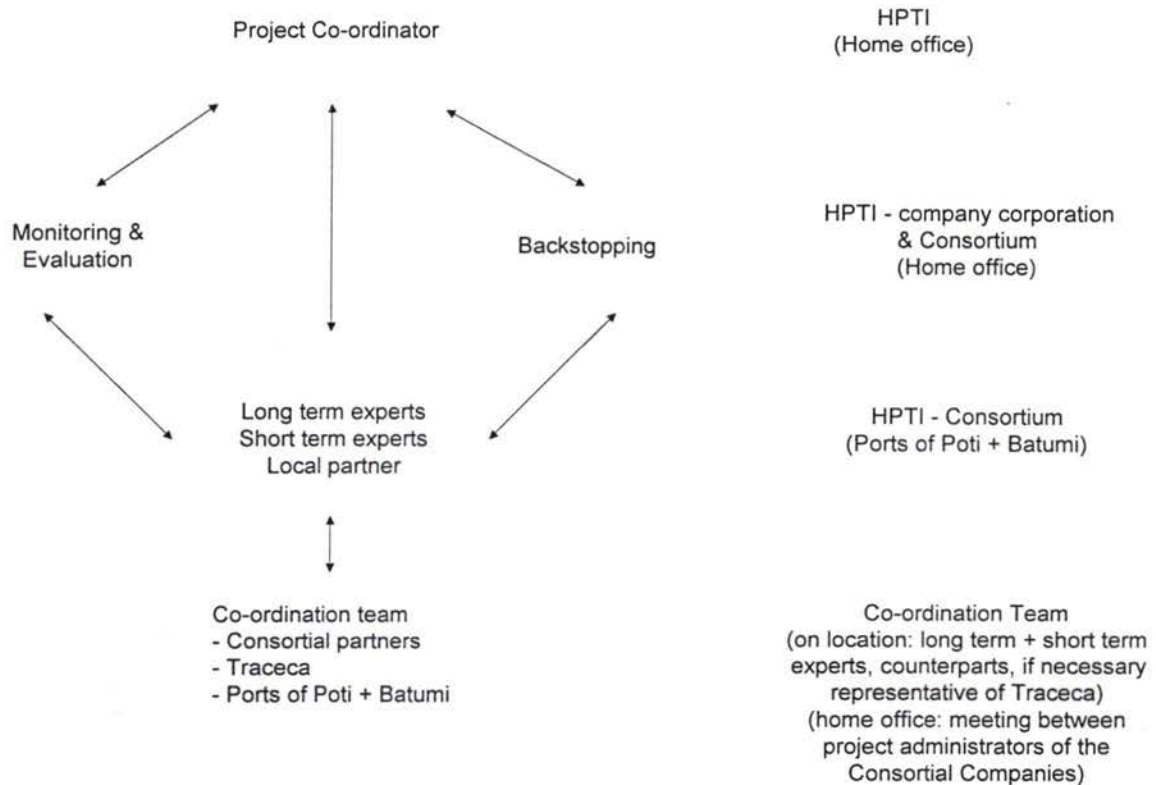
- Monitoring: collection and documentation concerning the project progress
- Evaluation: use of these information for an objective-oriented assessment of the project development and necessary adaptations of the project schedule.

Thus, the monitoring and evaluation is the a link between the project planning and project realisation and these activities serve to ensure the achievement of the project objectives. Deviations from the plan and possible necessary changes will be foreseen early in the course of the project and can therefore be smoothly implemented. The internal monitoring and evaluation will serve as an instrument for continuous control of the project by the project co-ordinator and also assist in co-ordinating the activities carried out by the individual experts of the three companies forming the consortium.

In will indicate whether

- the activities are carried out according to the project schedule and lead to the planned objectives
- the planned results of the individual project phases can be reached
- adaptations of the work plans are necessary
- a need for additional projects occurs.

The systematic of the organisation of project co-ordination and control can be seen in the following graph:



In the course of the project the co-ordination and controlling will take care of

- continuous co-ordination between long term experts and project co-ordinator via telephone, telefax, e-mail and, since telecommunication connections are very poor in Georgia, courier
- timely and unbureaucratic backstopping support
- co-ordination of regular meetings/ discussions between the members of the consortium

The objectives of the project co-ordination are as follows

- facilitation of the work of the long term experts by quick solution of problems
- continuation of participation of the beneficiaries which has started in the planning workshops during the working phases of the project
- joint preparation of short term missions
- formal and emotional integration of both port managements into the project
- early discovery of possible problems and obstacles

Hence, the function of project control and co-ordination will actively participate and assist in the project in order to realise the work programme.

### 3.4.9.1.2 The Need for Support - Backstopping

The given project includes very complex tasks, the realisation of which requires intensive and **constructive communication concerning the transfer of** conceptual and technical know-how between the home office and the project team. The Multi-disciplinary teams in the field make precise demands on both the head office project management and support groups.

