



T.R.  
PRIME MINISTRY  
STATE PLANNING ORGANIZATION  
General Directorate of Regional Development and Structural Adjustment

# YEŞİLİRMAK

## BASIN DEVELOPMENT PROJECT

# PREFEASIBILITIES



**DOLSAR**

Engineering Limited

October 2006

Ankara





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General Directorate of Regional Development and Structural Adjustment

# YEŞİLIRMAK BASIN DEVELOPMENT PROJECT

(AMASYA, ÇORUM, SAMSUN, TOKAT)

## PREFEASIBILITIES

*“An environmentally sensitive, competitive, rapidly developing region, which has become Turkey’s gateway to the Black Sea and which has raised its quality of life”*



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Provincial directorate of industry and commerce of Amasya, Çorum,  
Samsun and Tokat  
Provincial agricultural directorates of Amasya, Çorum, Samsun and Tokat  
Special provincial administrations of Amasya, Çorum, Samsun and Tokat  
Provincial directorates for rural services of Amasya, Çorum, Samsun  
and Tokat  
Provincial directorates of culture and tourism of Amasya, Çorum,  
Samsun and Tokat  
Provincial directorates of health of Amasya, Çorum, Samsun and Tokat  
Provincial directorates of national education of Amasya, Çorum,  
Samsun and Tokat  
Provincial directorates of environment and forests of Amasya, Çorum,  
Samsun and Tokat  
Amasya, Çorum, Samsun and Tokat Tax Offices  
Provincial directorates of title deeds and cadastre of Amasya, Çorum,  
Samsun and Tokat  
Municipalities of Amasya, Çorum and Tokat, Metropolitan Municipality  
of Samsun  
Municipalities of Amasya – Merzifon, Suluova, Taşova, Çorum-Alaca,  
Osmancık, Sungurlu, Samsun- Bafra, Çarşamba, Havza, Terme,  
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Gümüşhacıköy, Taşova, Çorum- Sungurlu, Samsun- Havza,  
Terme, Çarşamba, Bafra, Tokat- Turhal, Zile, Niksar, Erbaa  
Chambers of tradesmen and artisans of Amasya, Çorum, Terme and  
Taşova  
DSİ section directorates of Amasya, Çorum, Samsun and Tokat  
Irrigation unions cooperatives of Amasya, Çorum, Samsun and Tokat  
Stud cattle breeding unions of Amasya, Çorum, Samsun and Tokat  
Amasya Suluova agricultural development directorates  
OIZ Directorates of Amasya, Çorum, Samsun, Tokat ve Merzifon,  
Erbaa, Niksar  
SIE Directorates of Amasya, Çorum, Samsun and Tokat  
Amasya, İskilip Vocational Education Directorates  
Foundations and associations: SAMSİAD, ÇORUMSİAD, TOSİAD  
İskilip Public Training Center  
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accountants etc.)  
Banks in the provinces of Amasya, Çorum, Samsun and Tokat  
Financial and intermediary establishments of Amasya, Çorum, Samsun  
and Tokat  
Industrial exploitations in the provinces of Amasya, Çorum, Samsun and Tokat  
Samsun Ondokuzmayıs University. Tokat Gaziosmanpaşa University  
Central Anatolian Exporters Unions  
Samsun Foreign Trade Regional Directorate  
Samsun Customs Directorate  
Çorum Customs Directorate  
VII. Regional Directorate of DSİ/Samsun  
Karadeniz (Black Sea) Agricultural Research Institute/Samsun  
Local media establishments of Amasya, Çorum, Samsun and Tokat

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12 "women and families" FGI meetings  
Amasya "seasonal female workers" FGI meetings  
Çorum "bricks – tiles workers" FGI meetings  
Samsun "tobacco workers" FGI meetings  
Tokat "construction workers" FGI meetings  
14 "poverty" FGI meetings  
"Forest Operation Chiefs" FGI meetings

### Meetings

Regional parliament members awareness meetings  
Merzifon Industrial Planning and Coordination Meeting  
Samsun III. City Congress  
Samsun Provincial Development Strategy Meetings (SABEK A.Ş.)  
Samsun Special Provincial Strategically Draft Plan Meeting  
Irrigation unions and cooperations in Amasya, Çorum and Tokat provinces  
Provincial agricultural directorates of Amasya, Çorum, Samsun and Tokat  
Provincial food control laboratories Çorum, Samsun and Tokat  
Merzifon Stud Cattle Breeders Union  
Amasya Yedikır Dam Water Products Production Station  
Amasya Regional Forestry Directorate  
Forestry head offices of Amasya, Taşova, Çorum, Kargı, İskilip  
Samsun, Bafra Vezirköprü, Çarşamba, Salıpazarı, Tokat, Almus,  
Erbaa, Niksar and village headmen under said head offices

### Surveys

Survey on Consolidation of Women and Families  
Survey on Poverty, Social Security and Labor  
Survey on Manufacturing Industry (large scale entrepreneurs, 10+)  
Survey on Manufacturing Industry (small scale entrepreneurs, 10-)  
Survey on Business  
Survey on Transportation  
Survey on Ranking of Settlements

### SWOT Analysis Meetings

Çarşamba  
Niksar  
Merzifon  
Zile  
Osmancık

### SCENARIO ANALYSIS MEETINGS

Amasya  
Merzifon (with the participation of Gümüşhacıköy, Suluova)  
Samsun (with the participation of Tekkeköy)  
Bafra (with the participation of Alaçam, Ondokuzmayıs)  
Çarşamba (with the participation of Terme, Salıpazarı, Ayvacı)  
Çorum (with the participation of Laçın)  
Alaca (with the participation of Boğazkale, Ortaköy, Mecitözü)  
Osmancık (with the participation of Kargı, İskilip, Oğuzlar, Dodurga)  
Sungurlu  
Tokat  
Turhal (with the participation of Pazar, Zile)  
Niksar (with the participation of Erbaa, Almus)

### MEETINGS RELATED TO DEBATES ON CURRENT SITUATION ANALYSIS and STRATEGY and RESTRUCTURING SCENARIOS REPORTS

Çorum (with the participation of Amasya, Samsun, Tokat)

### MEETINGS RELATED TO DEBATES ON DRAFT MASTER PLAN

Governorate of Amasya  
Amasya Municipality  
Merzifon Municipality  
Taşova Municipality  
Governorate of Çorum  
Çorum Municipality  
Governorate of Samsun  
Samsun Metropolitan Municipality  
Bafra Municipality  
Governorate of Tokat  
Tokat Municipality  
Erbaa Municipality  
Turhal Municipality

**DOLSAR ENGINEERING**  
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**P R E F E A S I B I L I T I E S**





## ABBREVIATIONS

BDC	Business Development Center	GAP-GİDEM	Güneydoğu Anadolu Projesi- Girişimci Destekleme Merkezi (GAP- Entrepreneur Support Centre)
BSEC	Organization of The Black Sea Economic Cooperation (Karadeniz Ekonomik İşbirliği Örgütü)	GDP	Gross Domestic Product
C/N	Rate of Carbon/Nitrogen	GNP	Gross National Product
CaCO <sub>3</sub>	Calciumcarbonade	HEPP	Hydro Electric Power Plant
CaO	Calciumoxide	İGEME	İhracatı Geliştirme Etüt Merkezi (Turkish Export Promotion Center)
CCI	Chambers of Commerce and Industry	İSO	International Organization for Standardization (Uluslararası Standart Organizasyonu)
CO <sub>2</sub>	Carbondioxide	İŞKUR	Türkiye İş Kurumu (Turkish Employment Agency)
CRS	Central Rural Settlement	JULAB	Joint Use Laboratory
ÇYÜPAŞ	Çorum Yumurta Üretim Pazarlama Anonim Şirketi (Çorum Egg Production & Marketing Corporation)	JUW	Joint Use Workshop
DA	Development Agency	KGM	Karayolları Genel Müdürlüğü (General Directorate of Highways)
DİE <sup>1</sup>	Devlet İstatistik Enstitüsü (State Institute of Statistics)	KM	Dry Substance
DLH	Demiryolları Limanları ve Hava Meydanları İnşaatı Genel Müdürlüğü (General Directorate for Construction of Railways, Harbours and Airports)	KOSGEB	Küçük ve Orta Ölçekli Sanayi Geliştirme ve Destekleme İdaresi Başkanlığı (Small and Medium Industry Development and Support Agency)
DM	Denizcilik Müsteşarlığı (Undersecretariat for Maritime Affairs)	KYHM	Köye Yönelik Hizmetler İl Müdürlüğü (Provincial Directorate for Rural Affairs)
DPT	Devlet Planlama Teşkilatı Müsteşarlığı (State Planning Organization)	MEB	Milli Eğitim Bakanlığı (Ministry of National Education)
DSİ	Devlet Su İşleri Genel Müdürlüğü (General Directorate of State Hydraulic Works)	MİGEM	Maden İşleri Genel Müdürlüğü (General Directorate for Mining Affairs)
DSYB	Damızlık Sığır Yetiştiricileri Merkez Birliği (Cattle Breeders' Association of Turkey)	MTA	Maden Tetkik ve Arama Genel Müdürlüğü (General Directorate for Mineral Research and Exploration)
EIA	Environmental Impact Assessment	MTP	Medium-Term Programme
EU	European Union	NGO	Non-Governmental Organization
FYDP	Five Year Development Plan	NRDS	National Rural Development Strategy
		NUTS	Nomenclature of Units for Territorial Statistics
		OHZ	Organized Husbandry Zone

