

## **Annex 3.4 Fishing Activities at the Ceyhan Marine Terminal**

## 1. FISHING ACTIVITIES AT THE CEYHAN MARINE TERMINAL

This section supersedes section 6.13.3 in Chapter 6.

### 1.1 Introduction

The impact of the Security Exclusion Zone and Manoeuvring Area around the jetty at the BTC marine terminal will have an impact on the livelihoods of local fishermen. Data has been collected through socio-economic baseline studies, consultation meetings and interviews with residents living in the vicinity of the terminal and specifically with the fishermen in Golovasi<sup>1</sup> during the environmental and social impact assessment studies. This is summarised in Annex 6.2.

An additional study was also commissioned to provide more background to the fishing industry as a whole in the Ceyhan area (see Annex 6.3). This supplementary research was undertaken by TUDAV (Turkish Marine Research Foundation). Both the EIA and TUDAV studies confirmed that there will be an impact on the livelihoods of the fishermen at Golovasi. TUDAV proposed some compensation measures (Annex 6.3).

The issue is complex and any compensation calculation inevitably will need to be based on a number of assumptions. As there is no precedent for this in Turkey, a plan has been developed consisting of several steps in order to demonstrate fairness and transparency in the evaluation of the compensation measures that will be proposed to the affected fishermen.

A six-stage process has been developed:

1. Development of preliminary compensation methodology by BTC project team based on the studies undertaken by local and international experts during the EIA process
2. Review of preliminary compensation methodology by an internal expert group
3. Review of compensation methodology proposed by internal expert group by an economist to determine its economic soundness
4. Review by an external expert group (including fishermen and local representatives) to assess initial compensation methodology
5. Consultation with impacted fishermen
6. Meetings with affected fishermen and household surveys.

#### **1<sup>st</sup> stage: Internal Meeting within the Project Team**

A meeting was held in early November to agree the approach the project should take to this issue. The outcome of this meeting was to establish an internal expert group to clarify the issues regarding the development of a compensation methodology for fishermen in the vicinity of the BTC Marine Terminal.

#### **2nd stage: Internal Expert Group Meeting**

The internal expert group meeting was held in mid November 2002 in Istanbul. This group includes an economist from KORA, part of the Middle East Technical University (Ankara), a compensation

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<sup>1</sup> Includes fishermen who live in Sahil Sitesi which is a quarter of Golovasi

expert from a Turkish NGO, namely the Rural and Urban Development Foundation (RUDF), a fishing expert from TUDAV and a resettlement expert. The objective of this meeting was to:

- Clarify the extent of the impact
- Determine a methodology for calculating the value of compensation
- Identify data gaps, variables and where data needs to be verified
- Develop a compensation strategy to be presented to the “External Expert Group”.

The findings of the Internal Expert Group that were used as a basis for discussion with the External Expert Group and were presented in the RAP which was disclosed in country in December 2003.

### **3rd Stage: Review by an Independent Economist and Ministry of Agriculture, Protection and Control General Directorate**

An economist reviewed the methodology for calculating the value of compensation which was determined by the Internal Expert Group based on TUDAV findings. His work validated the method of the internal expert group and further refined the calculation method and the assumptions used.

The Ministry of Agriculture, Protection and Control General Directorate which is responsible for fisheries in Turkey, was also requested to undertake a review of the compensation methodology and the previous reports on fishing.

Both the economist and the Protection and Control General Directorate reviews, confirmed that the extent of impact is not more than 16% of the total fishing area used by Golovasi fishermen.

### **4th Stage: External Expert Group Meeting**

Experts on fishing and compensation issues and responsible authorities were invited to test the appropriateness of the suggested compensation methodology.

The purpose of this meeting in Adana (17<sup>th</sup> January 2003) was to ‘test’ the compensation methodology with a wide range of stakeholders and other fishing representatives. This was an important stage in the process since the Project was able to define its compensation methodology further.