For the purposes of the project it will be necessary to draw up plans detailing a communications system capable of transmitting know-how between the domestic headquarters and the project team. The system must be responsive but should not lead to excessive outside control, so that the expert on-the-spot can count on quick and effective support from head office on all matters relating to project execution. In addition to this the support functions should be efficiently organised to permit a structured "feedback" of information to the overall benefit of the project.

### 3.4.9.1.3 Support Tasks

The major support tasks that will be carried out by head office during the implementation of the project are as follows:

- speedy and efficient processing of technical questions raised by experts in the field and the taking of necessary measures in Germany (reactive backstopping)
- technical support of the staff on site through the transmission of relevant information and experience gained from other related projects (active backstopping). This will also involve the communication of methodological suggestions and ideas for solving problems which have already worked successfully elsewhere.
- evaluation and "feedback" of experience gained from the planning, implementation and control of consulting services in the fields of operations and training in general
- administrative and logistical support to project staff in the field
- the safeguarding, implementation and achievement of the objectives derived from the Logical Framework System and TOR
- orientation and support during the field visits

- ensuring that the Client is kept regularly informed of all relevant progress and developments.

Visits by head office staff to experts in the field have proved very effective and are an essential requirement of the project. Their main purposes are as follows:

- discussion of current questions relating to the co-operation with various institutions related to the project in Azerbaijan
- clarification of strategic and operational matters
- dealing directly with backstopping questions of a technical and administrative nature
- dealing with any personal matters relating to the project staff.

The Consultants attach great importance to the continuous staff training and development. For this reason the support team will do their best to ensure that all important documents, relevant project information, publications and the like are passed on to the respective counterparts.

It is also both useful and necessary for the experience and results obtained during the course of the project to be systematically discussed and evaluated during and after the completion of work in the field. This task should be implemented by the experts and their counterparts involved in close co-operation with the support team of the head offices in Germany.

An experienced multi-disciplinary team of specialists is available in the Consultants' headquarters to ensure that the project is efficiently supported. Where necessary outside specialist experience from associated firms and institutions will be available to this team.

The full time staff at the Consultants' head office have between them many years of consultancy experience. Company's policies contributes to a constant extension of this experience in the following ways:

- rotation of regular staff between head offices and project work on site. This involvement ensures that personnel are constantly exposed to practical problems and their solution

- integration of experts into head office departments on completion of assignments overseas
- evaluation of particular experience gained during project work via an in-house reporting procedure
- close inter-disciplinary co-operation between head office departments
- training seminars and the exchange of technical experience in various subjects
- continual up-dating of all documentation.

The headquarters' staff also monitor closely innovations made internationally with regard to new project initiatives. They support the project team in the use of new technology and the improvement of project management techniques.

The Consultants also make qualified and experienced personnel available for technical consultancy in Europe and in developing countries for the solution of special problems. They can also rely on relevant know-how from both port companies in the port of Hamburg and the port of Rotterdam. The companies are maintaining close contacts with various specialised technical consultants who can help to form work groups when necessary. In addition, when called for, the close working relationship with numerous independent technical and research institutions provide an effective addition to the Consultants' own resources.

The Consultants maintain a comprehensive documentation centre which is constantly updated with:

- economic and technical studies
- reports on experience gained in other projects
- information on development studies especially related to Eastern European countries.

The support of projects in the field of port operations and training consulting over many years has led to the development of a reference library of publications, handbooks, manuals and reports dealing with specific projects and problems. This assists effective project management and back-up.



Personal support for experts in the field is also considered important as the success of a project depends not only on their technical qualifications and experience but also on their motivation and readiness to work.

### **3.4.9.2 Local Support, Facilities and Equipment**

#### **3.4.9.2.1 Cooperation with the Ports of Poti and Batumi**

Projects in the field of port development require close co-operation between the Consultants and the Client. The reason for this is the nature of the work to be carried out; the tasks involved require a mutual understanding of problems and objectives.

Special working and communications relationships with clearly defined functions and responsibilities are also necessary due to the complexity of the support system.

In the Consultants' view such co-operation between client and contractor will lead to improved implementation of the programme particularly in the following areas:

- conceptual organisation and consolidation of the monitoring and evaluation system
- the development of the "logical framework"
- the deployment of experts best suited to the requirements of the project
- a mutual awareness and use of sources of international, regional and local knowledge.

In addition the exchange of information will ensure that the project work is adapted to meet changing needs and conditions.

The co-operation should be achieved through clearly specified responsibilities and tasks of partners on both sides. Communication and the exchange of information will be effected via the reporting system, which will be adapted to the practical requirements of the project.

Direct channels of communication are clearly important when urgent decisions are required and will be used to provide short-term solutions to problems as and when they occur.