1 By Law 5429, the State Institute of Statistics (DİE) was renamed the Turkish Institution of Statistics (TÜİK). However, considering the dates of publication of the data sources used, reference is made to the State Institute of Statistics.

OIZ	Organized Industrial Zone	WHO	World Health Organization
OMÜ	Ondokuzmayıs University	YBDP	Yeşilirmak Basın Development Project
PIU	Project Implementation Unit		
PNDP	Preliminary National Development Plan	YTL	New Turkish Lira
		ZMO	Ziraat Mühendisleri Odası (Chamber of Agricultural Engineers)
R&D	Research and Development		
SIE	Small Industrial Estate		
SME	Small and Medium Scale Enterprise		
SPA	Special Provincial Administration		
SWOT	Strengths, Weaknesses, Opportunities and Threats		
TCDD	Türkiye Cumhuriyeti Devlet Demiryolları İşletmesi (Turkish State Railways)		
TDC	Technology Development Centre		
TESK	Türkiye Esnaf ve Sanatkarları Konfederasyonu (The Confederation of Turkish Tradesmen and Craftsmen)		
TESOB	Tokat Esnaf ve Sanatkarlar Odaları Birliği (The Union of Tokat Tradesmen and Craftsmen)		
TEU	Twenty-feet Equivalent Unit		
TİGEM	Tarım İşletmeleri Genel Müdürlüğü (General Directorate of Agricultural Enterprises)		
TKİB	Tarım ve Köyişleri Bakanlığı (Ministry of Agriculture and Rural Affairs)		
TMMOB	Türkiye Mühendis ve Mimar Odaları Birliği (Union of Chambers of Turkish Engineers and Architects)		
TT	Technical Team		
TÜBİTAK	Türkiye Bilimsel ve Teknik Araştırma Kurumu (The Scientific and Technological Research)		
TÜİK	Turkish Statistical Institute (Türkiye İstatistik Kurumu)		
TÜMMER	Türkiye Mermer Doğal Taş ve Makineleri Üreticileri Derneği (Union of Turkish Marble, Natural Stone and Related Machinery)		
TWICE	Twinning Centers		
UNESCO	United Nations Educational, Scientific and Cultural Organization		
VTC	Vocational Training Center		

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# 1 INTRODUCTION

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### STRATEGIC OBJECTIVES / PRIORITIES / MEASURES AND PROJECTS

YBDP is a regional plan formulated on the basis of a strategic planning approach. At all the stages of the strategic planning studies, a participatory, flexible and sustainable approach with a spatial dimension has been adopted by considering technical and scientific data and attaching due importance to local entrepreneurial power and its comparative superiorities. The strategic plan limits its scope to descriptions of main directions and critical path for regional development, preferring to retain a level of flexibility receptive for any changes that may be brought about by developments over time.

The formulation of YBDP strategy has duly considered the researches made in connection with the current situation and analyses conducted on the basis of these data, Turkey's plans and strategic decisions of a national scale, evaluations concerning the meetings on SWOT analyses held at various stages of the planning studies in the region and the scenarios developed in order to determine the future projections for the region. During elaboration of the strategic planning studies, the basic strategic objective has first been determined for YBDP, followed by the development of the strategic objectives, priorities, measures and projects in this order.

The strategic plan lays the ground for debate by all the relevant social parties (organizations forming the public sector and all the organized or unorganized segments representing the private sector and civil society) for negotiations they may hold internally. Thus, it will be ensured that any ideas technically foreseen may be rendered feasible depending on the results of the debate of the parties. Therefore, we may define the strategic planning as a road map to be used by the society to make progress depending on the negotiations and discussions it may internally hold.

A four step composition has been used to explain

the strategic plan developed for TR83 Region. The strategic objectives, which are the first step, are expressed by the text of the plan in a very condensed and summarized manner. The priorities are explained to clarify these expressions and ensure an understanding of how the proposed 5 "strategic objectives" are to materialize. The "priorities" are also of a strategic nature. However, there is a need for the proposals to be more concrete so that they are allowed to express their intentions in a better way. For this purpose, 20 priorities have been developed.

As part of the strategic planning studies, the "measures" are identified at the third step by following the same controlled route of explanation so that there is an understanding of how the priorities having a strategic nature will become concrete. The number of the measures is 68. The measures are also at a condensed level (intermediate stage explanation) used to increase comprehensibility and define the development projections by adhering to the same consistency in line with the route of the strategic explanations. The propositions (measures and projects) at the lower stages of the hierarchical levels take on a more concrete and more detailed nature, increasing quantitatively. Making a strategic selection becomes more critical for this stage of the plan parallel to the increase in the number of the propositions, which are turned into detailed and concrete definitions. However, the plan is less ambitious to be insistent/final and decisive over achievement of the propositions of the strategic plan exactly as they are foreseen while its flexibility increases when the projections by the strategic plan become concrete.

A high number of "project" headings have been developed at the fourth step in the Master Plan to ensure achievement of the proposals at the level of "measures" in line with the strategic planning approach. The number of project headings devel-

oped under YBDP in this manner is 393. However, these project headings have some differences in terms of scope and nature. Some of these project headings are complex having wide scopes as others have the nature of model projects and some others are singular. For the purpose of extending the explanations at a project level through localization without upsetting the hierarchy of opinions, the project headings having the nature of model projects are divided into sub headings. The total number of the project reaches 1 200 when 807 project headings of this nature are added. The Master Plan provides a full list of these project headings.

The headings determined at a project level have varying degrees of strategic importance. 43 projects enjoying top strategic importance have been identified among them and they are elaborated by the Master Plan in detail.

The method applied for selection of the projects having strategic importance is as follows in brief:

- An objective scoring according to pre-determined criteria at the first stage
- A subjective selection at the second stage

Objective scoring at the first stage employs criteria such as: investment size for realization of a project, size of public investment requirements, direct contribution to the regional added value increase, employment creation capacity, employment of the present trained labor in the region, compatibility with SWOT analysis results, eligibility for EU funds and possibility to phase investment over time.

Subjective evaluation covered by the second stage is based on the weighting of the strategic objectives according to their strategic importance in terms of YBDP. The projects are distributed on the basis of the weights of their strategic objectives. According to this distribution, 35 per cent of the projects relates to Strategic Objectives 3. 25 per cent, to Strategic Objectives 1, 15 per cent, to Strategic Objectives 2, 15 per cent, to Strategic Objectives

4 and 10 percent, to Strategic Objectives 5. The second stage involves a subjective evaluation of the results of the first stage according to the strategic importance of a project in terms of the future of the region.

Thus, 58 projects and 43 projects, which have strategic importance, have been identified at the end of the first and second stages, respectively.

Preliminary feasibility studies have been made at the stage that followed the Master Plan. A list of 24 projects, of which each province has 6 projects, has been submitted by Dolsar to the DPT for performance of preliminary feasibility studies on them, as prescribed by YBDP Technical Specifications. The copies of the list have also been sent to the provincial administrations in the region to obtain regional comments on the issue of pre-feasibility studies. 24 projects for which preliminary feasibility studies are to be conducted have been identified again by considering DPT comments as well as comments and suggestions made by the region. The projects selected for preliminary feasibility studies are part of 393 projects and 8 of them are included in 43 strategic projects.