The following recommendations were made by the group:

- Impact will be limited to Golovasi fishermen
- Identify support of secondary sources of income, since many fishermen have other sources of income e.g. farming activities

In addition the following comments were made:

- Compensation methodology should be simple
- Compensation amounts should be similar to avoid disputes amongst fishermen
- Compensation should *not* be made in cash, to ensure long-term benefits to affected households
- Compensation should be made on a group basis, so that the benefits are distributed evenly and promote the development of the settlement
- Compensation should support alternative livelihood programmes (on a group basis) to provide sustainable income options

- Compensation should be ring-fenced for registered boat owners and licensed fishermen only
- Further need to engage with fishermen of Golovasi
- Conduct a household survey of boat owners and licensed fishermen

### **5th Stage: Discuss Proposals with Fishing Community**

A meeting with the affected fishermen was held in Golovasi March 13<sup>th</sup>, 2003. Representatives from the BTC Project were present including BTC Co., BOTAS, TEKFEN, head of Golovasi Cooperative, a lawyer representing the fishermen, an agriculture expert from Yumurталik Sub-governorship, a BOTAS captain and an economist from KORA (METU).. This meeting consisted of a short presentation by KORA (METU) followed by a lengthy and detailed discussion of the issues and proposed compensation measures with affected fishermen. It was considered important to discuss this as a group so that everybody's views were taken into account between the fishermen and the Project.

During the discussion that followed the fishermen challenged the extent of the effects of the exclusion and operating zones on their livelihoods during both the construction and operational phases of the Project. The meeting concluded with general agreement that further actions are required and that the Project would develop a four-month action plan for finalising the compensation strategy (see 6<sup>th</sup> Stage below).

### **6th Stage: Meetings with fishermen and household survey**

A series of additional meetings will be required to reach a consensus between the Project and the fishermen on the compensation strategy. This will involve further discussions and negotiations with the fishermen.

The most critical stage is to conduct further household surveys of affected fishermen in Golovasi. This is to ensure that the Project has accurate information of household income, in order to determine the extent of any loss of livelihoods during construction and operation of the BTC Terminal in line with WB OD 4:30 guidelines.

The following outlines the key aspects to the action plan:

1. BTC Co to discuss the implementation of operation and security zones by the Coast Guard to understand the issues concerning their 'strained' relationship with the fishermen.
2. Golovasi Fishing cooperative to submit (in writing) their suggestions and recommendations on the impact to their livelihoods and their preferences for compensation – based on the presentation given to them on 13<sup>th</sup> March 2003.
3. BTC Co to prepare a household survey questionnaire for fishermen with external consultants – by mid April.
4. BTC Co to organise a household survey with external consultants – by end of April/early May.
5. The Project to provide assurance that it will begin monitoring of fishing activities to highlight any potential construction impacts on livelihoods.
6. BTC Co to finalise compensation strategy with fishermen by July 2003.

## 1.2 Policy And Legislative Framework

There is no record of compensation by any governmental or private organizations to fishermen in Turkey. The Turkish Resettlement Law and Expropriation Law do not address compensation to fishermen. However, the Project will compensate the income loss of fishermen according to the O.D.4.30 principles, as economically displaced persons.

## 1.3 Overview Of Impact Identification For The Fishermen

The BTC Project has assessed the potential impact of the BTC Marine Terminal on fishing activities for the construction and operation phases. These studies comprised a mix of socio-economic baseline data collection and extensive public consultation meetings, through a scientific study undertaken by TUDAV and consultation with a range of local, national and international experts.

The potential environmental impacts and mitigation measures of the terminal on the marine environment are addressed in the Environmental Impact Assessment (EIA) study. They are therefore not repeated here.

This section therefore discusses the most significant socio-economic impact which is the loss of income of fishermen due to the reduced access to the fishing grounds and presents the compensation methodology identified by local and international expert groups.

### 1.3.1 Project Impacts on Fishing Activities

The Project impacts on fishing activities will not be the same during the construction and operation phase. Main impacts that might occur are explained below.

#### ◆ Project Impacts on fishing activities during the Construction Phase of the BTC Jetty

It is anticipated that the marine construction works will begin in end June/early July 2003. During the construction of the BTC jetty, a limited "Safety Zone" (circa 200 metres around the jetty) will be enforced around the jetty construction to ensure the construction work does not pose a hazard to other ships. The Safety Zone falls within the existing Operating Zone.