### **3.4.9.2 Local Support, Facilities and Equipment**

#### **3.4.9.2.1 Counterpart and Support Staff**

During the Consultants' earlier discussions with the Clients it was mentioned that in addition to their wish to have the technical assistance carried out by well qualified specialists in their responsible fields it is the aim of the Clients to benefit from the Consultants' accumulated know-how not only during the active project phase but also after execution of works by improved experience and understanding of up-to-date economic planning, port operations, financial management and human resources development techniques by his own personnel.

This will be achieved by a close co-operation between selected port staff members and the project team during field work, which will lead to a transfer of both practical and theoretical know-how to the Clients' personnel concerned.

For this purpose the Clients will nominate suitable counterparts who shall be available for the entire project period to accompany the Consultants' experts during the various work steps and to be integrated into the work.

This input has been taken into consideration when elaborating the work and time schedules. It should, however, be noted that the counterparts' involvement will also make some contribution to the productive work insofar as it will assist in providing additional information, statistics, reports and other documents required by the team as well as for making appointment and arranging for meetings within the port and other authorities, governmental bodies and organisations.

#### **3.4.9.2.2 Facilities and Equipment**

Both ports understand the necessity of close co-operation between the Consultants and the port management staff and agreed to support the project by providing furnished office space including telephone installation facilities.

It is of great importance to the success of the project that the experts are accommodated in the port's head office building in order to have direct access at any time to all relevant decision makers. Also, it will foster the development of "ownership" of the project within the company when the experts are seen as belonging for the time of their stay to the "office community" of the port.

The Client will assure unrestricted access to all port facilities and port areas by all team members at all times and will assist the experts in arranging meetings with relevant officials and policy- and decision-makers in Georgia.

The Consultants will arrange local transport and accommodation for their team. These expenses have been calculated in the offer.

### 3.5 Reporting

In line with the reporting requirements of the project the Consultants will inform the Contracting Authority about the work progress, the encountered difficulties and recommendations for solution as well as suggestions for the improvement of the project performance according to the Terms of Reference. Additionally, the consultant will provide documentation in order to support the EBRD project development cycle.

All reports will be submitted in English and Russian to the Ports of Batumi and Poti, the Tacis Unit in Brussels, the Traceca Co-ordinating teams in Brussels and Tblisi and Traceca CU team in Tblisi and the EBRD according to the table below and in compliance with the Terms of Reference.

	Bound		Loose-leaf		Diskette (Eng. + Rus.)
	English	Russian	English	Russian	
Tacis Brussels	2	1	0	0	0
Traceca Co-ordinating Team Brussels	5	1	1	1	1
Traceca Co-ordinating Team Tblisi	5	5	1	1	0
Traceca CU Tblisi	1	5	1	1	0
Poti Port	1	5	0	1	0
Batumi Port	1	5	0	1	0
EBRD	2	0	1	0	0

It is assumed, that the official project monitor will receive the reports from the Traceca team in Brussels.

We propose to take MS Word as the word processing system to be used, though the final decision will be agreed with Tacis. Even though we propose to use MS Word it might become necessary to submit some parts of the report, such as for instance calculation tables, in a spread sheet programme. For tables and calculations we propose to use MS Excel.

Technical and design drawings will be delivered only as hard copy.

Due to the size of the work and the fact that colour photographs will be a major part of the report the equipment survey report will be submitted as a file on diskette or by e-mail only, but not as a hard copy version in all 48 exemplars. ✓

In accordance with the Tacis guidelines the following reports will be submitted

### Inception Report

The Inception Report will be submitted within one and a half month after the commencement date of the services and will give an account of the circumstances marking the mobilisation of the Consultants' team and which will be likely to effect the work performance. The report will define the overall plan of operations or work plan of the project and will provide a solid basis for the further project planning. It will allow to compare the activities as planned at the project start with the achievement at the end of the project period. The Consultants will follow the instructions of the tender documents in Annex B giving the exact timing, contents, format and responsibilities of the Inception Report by using the simplified version of the "logical framework".

### Phase Reports

The Phase 1 Report will be submitted after month three, the Phase 2 Report after month six. The reports will comprise a description of the work performance to date, of the results of the services rendered and of the Consultants' recommendations for the future procedures. Phase 1 Report will cover the Consultants' recommendations on the links between Traceca and TEN and on the development options for the two Georgian ports as well as the orientation of further work in Phase 2. Phase 2 Report will be the Port Master Plans for the two ports. It will give the priorities for necessary investments and can be used for discussions with the EBRD or other investors.

After month nine the Phase 3 Draft Final Report will be submitted. The output of the work of Phase 3 will be presented as a Design Report, together with general ar-

rangements drawings and cost tables. It will provide a brief for subsequent production of detailed designs, tender drawings and Bills of Quantities. It will contain the final results of the project's scope of work. Comments and amendments to the report will be included into the Final Report after the review of the Draft Final Report by the different parties involved.

After Phase 4, after month twelve, the Draft Tender Documents will be submitted.

### **3.6 PROJECT SCHEDULE**