A feasibility study may be defined as a requirement that prior to commencement of a project, any matters, actions, conditions or behaviors concerning that project are duly considered and that studies / logical reasoning / calculations are conducted to make prerequisites favorable for the success of the project.

A preliminary feasibility study is a preceding step as part of this system of thinking. A preliminary feasibility study is a study conducted at the stage of quest for / selection of projects. The objective of the study is to analyze the potential, problems and risks related to a project and evaluates how to overcome such problems and alternative solutions to them. A preliminary feasibility study is not of a nature allowing investing institutions/persons to adopt decisions on the feasibility of a project. It

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must be treated as a document which just helps the investor make a selection and a decision during evaluation of alternative project ideas.

As per the Technical Specifications, 6 preliminary feasibility studies, for which headings have been jointly determined by the employers and contractors, have been prepared for the purpose of overcoming bottlenecks and exploiting potential regarding the investment subjects envisaged by the regional development plan individually for each district. A selection has been made from among 43 projects jointly with the DPT by considering the local demands over the selection of the subjects of preliminary feasibility studies on a priority basis and it has been observed in this selection that 8 projects are included in the list of projects for preliminary feasibility studies. Due care has been paid to ensure that 6 preliminary feasibility studies prepared for each district have such a nature to support the development routes of the provinces.

The format determined by the DPT, for which main headings are provided briefly, have been used for presentation of the preliminary feasibility studies.

1. Basic information on the project
  - 1.1 Project heading
  - 1.2 Project location
  - 1.3 Sector
  - 1.4 Project objective
  - 1.5 Project owner
  - 1.6 Estimated duration
  - 1.7 Total estimated budget
2. Objectives
  - 2.1 Overall objective
  - 2.2 Relationship to the plan decisions of a national scale
  - 2.3 Position in the regional development strategy
3. Justification
  - 3.1 Activities previously carried out on this subject
  - 3.2 Identification of requirements and problems
  - 3.3 Definition of the target group and

its estimated number

3.4 Preference for selection among alternative solutions

3.5 Basic assumptions

4. Activities

4.1 Main activities

5. Project duration and plan of activities

6. Institutional framework and operating model

7. Expected results

7.1 Impact expected on the target groups

7.2 Concrete outputs

7.3 Sustainability

8. Budget breakdown and estimated costs

The preliminary feasibility studies cover a budget breakdown (and therefore, suggestions regarding capacity size and technology to be employed). Detailed studies have been left for performance at the feasibility study stage because it would be necessary to evaluate this information in conjunction with the changing conditions and any new information that may emerge in the period when the preliminary feasibility studies are to be taken into consideration.

## MAIN DEVELOPMENT AXES OF THE CITIES IN THE REGION AND PREFEASIBILITIES

Although the future socio economic development of the region is evaluated as a whole, if the main determining features like the natural resources of the cities, opportunities, local demands, settlement conditions, the previous development direction of the cities are taken into consideration, it can be observed more clearly that in which environment and the framework of the plan projection these pre-feasibilities are evaluated. Some explanations about this subject matter are given below.

### Amasya

Amasya is a city that has preserved its local culture and its history. In the future, the city will become prominent as a city of history, culture and tourism and assess the history and cultural inheritance of its city centre and its districts. In the SWOT analyses, the community of the city and the local administration expressed their opinions in this direction. It is predicted that the current structure of the city according to the demands of the tourism sector, will be developed regarding the balance between protection and utilization and the tourism sector will have an important role in the development of the city. It is predicted that the health tourism will be developed by utilization of the thermal springs in Terziköy; the sectoral development beyond the tourism, will be commenced by arranging the organization and management precautions with the developments in plateau, mountain and eco tourism (endemic plants regarding the natural beauties) and the expansion and diversification of the urban tourism programs.

In the agriculture sector, the amount of production, production value and exporting is increasing with the "Amasya Apple", identified with the name of the city, and the flower okra, cherry and peach in recent years. The increase in the agricultural range of products and their production is expected due to developing new irrigation areas. In order to evaluate the

agricultural production of the city, new greengrocery processing facilities will be established and agricultural production added value will be increased with the increment in their capacities and the development in the city economy will be achieved. In order to process the marble reserves, which is known as "Amasya Beige" domestically and requested by the foreign markets, YBDP is suggested to establish a "Specialized Industrial Zone" for this marble. As the existence of railway transportation is an advantage in the transportation, the marble which is already exported without processing as a raw block will be processed and exported in the Specialized Industrial Zone and by this, more exportation income will be provided. The newly founded Amasya Vocational Tourism High School and a vocational high school for marble will overcome the qualified employment shortage for the sectoral necessities.

In the Merzifon region which has the best transportation opportunities in the region, in terms of agriculture, the projects intended for animal breeding and the increase in animal production are proposed. Merzifon is in the industrial axis of the region and in terms of industrial development will be one of important focusing industrial areas of the region in the axis of Samsun – Çorum. In Merzifon region, which has a great development potential, the production of machinery and equipment will continue its development.

### Çorum

Çorum will continue its development as an industrial city of the region, when the city achieves to direct the rapidly ongoing migration from the rural areas to the cities of the region, it will integrate to the outer world more effectively by developing its industrial capacity and diversity. In the future, the development in the production of high standard industrial products is expected in the city. In order to provide a development in the urban industry and

## Introduction

economy, entrepreneurship and clustering in the Industrial Zones are encouraged and the increase in the activities of twinning centers is suggested.

By evaluating the historical and cultural inheritance remaining from the Hittite Civilization, the tourism share of the city will be increased. It is suggested that the promotions of Alacahöyük and Boğazköy have to be improved and the capacities of accommodation and catering facilities have to be increased for raising the economical income of the settlements around these protected historical areas.

In the dry farming areas, the increase in the organic agricultural production and their exportation, implementing new added values and the improvement in the rural income and life standards is expected. In order to develop the poultry ongoing in the city and to decrease the environmental pollution, it is suggested that an organized stock farming area will be founded to evaluate the fertilizers of the poultry in the agricultural lands.

### Samsun

Samsun city, as a whole with the allocation units in the seashore and in the hinterland, is expected to attract most of the migrating population at the end of the period. Samsun will grow as a metropolitan city and attract the whole region and this will fasten the development in the information and communication technologies which is expected to provide a qualitative breakthrough in the development of local economy in the interaction with the university and industrial establishments which will concentrate on R&D capacity. The city will continue its development as a trade, tourism and services center, will manufacture product which can obtain high added values by intending to be specialized in industry.

The economy of the city will be increased by strengthening the network relations with its surrounding, by developing the specialized industrial

and service sectors, by increasing the capacity of agricultural production processing which is gained from its two wide delta plains and exportation. The existence of transportation means like highway, railway, and seaway and airway transportation is providing an advantage for the city. Strengthening the bond between the city centre and the seaport, central business area and urban transformations between the areas of center-seaport will accelerate the development of the city. In this field, a fair complex project which has the international standards in order to introduce the industrial and agricultural products and to increase the exportation is proposed. In accordance with the local demands, establishing naval construction industries which has a potential in Turkey and world in recent years, is one of the suggested projects.

A food industry for processing of agricultural product obtained throughout the region with Bafra and Çarşamba plains, implementing new added values and increasing the exportation will be developed.

### Tokat

In Tokat city, which has a rural characteristic, the network relations will be strengthened between the centre and rural settlements in accordance with YBDP's rural development program, product processing and agricultural industry will be developed in these centers and better health and education services will be provided. The infrastructures will be complemented and the services will be developed in the central rural settlements (CRS) which are centre of attraction around their surroundings and demographically growing in the last 20 years. These centers will provide new employment opportunities due to fact that the agricultural and industrial integration is achieved.

The suggestions for increasing in the irrigation rate of Tokat and providing better maintenance services are developed. Tokat will create an additional added value in these fields by the existence of irrigation opportunities in the fertile agricultural lands



and increase in the agricultural production and capacity of product processing. The city's network relations with its settlements will be improved, the agricultural industry and the other industries will be developed in the settlements in question.

Tokat shows a fast industrial development. This development is expected to continue by the industry which is developing with its own dynamics (the same as Çorum model), based on the local raw materials and establishing new industries to provide machinery and equipment to the diversified food industry which is intended for exportation of goods. Industrialization will show a development intended towards producing technologies which have a high added value.