Various studies conducted during the EIA process by the Project on impacts caused by the construction of the jetty and marine terminal show limited and very localised impacts. For example, there may be limited impacts around the jetty and causeway of the seabed in the development of localised sediment plumes. In addition there may be some minor impact due to the illumination of the jetty.

However, the localised nature of these impacts and the fact that the jetty and causeway construction still falls within the existing BOTAS Operating Zone – where fishing is not permitted by law (see figure 1.1) shows that the Safety Zone is *within* the Ceyhan Port Area and does not extend beyond the borders of the current exclusion area. Fishermen will not therefore be excluded from any areas that they are not already excluded from. During the construction of the causeway and jetty there will be no decrease in the local fishing grounds and therefore no additional impact on local fishermen from the creation of the BTC Safety Zone. The Project will however, ensure that this is properly monitored.

◆ **Project Impacts on Fishing Activities during the Operation Phase of the BTC Jetty**

The main impacts on the fishermen will be from the extended Operating and Security Zones which will be enforced when the jetty and terminal becomes operational in 2005.

The Security Zone (i.e. that enforced by the coastguard) will be implemented during operation and will be confined to an area 400m on either side of the jetty, i.e. an area in the order of 208ha.

The Operating Zone around the proposed marine facilities will be approximately 1 nautical mile (1.8 km) around the jetty, to allow for safe tanker manoeuvring. The size of this zone means that it will overlap with the operational area for the existing jetty to the north, and extend to cover an additional area to the south. In such operating zones, net and line fishing is prohibited by law.

The Operating and Security Zones represent about 20% of what is believed to be the area that Golovasi fishermen use, although additional fishing grounds to the south east of the terminal are also used by the Golovasi fishermen according to the TUDAV study. However, as stated above both the international economist and the Protection and Control General Directorate reviews, confirmed that the extent of impact is not more than 16% of the total fishing grounds used by the Golovasi fishermen

◆ **Geographical area of impact**

The results of the studies indicate that only the fishermen and few permanent crewmembers working in Golovasi port will be directly impacted by establishment of Security and Operating zones around the jetty during the operation phase.

Most of these fishermen are residents of Golovasi village, whilst a few of them live in neighbouring quarter, Sahil Sitesi.

◆ **Likely categories of economically displaced persons**

The BTC Project is committed to ensuring that the compensation process is fair and transparent. Part of the process of ensuring the fairness of the compensation process is making sure that the compensation is distributed only to those whose livelihoods will be legitimately impacted by the extension of the operating zone.

There are three main categories of people associated with fishing activities in the vicinity of the BTC Marine Terminal: Fishermen (boat owners), crewmembers and tradesmen. Other groups such as trawler fishermen, illegal fishermen, fishermen from neighbouring settlements were considered but for reasons outlined below, **only the boat owners and licensed fishermen in Golovasi are eligible for compensation**. These groups are as follows:

• **Local fishermen who own boats**

There are 41 registered boats, 5 unregistered boats and 33 licensed fishermen (data confirmed by Ministry of Agriculture and Golovasi Fishing Co-operative) who own and operate boats out of Golovasi Port. They have been identified as being directly impacted by the proposed operation of the marine terminal. It was recommended by the external experts group that only registered boat owners and licensed fishermen fishing from Golovasi Port will be eligible for compensation.

During the first round of consultation meetings it was suggested to fishermen that they should register their boats in 2001. Recent studies by TUDAV and the statistics from Ministry of Agriculture General

Directorate of Protection and Control indicate that since then most of the boat owners in Golovasi Port have registered their boats. There are currently five that are unregistered according to the data submitted by Golovasi Fishing Co-operative dated 7<sup>th</sup> March 2003. The Project will assess the situation of these unregistered boat owners case by case to ensure their losses will also be mitigated.

- **Local fishermen who do not own a fishing boat - licensed fishermen**

The data provided by Ministry of Agriculture, General Directorate of Protection and Control indicate that 7 of the fishermen do not own boats. It is assumed that they are hiring someone else boats. The Project will consider the situation of these fishermen separately. According to the Ministry of Agriculture General Directorate of Protection and Control remuneration is given on a share basis in the fishing sector.