The suggestions have been made to apply advanced techniques in the local textile and imprint products and their presentation, to increase the production of these products and to increase the exportation of these products which will be manufactured by modern methods.

In order to increase the diversity of incomes in the rural areas and to provide the continuity of the income, the development in eco-tourism and countryside lodging is emphasized. Besides, the greenhouse which will be constructed over the thermal spring in the district of Reşadiye will be a good example for the region and it is expected that more greenhouses will be constructed over the thermal springs in the region.



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## 2 PREFEASIBILITIES

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# AMASYA

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## PROJECT 1.2.2.4: INTEGRATE HARŞENA FORTRESS INTO THE HISTORICAL AND TOURISTIC TEXTURE OF AMASYA

Relevant strategic objective	: 1 Build an effective spatial organization
Relevant priority	: 1.2 Prepare the cities for future in a secure and planned manner
Relevant measure	: 1.2.2 Preserve, restore and use historical urban textures

### 1 General Information about the Project

1.1 Project heading	: Integrate Harşena fortress into the historical and touristic texture of Amasya
1.2 Project location	: Amasya
1.3 Sector	: Tourism
1.4 Project objective	: Planning of city crossing of Amasya Castle in the city centre, Harşena Mountain and Yeşilirmak as a whole, developing actions to increase the touristic activities.
1.5 Project Owner	: The Ministry of Culture and Tourism
1.6 Estimated duration	: 10 years (2006-2015)
1.7 Total Estimated budget	: 100 million YTL

## 2 Objectives

### 2.1 Overall Objective

- Implementing the landscapings in the Amasya Castle, Harşena Mountain and Yeşilirmak River as a whole.
- Implementing the archaeological diggings in Amasya Castle and Harşena Mountain and estimating their archaeological values.
- Extending the accommodation periods by diversification of the tourism activities in the city.
- Integration of other tourism activities of the city with the historical structure of Amasya.
- An approach between the other historical and touristic areas of the region and Amasya city as a whole to implement diversification of the tourism activities and extending the accommodation periods.

### 2.2 Relationship to the Plan Decisions of a National Scale

In the 9<sup>th</sup> Development Plan it is stated that,

“Tourism sector will divert to minimize imbalances of welfare and development, will improve an economic and social development in the areas which have the potential but never been considered till now”, “The investment related with the sector will be taken care of in an approach that is observing, protecting and developing the natural, historical and social environment”

The tourism potential which has not been evaluated in Amasya will be activated by the landscaping in Amasya Castle, Harşena Mountain together with Yeşilirmak River as a whole, and by organizing various activities. Therefore, the project is coherent with the national tourism strategy.

### 2.3 Position in the Regional Development Strategy

Amasya is amongst leading cities of the region in tourism sector. As the city being a long established settlement, being one of the important cities of Ottoman Empire and being the city where the princes learn the affairs of the state which made the city become famous as “The City of Princes”,

increases the importance of Amasya City.

95,7 percent of the people who visited Amasya are domestic and 4,3 percent is foreigner of total number of 67 147. The accommodation period in the city is 1,5 day for domestic tourists and 1,4 day for foreigners of 1,5 day in average. The total number of beds in the city is 1 165. Regarding the values in question, it is seen that Amasya could not attract more domestic and foreign tourists.

The community of Amasya thought that their future lies with tourism and believed that it will be one of the leading sectors in development of the city. The town-dwellers' claims prove that Amasya will develop in this way. The Yedikır dam reservoir bird sanctuary, Borabay Lake, Terziköy and Gözlek thermal springs have to be approached within integrity. Amasya, The Hittite Civilization in Çorum and the historical and natural places of Tokat have to be considered together. The tourism incomes will be increased by the tour routes commencing from Samsun which has the airway and seaway transportation means, within a plan comprising the cities of Amasya, Çorum and Tokat and some of their provinces and ending again in Samsun. The night accommodation numbers in the cities of the region will be increased and the diversity in the tourism activities will be provided with an arrangement like this.

### **3 Justification**

#### **3.1 Activities Previously Carried out on This Subject**

In Amasya city, some of the seaboard houses have been restored and put in service. Activities are being held in the castle but they are not sufficient. Illumination systems for the nights are constructed in the sepulchres. Some of historical buildings have been put in service after their restorations. But a planning comprising all the structural and natural assets like castle, historical buildings, Yeşilirmak surroundings and seaboard houses as a whole has not been evaluated.

For this reason first of all, Amasya city and its surroundings have to be approached as a whole and a "Tourism Master Plan" has to be prepared for Amasya city and its surroundings. The plan to be prepared has to show the suggestions which can make Amasya city a trademark, determine the actions and the order of precedence and guide the implementers.

"Tourism Vocational High School" began educating with its first students in 2006-2007 education year in order to obtain qualified employees which the tourism sector is in need of in Amasya, The students graduated from this school will serve an important purpose and contribute to the quality of the services.

#### **3.2 Identification of Requirements and Problems**

In order to develop the tourism potential of Amasya which has been a city of history and culture over years, being a trademark is a necessity. If Amasya will be a trademark by itself and promoted in domestic and foreign markets within the integrity of the tourism potentials of the cities in the region, it will provide its share from the tourism income. Amasya has not evaluated its potential till now, could not get the attraction of the tourists and the number of night accommodations has been limited with 1-2 days. In order to develop the tourism opportunities;

- Amasya has to be declared as a tourism centre and has to become a trademark,
- Executing and complementing the archaeological diggings in the Amasya Castle and Harşena Mountain and exhibiting the artifacts,
- The restoration of the Amasya Castle, strengthening the insecure buildings,
- Applications to prevent the falling of the rocks, making them available to use in the tourism activities within the surroundings of the castle.
- The planning of Amasya Castle and the surroundings of Yeşilirmak River as a whole and arranging them according to

the multi purposes.

- Cleaning the cloisters in the castle, illuminating and putting them in service (Çılanbolu and others)
- Constructing a cableway between the two sides of the city and the castle,
- Illuminating the castle, implementing night activities and entertainments.
- Restoration of the seaboard houses near the Yeşilirmak River and countenancing using them in tourism.
- Diversification in the tourism activities in the city.
- Implementing the integration between the tourism in the city and other tourism activities (The Yedikır dam reservoir, bird sanctuary, Terziköy thermal springs, Borabay Lake, Derinöz Dam, etc.)
- Training the qualified employees and increasing the quality of the services,
- Implementing the organization of the employees who are working in tourism sector.
- Constructing multi-storey car parks in the city, easing the traffic.

### 3.3 Definition of the Target Group and Its Estimated Number

The number of beds which is 1 165 in 24 hotels, 2 motels and 3 pensions, has to be increased according to the demand. As the increase in the number of beds is dependent on creating a demand and the promotion, the importance of promoting the city is essential and the increase in the activities which can attract the tourist is a must.

There will be a possibility of multiplying with 4-6 times the current capacity in the next 20 years when the number of tourists and accommodations increases. It is predicted that the number of tourists will vary between 500 000 – 700 000 in 2023 with the presentation of Amasya in domestic means and the integrity of the tourism opportunities in the region.

### 3.4 Preference for Selection among Alternatives

Amasya city is stuck in a narrow area in Yeşilirmak valley. The city has no opportunity to develop with its current location. The mountains and high hills surrounding the city constitute a barrier to the city. Consequently, it is predicted that the city will grow in a progressive way. The existing old city structure has to be protected and this area has to be planned for the attraction of tourism activities. The new settlements have to be moved into the existing areas and the public transportation to these areas has to be implemented.

It is a possibility that various opportunities can be offered to the tourists with the integration of these activities and the other tourism activities. Observation towers have to be built in the bird sanctuaries of Yedikır and Derinöz Dams, night accommodations for “ornithological observations” have to be provided, presentations with color catalogs have to be made.

Emphasis must be given to the presentation of “endemic plants” which are high in numbers and these endemic plants have to be presented to the people interested in botany. Illustrated catalogs of the endemic plants have to be prepared, the worthwhile periods like their blooming and seed setting have to be marked.

The night accommodation of coming visitors will be increased from 1,5 days to 5-10 days and the expected touristic income will be achieved by planning of the activities in question and the thermal touristic facilities within integrity.