In small-scale fishing activities in the region, half of the net income yielded from fishing is given to the boat and the rest to the fishermen involved in fishing on the boat (including the boat owner, if he was also involved). As referred to in TUDAV report, an average of 2-3 fishermen are involved in the fishing activity per boat. Each fisherman gets a share of 25% from the net income when two fishermen are involved, and a share of around 17% when three are involved.

- **Crewmembers**

Most crewmembers work on a part time basis, dependent on seasonality and other work opportunities; these crewmembers will not receive compensation, as it is understood that they will generally be able to gain employment as and when the opportunity arises. The Project will however target these (generally) young crewmembers during the construction worker recruitment process and will engage these groups where possible in skill development and training programmes.

- **Tradesmen**

Most of the tradesmen live and operate in Yumurtalik where a larger fishing community exists operating from Yumurtalik Port. They have several alternative fish supply sources in the region and the scale of supply of fish from Golovasi is not significant in their relative business. Therefore, the impact of BTC Marine Terminal on tradesmen will be negligible according to the expert studies. They will not therefore be eligible for compensation.

- **Trawler Fishermen**

Research has shown that trawler fishermen do not generally use the area which will be affected by the extension of the operating zone. It is also recognised that due to the fluctuations in the fishing seasons, weather conditions, fish breeding patterns and fish prices in the market that trawlers change their fishing grounds frequently since they have bigger and more technically advanced boats compared to the Golovasi fishermen. They generally catch fish in the open seas. Therefore, the impact of the reduction in fishing grounds on trawler fishermen is negligible and they will not be eligible for compensation.

- **Illegal fishermen**

There are legal constraints on fish size, species, season and fishing ground. For example it is prohibited to trawl within three miles from the coast. However, some fishermen, particularly non-local ones, do not obey these rules and trawl within the three mile limit. However research indicates

that these non-local fishermen do not use the proposed restricted area; therefore, they will not be impacted from the reduction in the fishing ground and will not be eligible for compensation.

- **Fishermen from Surrounding Settlements**

The field surveys confirmed that fishermen from other settlements such as Incirli do not use the fishing grounds where the operating zone will be extended. Therefore fishermen from the surrounding settlements will not be eligible for compensation.

- **Conclusion**

In summary, the main group that will be directly impacted by the extension of the operating zone are the local owners of fishing boats, licensed fishermen who do not own boats and permanent crewmembers of Golovasi port. Part-time crewmembers of Golovasi port will not be eligible for compensation but will receive skills training and employment opportunities during the construction period of the marine terminal.

Affected fishermen were informed of the final cut off date for boat owner registration by 17th January 2003. Five of the remaining boats<sup>2</sup>, which are not registered, will also be considered by the Project to ensure that the income loss of these informal fishermen is also compensated. After this date any outstanding information required for the BTC Project to determine compensation will be collected and cross-checked from the official statistics provided by the Port Authority. All registered boat owners who are fishing for commercial or subsistence reasons will be then officially recognised as entitled persons and will be compensated.

## 1.4 Mitigation Measures For The Fishermen

The loss of income to the fishermen will be determined based on several criteria and assumptions. The monetary value of the loss and alternative compensation proposals will be discussed with the External Review Group before being proposed to the fishermen themselves.

These alternatives are discussed in Section 1.7 below.

### 1.4.1 Mitigation Measures During the Construction Phase

As stated in 1.3.1 during the construction of the jetty there will only be a limited Safety Zone (200 m) around the jetty, which falls within the existing Operation Zone of BOTA<sup>a</sup>. The construction impacts of the jetty on fish species will not be significant according to the EIA findings. Therefore, the mitigation measures addressed in the EIA will be applied to minimise the potential adverse impacts and maximise any positive impacts during the construction phase. Mitigation measures for the fishermen are summarised below:

- **Employment Opportunities:** Priority will be given to the fishermen during the construction workers recruitment process. The greatest positive socio-economic contribution that the BTC Pipeline Project will bring to local communities is the possibility of direct employment and the stimulus that local purchasing can bring to the local economy. Employees will directly benefit from secure, although short-term, income

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<sup>2</sup> The data provided by Ministry of Agriculture, General Directorate of Protection and Control indicate that seven boats are not registered although the number of unregistered boats is five according to the updated information provided by Golovasi Fishing Cooperative in March 2003.