The settled population of Amasya admitted that the importance has to be given to tourism instead of the industrialization and the city’s future will be in tourism. Despite the fact that the agricultural activities stand out with the production of okra, cherry and peach, tourism will preclude all sectors in the future. The wish of the local population and the



administration is that the tourism sector dominates the city's economy and the services sector can get more shares from this. On this account, the project in question is preferred to develop the tourism potential and to evaluate it more effectively.

the qualified staff have to be opened. "Tourism Vocational High School", which began educating with its first students in 2006-2007 school year, has to give importance to the activities which are aiming at the practice of the application.

**3.5 Basic Assumptions**

- The number of tourists visiting the region with domestic and foreign tours and their night accommodations will be increased.
- Public administration will allocate resources to the infrastructure of tourism; the investments of private sector will continue to increase.
- Tourism companies and private sector entrepreneurs will be organized and the presentation activities will be increased.
- The quality of the services will be improved; satisfaction of the tourists will be increased.
- Tourism activities will be diversified, the number of night accommodations will be increased.
- Operating house lodging will be developed and the participation of public to the tourism activities will be increased.
- The necessity of qualified staff will be provided from vocational high school and the related branches of Amasya University

**5 Project Duration and Plan of Activities**

The project will continue between the years 2006-2015. In order to utilize the historical and touristic facilities and natural resources in Amasya for multi purposes, these have to be utilized more within the principles of protection and sustainability. In this case technical supports from the expert companies and institutions have to be provided and Amasya Tourism Master Plan has to be prepared.

After the plan has been prepared according to the principles predicted in the master plan, the projects have to be prepared and put into practice within integrity and complementing each other. In this case it is a necessity that public administration, private sector and non-governmental organizations have to collaborate and support must be taken from well-educated experts of their fields.

**4 Activities**

**4.1 Main Activities**

In addition to the main activities in question during the application of the project, courses to educate

**6 Institutional Framework and Operating Model**

The project will be implemented by collaboration of Ministry of Culture and Tourism, Ministry of National Education, Amasya Special Provincial Administration, Non-governmental organizations, private sector companies and tourism managements. As a matter of fact tourism is an aggregate and cooperative study; the responsibility cannot

Activity	Years										Application Unit	
	1	2	3	4	5	6	7	8	9	10		
Preparing tourism master plan	√	√										Ministry of Culture and Tourism, Special Provincial Administrations
Restoration of Amasya Castle			√	√	√	√	√	√	√	√		Ministry of Culture and Tourism, Special Provincial Administrations
Yeşilirmak landscapings			√	√	√	√	√	√	√	√		Special Provincial Administrations, Amasya Municipality, DSI
Utilization of seaboard houses in tourism			√	√	√	√	√	√	√	√		Special Provincial Administrations, Private sector
Diversification in activities			√	√	√	√	√	√	√	√		Special Provincial Administrations, Private sector
Training of qualified staff	√	√	√	√	√	√	√	√	√	√		Ministry of National Education, Ministry of Culture and Tourism, Special Provincial Administrations, Non-governmental organizations

be given to a single establishment or organization. Construction of such facilities is not sufficient, they must be operated in full capacity and conforming to specific standards.

In order to determine protected areas (SIT) and monitoring the applications, Protection Committee and local administrations have to collaborate and the existing opportunities have to be used more effectively regarding the protection, utilization and sustainability. In this respect, the wishes and requests of the local people have to be taken into consideration and appropriate solutions have to be scoped out.

Public institutions have to support private sector companies and individual entrepreneurs in accordance with their demands and undertake the task of facilitating and providing the coordination of the works. The bond between local administrations and tourism managements has to be strengthened.

When determining the tour routes , the points of destination must be well designated and all sorts of services have to be provided for the tourists in order to encourage them to stay longer and spend more. Amasya city should not be thought by itself. The other historical and scenic beauties of the region have to be foregrounded and integrated together with the tourism activities.

## 7 Results

### 7.1 Impact Expected on the Target Groups

Tourism is a sector which has lots of inputs and outputs with other sectors. The new investments made in parallel to increase the number of tourists in the future will make a contribution to the city economy and additional employment will be needed in the new facilities. The sector will make a contribution to the economy of the city and the services sector will be leading.

Various groups in the city shall participate in the

tourism activities and take share from tourism income. The local people living in the tour destinations and many people and establishments who are supplying goods and services to tourists, will take their shares from tourism income.

### 7.2 Concrete Outputs

An increase will be provided in the number of tourists visiting and staying in Amasya. The expenditures per person will be increased and hot money flow in every period in the market will be secured. The small companies and businesses which are manufacturing products and services to the tourism sector will be developed and city economy will be active throughout the year. Employment in the houses, manufacturing souvenirs, presentation of homemade meals and the culture of cuisine will be improved.

The promotion of the city and the region will be increased, social and cultural relations will be developed.

### 7.3 Sustainability

Tourism in Amasya has been a narrow scaled activity and sustained by limited resources. The great majority of the people wish to promote these activities. The sustainability can be provided since the project will be implemented by public administration and private sector cooperating. But the protection and utilization knowledge and skills have to be gained in order to provide the service of existing historical and touristic facilities within the principle of sustainability.

## 8 Budget Breakdown and Estimated Costs

Providing a budget of 100 million YTL by the public administration for a 10 year period will be adequate. The majority of this budget has to be used on archaeological excavations in Amasya Castle and Harşena Mountain, restoration of the castle, landscapings in Yeşilirmak surroundings,

and construction of a cableway, opening cloisters and illumination of the castle.

The other investments to comply with the public investments (hotels, motels, restaurants, tea gardens, entertainment complexes etc.) have to be built by private sector companies and establishments. The waste of resources will be prevented if all the investments will be implemented according to the foreseen Amasya Tourism Master Plan and the investments will be complemented within integrity. Therefore, primarily the master plan has to be prepared and all the activities have to be done according to the projections and proposal of the plan.

## **PROJECT 3.4.1.11: DEVELOP INFRASTRUCTURE OF THERMAL TOURISM IN TERZİKÖY**

<b>Relevant strategic objective</b>	: 3 Increase competitive power and open out
<b>Relevant priority</b>	: 3.4 Develop by diversifying and promote regional tourism
<b>Relevant measure</b>	: 3.4.1 Open the region to tourism within the principle of sustainability of nature and cultural heritage

### **1 General Information about the Project**

<b>1.1 Project heading</b>	: Develop infrastructure of thermal tourism in Terziköy
<b>1.2 Project location</b>	: Amasya
<b>1.3 Sector</b>	: Tourism Developing the thermal spring in Terziköy Amasya for thermal tourism and the integration with the
<b>1.4 Project objective</b>	: other tourism activities
<b>1.5 Project Owner</b>	: Special Provincial Administration, Terziköy Municipality
<b>1.6 Estimated duration</b>	: 2006-2015
<b>1.7 Total Estimated budget</b>	: 40 million YTL

### **2 Objectives**

#### **2.1 Overall Objective**

- Increasing the domestic and foreign tourism activities, developing the health tourism,
- Diversification in tourism activities, evaluation of historical and natural tourism opportunities,
- Education of local people and presentation of local cultural assets with their participation and increasing the economic assessment opportunities,
- Stimulating the other and sub sectors, providing economic revival
- Providing employment for qualified staff
- Increasing the presentation of the region in national and international media, establishing a dialog between cultures and developing the social relations.

#### **2.2 Relationship to the Plan Decisions of a National Scale**

According to the direction shown in Preliminary National Development Plan and Medium Term

Program, the main subjects may be summarized as follows; within the sustainable tourism comprehension an increase in the sector incomes is aimed with more visiting tourists and enhancing the quality. In order to implement this, the necessary facilities must be provided, human resources which the sector needs, have to be trained, a research for diversification of the tourism products, supporting the protection and certification activities and accessibility of these studies to the potential crowds by several means (DPT, 2003 and 2006-1)

In the 9<sup>th</sup> Development plan it is stated that “Health services tourism will be supported considering Turkey’s competitive advantage in terms of prices, service quality and geothermal resources”. It is expected that significant contribution can be provided in the economy of the region by developing these thermal resources in the region and in Amasya aiming at the health tourism and their integration with other tourism activities.

When the principles in question are taken into consideration, it is obvious that the thermal resources in Amasya, Terziköy have to be evalu-

ated. In order to provide health services to the old people of EU and Scandinavian countries, the potential in the region has to be activated, the capacity of beds and quality have to be increased, the quality of the services be enhanced and long term arrangements done with the health insurance providing organizations and establishments.