- **Training of the local fishermen:** Opportunities for alternative skills training will be considered for those that are employed by the Project and are seeking alternative employment.
  
- **Increasing awareness of over-fishing and making fishermen aware of other fishing opportunities:** An NGO experienced in fishing will be involved in the Project to increase the awareness of fishermen especially concerning the impacts of over fishing. However, opportunities do exist. Some species currently are perceived by local fishermen to have no commercial value. This NGO will raise awareness for fishing other species, for example blue crab and spotted mantis shrimp, which are usually discarded by them when they are caught. The NGO will train and encourage the fishermen to use these species and create additional income within their existing way of life. Tradesmen will also be encouraged to market these species that have not traditionally been exploited.



## 1.4.2 Mitigation Measures During The Operation Phase

The main impact of the BTC jetty on the fishermen will be from the extended Operating and Security Zones during the operation phase starting from 2005. The Internal Expert Group developed the initial compensation strategy for the fishermen, which is presented below. The Project will offer different alternatives to different categories during the negotiations with the fishermen. These compensation methods are summarised in Section 1.7 below.

### ◆ Method of valuing the extent of the impact of the Security and Operating Zones on fishing activities

The BTC Project plans to hold face-to-face meetings with each affected boat owner and licensed fishermen. At these meetings the BTC Project will explain the method which was used to evaluate the level of compensation and will allow the fishermen to seek clarity and ask any questions they may have regarding the compensation evaluation process. The Project will develop the method of compensation after discussions with the fishing community in Golovasi and after the household survey with affected fishermen.

Compensation measures for the entitled fishermen (who are defined in Section 1.3.1) are being developed according to several criteria:

- Percentage reduction in the fishing grounds
- Fishermen's net income
- Uniformity of the impact for each fishermen

### ◆ The percentage of the restricted area

The restricted area (Operating Zone which includes Security Zone) is used as a basis for the calculation. An area of approximately 1 nautical mile is required around the jetty to allow for the safe movement of tankers and to ensure the safety of the fishing boats. Tankers will range from 80 000-300 000 tonnes weight, and require a water depth of 10 m which occurs approximately 1.2 km from the coast.

The 400 m Security Zone (within the Operating Zone) around the jetty as defined by the decree of Council of Ministers (Art. 2565). The extent of the additional area, which will be restricted due to the Security and Operation Zones (See Figure 1.2) for the BTC Marine Terminal, is 20% according to TUDAV study. However, this figure does not cover the additional fishing grounds that are used by Golovasi fishermen. Both external expert review and review of General Directorate of Projection and Control confirmed that the extent of the restricted area will not be more than 16%.

### ◆ External factors

It is widely reported that fish stocks are decreasing in Iskenderun Bay because of over fishing and industrialization along the coastline. However, fish stocks to some extent will be protected because of the establishment of the security and operation zones around the BTC jetty. The jetty will also provide habitats for certain species. The jetty will also provide habitats for certain species, which will increase local biodiversity and food sources for fish species. The causeway structure and piles will, over time, provide a hard surface to which seaweeds and barnacles will attach themselves which will provide a refuge and feeding area for a number of small organisms, crabs and fish.

Although these general statements are accepted in principle by the experts, there is not sufficient data to draw any specific conclusions. Consequently, the percentage restriction in the fishing grounds is taken as the basis for the identification of the extent of the impact of the BTC jetty on fishermen's incomes. In other words, the percentage of the reduction in fishing grounds is the same as the percentage of the loss in the income levels of the fishermen. This will be verified following further discussions with the External Expert Group.