### **2.3 Position in the Regional Development Strategy**

Utilization of the thermal potential of the region after a certain study providing the protection and utilization balance, the income of the region will be increased and an improvement can be provided in the employment opportunities. With the development of the thermal tourism, the culture and natural inheritance of the region will be well-known and these values in question will make a contribution to the economy.

The evaluation of the thermal resources in Amasya, Çorum, Samsun and Tokat which have a total flow rate of 400 l/s, theoretically provide thermal tourism for 57 000 people per day based on the calculation of 600 liter/day thermal water usage per person. It is possible to provide thermal tourism for 3,5 million people annually in the region on condition that the capacity is used with the calculation of 200 days a year and 30 percent capacity usage of thermal water.

However, only 2-3 percent of this capacity is being used with the existing facilities. In order to increase these values, thermal resources have to be dealt with individually and the plans and projects for developing the infrastructure and superstructure of these thermal resources and their landscapings have to be implemented. Transportation to these thermal resources, accommodations, free time activities and services intended for health tourism have to be provided.

## **3 Justification**

### **3.1 Activities Previously Carried out on This Subject**

The project will be applied in Terziköy thermal spring which is within the limits of Çivi village and 26 km to Amasya city centre. Terziköy thermal spring is being used for thermal tourism purpose, in the hotel there are 72 beds and 45 beds in the motel. The daily accommodation capacity is for 150 people with additional accommodation opportunities. In the summer months, the facilities are working with 100 percent of their capacities. A part of the demands cannot be covered.

In the springs area, the hotel which has been providing services to the visitors, has motel, bungalow, accommodations for travelers and tourists, indoor swimming pools, private cabins, restaurant, night club, cafeteria, playground, parking area and picnic area which have been built in a land of 55 000 m<sup>2</sup>. However, it cannot reach the intended capacity of domestic and foreign tourists because of the insufficiency of the existing facilities and publicity. The additional demand cannot be supplied due to insufficiency of the capacity.

In order to provide accommodation opportunities and a special treatment center In addition to this facility, the construction on 3 200 m<sup>2</sup> area of 14 small and 4 big private baths, 3 private baths with jacuzzi, fitness centre, 2 for men and women baths of 81 m<sup>2</sup> area, 2 jacuzzi sections, men and women Turkish baths of 77 m<sup>2</sup> area, dressing rooms and resting rooms. This facility cannot be completed because of the scantiness of resources.

The project studies of constructing a 5 storey hotel-motel in an 11 000 m<sup>2</sup> area, which has 48 double rooms, 4 suites, 1 royal suite and 106 beds, are in progress. In this complex, it is planned that there will be 2 special treatment centers, 2 Turkish baths, 8 private baths, a restaurant for 220 people, a conference room of 280 people, an

indoor swimming pool of 120 m<sup>2</sup>, laundry, refectory for staff, gaming room, pastry shop-café, a room for step-aerobics and fitness-sauna room, in the project.

A long term study is needed to reach the projected 800 bed capacity. However, any concrete step can not be seen and a detailed project has not yet been prepared and implemented.

Thermal springs have a positive effect on diseases like rheumatism, stomach, intestine, renal, urinary tract and nutrition disorders. The water is bicarbonated, calcium rich, compound with partial carbon dioxide. The Ph value is 6.6. It can be used in potable and bath treatments. The existing resources must be developed and publicity in the foreign countries should be made, contracts with health services providing companies have to be signed. Systems similar to the ones applied in the centers of İzmir Balçova and Balıkesir Gönen have to be achieved.

Terziköy thermal spring has been announced as a "Tourism Centre" by the Tourism Incentive Act numbered 2634 and the verdict came into full force in 1998. For providing the national and international basis, the capacity of Terziköy thermal spring has to be increased to 2 000 beds. The hotels and motels have to be projected as three, four and five star facilities. Special treatment centers and medical treatment facilities have to be implemented. The center in question has to be in collaboration with the faculties of medicine in Tokat and Samsun and necessary support from these universities must be supplied.

Main city plan of the land scaled 1/5 000 and Implementary Development Plan of 1/1 000 scale have been prepared and approved early in the year of 2005. According to these plans the capacity of beds will be increased to 800. The opportunities like gymnasiums and outdoor tennis courts will be presented near to these established facilities. Besides the established facilities

in question, tourism activities such as excursions and tours presenting the local culture have to be implemented. The activities like eco tourism, hunting tourism and trekking with the participation of the local people have to be planned in addition to the thermal tourism.

Excursions have to be arranged to publicize the historical places and natural beauties in Amasya, Çorum and Tokat to the visitors of thermal and health tourism. Amasya stands out with its endemic plants and historical places, Çorum is famous for Hittite Civilization and there are natural beauties in Tokat. There will be economic revival in the economy of the region with the integration of these activities and thermal tourism.

### 3.2 Identification of Requirements and Problems

Terziköy Thermal spring which is in Göynücek district of the province of Amasya, has a temperature of 37 °C and a capacity of 10 l/s. Terziköy spring drilling no: 1 has a temperature of 36,5 °C and a flow rate of 4 l/s. Terziköy spring drilling no: 2 is 40,1 °C and has a flow rate of 32 l/s. The total flow rate of these three springs is 46 l/s.

The usage of thermal water in tourism is acknowledged by Ministry of Tourism and Culture and in international standards is 600 liters per person. According to these values, theoretically: 46 liters/sec x day (86 400 seconds in day) x 600 liters/days (usage per person) makes 6 624 person/day. Theoretically with Terziköy thermal spring, there is a possibility to provide thermal tourism for 6 624 people every day.

If it is assumed that the thermal tourism season is 200 days annually and the usage of thermal capacity is 50 percent; there is a potential of providing thermal tourism for 662 400 people annually (6 624 person/day x 200 days x 0,50 (%50)). In this case the necessity will be 3 312 beds.

There are 106 beds in these facilities, of which only 3,2 percent of the capacity can be used with the existing facilities.

It is estimated that the number of beds to be needed in the future is 2 000 for Terziköy thermal facilities. When this number is reached, necessary measures will have to be taken and implemented in order to maintain the capacity in the thermal springs. In order to prevent the crustal thickening in the irrigation lines, Mineral research and exploration institute (MTA) has to observe the thermal springs periodically and determine the technical and administrative precautions. Consequently, the springs must be inspected at least once a year routinely, the pollution and the alternations in the spring flow rates have to be studied by taking samples.

Protective precautions have to be applied without fail in order to prevent pollution in the thermal springs. If a decrease occurs in the flow rate, technical precautions have to be implemented to increase same.

The number of qualified staff and management is insufficient in the facilities. Training of the staff of all levels and increasing the service quality are essential to run the facilities according to the international standards.

### **3.3 Definition of the Target Group and Its Estimated Number**

When the thermal facilities are completed, at least 2 000 people will have the opportunity to make use of thermal tourism. New accommodation facilities have to be built, an increment in the capacity of the beds and transportation means have to be implemented, presentation activities must be done and the works of landscaping have to be executed. The average life of the humans is extending both in our country and in the other countries and the sickness of rheumatism, stomach, urinary tract is increasing in the old ages. There is a possibility to

offer thermal tourism for 400 000 people annually by providing sufficient number of bed capacity for the thermal springs which have a healing effect on various diseases.

### **3.4 The reason for Preference Amongst the Alternative Solutions**

The thermal water could not be utilized effectively for purposes such as greenhouses or for heating the city. Due to the fact that thermal tourism is an activity which brings more income and create more opportunities to various sub sectors, primarily thermal facilities have to be built. Utilization of thermal water in heating of the greenhouses and other multi purposes in the winter time has to be studied upon when constructing thermal facilities. For the greenhouse activities, the method applied in Karaali village of Şanlıurfa has to be implemented here as well (Bekişoğlu and Özel, 2002).

### **3.5 Basic Assumptions**

- Amasya Special Provincial Administration will prepare a specification aiming at evaluation of the thermal spring with its surroundings in such a manner as to provide 2 000 bed capacity that can be applied in parts and can be used for multi purposes. The terms and conditions will be given in the specification of the project (number of beds, the hotel etc.)
- The usage rights of the thermal spring which is owned by the Special Provincial Administration will be prepared and the facility will be leased to the entrepreneurs for a long period of time (25-49 years) provided that the project which is approved by the administration be complied with.
- Private sector companies and individual investors will invest according to the projects they have prepared.
- Necessary contracts with foreign and domestic health insurance systems and organizations and patients will come from abroad in order to get treatment.
- The relations with the university faculties of medicine will be provided and the medical treatments will be implemented at high level.
- A vocational high school will be founded

in order to educate the employees and theoretical and practical knowledge will be given on thermal treatment methods and necessary qualified staff will be provided.