◆ **Net income of fishermen**

Current net income of the fishermen will be used as a basis to calculate the impact in monetary terms. The declared income of the fishermen was identified through the socio-economic questionnaires conducted in Golovasi village during September 2001. In addition TUDAV also investigated incomes in August 2002. There are inconsistencies between the figures identified in these two studies. These inconsistencies between the two data sets are partly due to the increasing expectations of the fishermen as a result of several meetings held with them in Golovasi. This baseline data will be verified by a comprehensive census study by May 2003.

The External Review Group will review all figures and assumptions to ensure the fairness of compensation methodology.

◆ **Uniformity of the impact**

For the purpose of the compensation calculation it is assumed that fish stocks are found uniformly in the sea and therefore the impact of the reduction in the fishing ground will be the same for each fisherman.

It was decided that with a background of over fishing and declining fishing stocks, fishermen would not be encouraged to buy new fishing boats as this would lead to further over fishing in the area.



## 1.5 Methodology For Compensation

As stated above in compensating the fishermen, the size of the affected area will be the first variable to calculate. In other words, a percentage reduction in fishing area causes the same percentage fall in income.

The next variable is the annual income of an average fisherman. In order to calculate this variable, the data from the September 2001 baseline questionnaire and the TÜDAV data will be used as a starting point. In addition to these data sources, a new questionnaire will be carried out with all the entitled fishermen. This questionnaire will use the expenditure approach; this methodology requires information from fishermen/permanent crewmembers including details of fishermen ask to declare their income, expenditure, and assets. After necessary inflation corrections for the 2001 socio-economic survey data, an average annual income figure for a typical fisherman can be determined.

## 1.6 Monitoring Process

Experts from an established organisation will undertake the monitoring of any impacts during construction and operation, in addition to the compensation procedure. The fishermen compensation process will be monitored to verify that:

- Actions and commitments described in the RAP and this pamphlet are implemented fully and on time
- Eligible groups receive their full compensation entitlements within agreed timeframes
- The compensation measures are effective in ensuring the long-lasting restoration of affected peoples' living standard and income levels
- Complaints and grievances lodged by fishermen are followed up and that where necessary, appropriate corrective actions are implemented

A key objective of the Resettlement Action Plan is that resettlement actions and mitigation measures should lead to sustainable restoration or enhancement of affected people's pre-project living standards and income levels.

The resettlement completion audit for the fishermen will be conducted by the External Expert RAP Monitoring Panel 36 months following jetty construction completion or at such time as the Expert RAP Monitoring Panel determines affected fishermen's living standards and income levels have been fully restored, whichever occurs earliest.

## 1.7 Compensation Methods

The Project identified different compensation options for different categories. As stated above only the fishermen and permanent crewmembers are eligible for compensation. These compensation methods will be further reviewed after the discussions with the external group and with the fishermen. The following are possible ways of compensating boat owners and licensed fishermen:

- **Cash payment:** Based on the above criteria cash payment could be offered to the boat owners.
- **Temporary and permanent employment opportunities:** Golovasi will be given a priority in terms of employment opportunities for the construction of the BTC Marine Terminal for three

years. The total number of people to be employed in the construction of the marine terminal will be between 700-1000 including skilled, semi-skilled and unskilled workers.

Residents of Golovasi will also be considered for permanent employment during the operation phase.

- **Skill development and training:** The Project can support vocational training of the fishermen to increase their competency in other sectors or they can be trained to work in the Ceyhan terminal during the operation phase.
- **Increased awareness of over fishing:** An NGO experienced in fishing will be involved in the Project to increase the awareness of fishermen especially concerning the impacts of over-fishing.  
This NGO will train the fishermen of fishing other species, which are currently unexploited. Some species, such as blue crab and spotted mantis shrimp, are not consumed domestically. The fishermen usually discard them when they are caught in the nets. The NGO will train and encourage the fishermen to use these species and create additional income within their existing way of earning life.
- **Creation of alternative livelihoods (SME development):** The Project can also finance SMEs in the area to create alternative livelihoods for the fishermen in Golovasi.

## 1.8 Conclusion

The Project will finalise the compensation values after completion of the additional tasks identified above (See Stage 6 in section 1.1).

There is an on-going process of consultation with fishermen to develop action plans to mitigate the impacts of the Project as well planned on-going monitoring activities.