- The support from the local people, tourism companies and related public administrations and tourism activities will be implemented within integrity.

#### 4 Activities

##### 4.1 Main Activities

- Prepare a large scaled project comprising the evaluation of Terziköy thermal spring and its surroundings,
- Prepare a specification for leasing the thermal spring for long periods,
- Implement the tenders and construction of the thermal facilities according to the projects to be prepared,
- Management of the facilities and their integration with other tourism activities,
- Strengthen the relations among the public administrations, universities and private sector companies,
- Train the staff of the facilities theoretically and practically.

#### 5 Project Duration and Plan of Activities

The application period of the project is 10 years (2006-2015). A project has to be prepared which countervails the long term needs for the area. The public administrations have to allocate areas to the demanding companies. The public administra-

tions have to take the responsibility for preparing the infrastructure and the arrangements of the environment. The private sector has to make investments for the necessary facilities such as hotels, motels and others.

#### 6 Institutional Framework and Operating Model

Amasya Special Provincial Administration is the owner of the thermal spring. Due to the fact that the public administrations cannot run a hotel, the rights for the thermal water have to be leased for long terms for building a hotel and treatment centre. The public administrations have to promote their opportunities to the private sector for building hotels and treatment centers. Besides the public administrations non-governmental organizations and local people have to support this attempt and endeavor to build the infrastructure of tourism. Tourism is not a fact that is adopted and applied by only the public administrations and some groups of private sector. In this respect, the education and the participation of the locals are needed.

#### 7 Expected Results

##### 7.1 Impact expected on the Target Groups

When Terziköy thermal resources are used in full, employment for 2 000 people will be achieved and will have a great effect on Terziköy and Amasya city's income. The historical and nature tourism potential of the city will be activated.

Activity	Years										Application Unit
	1	2	3	4	5	6	7	8	9	10	
Preparing tourism master plan	√	√	√	√	√	√	√	√	√	√	Special Provincial Administrations
Renting to the private sector		√	√	√	√	√	√	√	√	√	Special Provincial Administrations
Construction of facilities like hotel, motel		√	√	√	√	√	√	√	√	√	Private sector companies
Managing of the facilities							√	√	√	√	Private sector companies
Resource allocation Mineral Research and Exploration Institute		√	√				√			√	Mineral Research and Exploration Institute
Collaboration with the universities		√	√	√	√	√	√	√	√	√	Private sector companies, university
Founding a vocational health high school		√	√	√	√	√	√	√	√	√	Ministry of National Education and Ministry of Health



The accommodation and expenditure per capita amount will be increased. Due to the fact that tourism has an influence on the development of many sectors, the increase in employment and the development in the city economy will be achieved.

When Merzifon Army Airport is used for civilian transportation, the services for the aged people from foreign countries can be given. Samsun and Tokat airports can take an active part in expanding to the foreign markets. The resource in question has to be used effectively and have a contribution to the economy of the region.

### **7.2 Concrete Outputs**

The number of visitors coming in for the purpose of thermal tourism varies from 10 000- 15 000 annually. If the number is multiplied by 30-40 times, major development will be seen in the province of Amasya and Terziköy surroundings. Cultural exchanges will occur among the visitors coming from different regions and countries and more people will visit the region for various reasons.

### **7.3 Sustainability**

If the thermal facilities are run according to specific rules and standards, there will always be a possibility to find customers. The existing facilities have been working in full capacity in the summer (May-Sep) and only the domestic visitors are using the facilities. The required presentation will be implemented by the private sector because the facilities have been constructed by themselves. The facilities will be included in the tour routes and the continuity of the system will be achieved by the occupancy rate.

## **8 Breakdown of the Budget and Estimated Costs**

In order to transform Terziköy thermal spring into a health centre, the estimated cost per square meter is determined as 406 YTL at 2005 unit prices.

These investments have to be implemented by private sector companies and individual investors.

2 000 rooms with an area of 15 m<sup>2</sup>, have to be constructed in order to build up a capacity of 2 000 beds. The estimated cost for this is:

15 m <sup>2</sup> x 2 000 room x 406 YTL/ m <sup>2</sup>	= 12,18 million YTL
Other facilities are 10 000 m <sup>2</sup> x 448 YTL/ m <sup>2</sup>	= 4,48 million YTL
Furnishing of the buildings is	= 8,34 million YTL
Total	= 25,00 million YTL

Investment for the infrastructure and landscaping has to be built by public administrations. The public administrations have to invest 15 million YTL on improvements in access roads, supply of potable and domestic water, and scabbing of the parks and gardens and constructing gymnasiums. The public administrations and private sector have to invest 40 million YTL in order to achieve the utilization of Terziköy thermal spring in full swing.

## PROJECT 3.2.2.6: CONSTRUCT COLD STORES AND DEVELOP PACKAGING FACILITIES FOR FRUITS AND VEGETABLES

- **Construct Cold Stores and Develop Packaging Facilities in Amasya**

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.2 Strengthen the bond between knowledge and production in order for researches to be effective in decision-making processes and guide policy
Relevant measure	: 3.2.2 Ensure integration of agriculture and industry in the region

### 1 General Information about the Project

1.1 Project heading	: Construct cold stores and develop packaging facilities for fruits and vegetables Amasya
1.2 Project location	: Amasya
1.3 Sector	: Agriculture
1.4 Project objective	: Storing the products, providing the balance between supply and demand, minimizing the product losses, constructing and developing product packaging facility in accordance with international standards
1.5 Project Owner	: Ministry of Agriculture and Rural Affairs, Amasya Directorate of the Ministry of Agriculture, private sector companies
1.6 Estimated duration	: 10 years (2006-2015)
1.7 Total Estimated budget	: 10 million YTL

## 2 Objectives

### 2.1 Overall Objective

- Providing the balance between supply and demand by storing greengrocery.
- Minimizing the product losses in the period from the harvest and to the consumer's table,
- Packaging and boxing the product for exportation purposes,
- Implementing the product quality controls and their certification services in accordance with international standards, certification of same with accredited laboratory documents,
- Providing more foreign exchange by increasing the exportation of stored and packaged products.

### 2.2 Relationship to the Plan Decisions of a National Scale

In the national scaled Medium Term Programme, Preliminary National Development Plan and the 9<sup>th</sup> Development Plan, it is emphasized that precautions intended to increase and diversify the income of the rural areas will be taken. In Medium Term Programme, it is said that "In order to increase the competitive power in the exportation of agricultural products, the focus in the exportation supports will be on the products having more added value, having their own trademarks and intended to the end customer. In order to achieve this aim, the food safety has to be provided within the chain from the arable fields to the consumer's table and international standards have to be provided in their classification, storage and packaging. On this ac-

count, the selected project is compatible with the decisions of the national scaled plan.

### **2.3 Position in the Regional Development Strategy**

The region is in the rank 3, among 26 regions by its field crops production of 5 million tons, in rank 4 by its 2 million ton production of vegetables annually, in rank 13 amongst the Nomenclature of Units for Territorial Statistics (NUTS) Level 2 regions with its production of 312 00 tons of fruit.

Amasya is one of the leading cities in greengrocery production. In the year 2002, the production of vegetables was 190 790 tons and the production of fruit was 79 643 tons. The most produced fruits in the city are apple (25 919 tons), cherry (18 266 tons), peach (15 130 tons) and plum (5 580 tons). In the vegetables, tomato (98 799 tons) and okra, which is identified with the name of the city, (1 255 tons) are leading and the other vegetables of summer (cucumber, melon, watermelon, pepper etc.) are following these.

The production of onion which is one of the important products in Amasya city was 392 598 tons in the year 2002. The storage in onion production could not be implemented properly so the storage losses reach 35-40 percent (TKİB, 2003). In order to minimize such storage losses, primarily storage, processing and drying facilities have to be constructed in Merzifon, Amasya central district, Gümüşhacıköy, Suluova and Taşova districts.

The facilities for storing greengrocery are not sufficient in Amasya. Packaging facilities are nearly non-existent in the city. Only 2-3 percent of the products which are produced in Amasya and the region can be stored and the rest is submitted into internal market. In the harvest season greengrocery prices are decreasing because there is an increase in supply and a decrease in demands and the farmers cannot earn enough money.

The main reason for this is the insufficiency in processing and storage facilities. The products are sold out in the local markets without classification, quality control information about the producer. In order to prevent this, the products have to be packed by their classification with appropriate packaging. In order to expand the goods to the foreign markets, packaging of the products has to be done according to the consuming habits of the consumer countries and their related standards.

In the studies made in Turkey, it is observed that 15,0 -33,6 percent of the products which are produced in the arable fields decay and get lost. This rate is determined as 26,2 percent in the vegetables and 25,0 percent in the fruits. The product losses can be minimized by increasing the number of product storage facilities and their capacities.

## **3 Justification**

### **3.1 Activities Previously Carried out on This Subject**

There are some storage facilities for apples but they are not sufficient. In particular, there is no storage facility for storing cherries and peaches and submitting same to the local markets. For this reason, there is a need for storage facilities primarily for apples, cherries, peaches and vegetables. Multi purpose storage facilities have to be constructed and long term storage should be implemented.

The number of facilities and their capacity which classify, pack the greengrocery and make the presentation to the customer easier, have to be increased. In the near future unpacked products will not be sold out in the markets; the facilities for classification and packaging are needed. The general tendency in recent years calls for storage of the products by deep freezing besides their classification and packaging. The products which are sorted, cleaned, carved and deep frozen, can be kept for long periods of time and take up less

space and volume. Therefore, the most economic solution has to be selected regarding the latest developments in the world and the most recent technology.

### 3.2 Identification of Requirements and Problems

- Increasing the number and capacity of greengrocery storage facilities and processing and packaging facilities,
- Implementing the organization between the producers and inciting the construction of storage and packaging facilities,
- Constituting the institutional structures needed for classification, storage, packaging and marketing of the stored products,
- Minimizing the storage losses and monitoring the latest developments in the world, making researches for their application, strengthening the relations between the universities and the implementing institutions.

### 3.3 Definition of the Target Group and Its Estimated Number

The number of the agricultural enterprises that can make irrigated agriculture is 18 286 (68,3 %) of the total of 26 836. The majority of these enterprises are dealing with greengrocery agriculture. The number of enterprises processing vegetables is 6 877 and the number of enterprises processing fruits is 17 844. (DİE, 2004). The producers in question have to be considered as the target group. The irrigated lands will be doubled and the production of greengrocery will be increased with the implementation of new irrigation projects which lead the irrigations that can be done in Geldingen and Merzifon plains in the future. Thus, the number and the capacities of the product storage and processing facilities have to be increased in parallel with the increase in the production of greengrocery.

### 3.4 The Reason for Preference Amongst the Alternative Solutions

The greengrocery agriculture in Amasya has been done widely due to the opportunities of irrigation. In recent years, there is a tendency in producing apples, cherries and peaches. Especially, the production areas and amount of cherries are increasing every year in parallel with its increment in exportation. It is expected that the production of peaches will be increased as this has been demanded by fruit juice production companies and the production is also consumed as fresh fruit.

The studies of reclamation on Amasya apples are in progress. The demand by fruit juice production companies and consumers of fresh fruit will be increased. The studies on increasing the production, drying and canning for Amasya okra, which is identified with the city, still continues. Storage, frozen food locker plant and onion powder producing facilities are needed in order to evaluate the onion production which has been widespread in the city. It is expected that the production areas and amounts of greengrocery will be increased with the implementation of new irrigation projects. Consequently, the facilities for storing and processing the greengrocery in Amasya will keep the supply and demand balance, enable the producers to market their products with better prices and the food processing industry will develop.

### 3.5 Basic Assumptions

- The demand on greengrocery will continue to increase,
- The exportation of greengrocery will be increased, the producers will earn more money,
- The industry of greengrocery will develop, the bounds between the producer and industrialist will be strengthened,
- The greengrocery production in the new irrigation areas will be designated according to the demand,

- The producers will be organized and establish new greengrocery storage, classification and packaging facilities.

projects have to be prepared by qualified experts.

#### 4 Activities

##### 4.1 Main Activities

- Preparing the projects of storage and product processing facilities and selecting the technologies.
- Constructing greengrocery storage and product processing facilities,
- Encouraging the producers to store their products,
- Implementing the producer organizations,
- Strengthening the bonds between the producers and private sector companies,
- Disseminating and activating the exportation activities,
- Providing technical support to the producers during the production and their storage.

#### 6 Institutional Framework

The implementation of the project will be feed the Directorate of the Ministry of Agriculture in collaboration with, Amasya Special Provincial Administration, Chamber of Agriculture, related Non-governmental Organizations, private sector companies and the producers. The activities in question have to be organized in other districts which have significant fruit production like Suluova, Gümüşhacıköy and Taşova and the facilities of storage and packaging have to be constructed.

At least 5 technical staff with a master’s or doctor’s degree on storage of greengrocery and have practical experience, have to be employed in Amasya Directorate of the Ministry of Agriculture and one technician in each district. If this cannot be achieved, some technical staff will have to be hired and trained in a university providing education in the field of storage of fruit and vegetables for obtaining a master’s or doctor’s degree then have them entrusted with work at the Amasya Directorate of the Ministry of Agriculture. The private sector companies and producer organizations have to recruit food engineers or technical staff or auxiliary staff who have been educated in this field.

#### 5 The Duration of the Project and Activity Plan

The project will continue between the years 2006-2015.

The facilities which will store, classify and pack the greengrocery have to be constructed for multi purposes regarding the most recent technical developments. The support from the expert companies and establishments has to be taken and the

The public administrations have to support the private sector companies and producers’ organizations and have to urge the construction of the facilities in question by supplying the donations which are 30-50 percent in the beginning. The

Activity	Years										Application Unit
	1	2	3	4	5	6	7	8	9	10	
Training of the instructors	√	√	√	√	√	√	√	√	√	√	Ministry of Agriculture and Rural Affairs, university
Training of the producers and storage staff			√	√	√	√	√	√	√	√	Directorate of the Ministry of Agriculture, university
Implementing researches							√	√	√	√	Agricultural research institute, university
Organization of the producers							√	√	√	√	Directorate of the Ministry of Agriculture
Marketing								√	√	√	Private sector companies

public administrations and greengrocery producers have to be organized as unions and have effective assignments in the establishment of the unions.

### 7 Expected Results

#### 7.1 Impact Expected on the Target Groups

The facilities of storing and processing the greengrocery will make a contribution to the supply and demand balance. When the fruits like cherries and peaches are supplied in the times of non-growth period will have a demand with high prices, the producers will be earning more income. Additional labor force will be needed for the services such as the harvest of products, their transportation, their storing in and taking out of the storage facilities and their putting on the market. Thus, employment for the storage services will be created in addition to product storage facilities and greengrocery production.

#### 7.2 Concrete Outputs

At least 15-25 percent of the greengrocery and 30-50 of the onions produced in Amasya have to be stored and according to the demand the onions have to be processed into onion powder. On this account, especially the production of apples, cherries, peaches, plums and onions have to be emphasized. When vegetables are stored, the fresh production of Mediterranean (Akdeniz) and Aegean (Ege) regions throughout the year have to be considered.

Amasya okra has to be a trademark and registered in the name of the city. Drying, conserving, deep freezing and other means of processing okra have to be implemented in the modern facilities and efforts have to be made to increase the exportation.

The producers' income will be increased with the integration of agriculture and industry, and new

employment opportunities will be created.

### 7.3 Sustainability

Private sector companies and producers' unions will be active on the subject of construction and management of the greengrocery storage facilities. The storage of these companies and producers' unions will be achieved in full capacity when they derive their incomes from their productions. This situation will balance the supply and demand so that it will hold the job on prices and the storage facilities will give their services consistently. The product processing facilities will enable the wide spreading of the contractual agriculture and the producers can increase their incomes. Added value will be added to the products in question, the exportation will be increased, and additional employment opportunities will be created in the product processing and storing facilities.

### 8 Budget Breakdown and Estimated Costs

In 10 years period, funding of 10 million YTL by the public administration will be sufficient. Some parts of the funds have to be allocated in the education and research studies. 30-50 percent of the funds have to be given to the producers' unions to support the construction of these facilities. In the beginning, the public administrations have to build up a facility as an exemplary and hand it over to the "central association" of the producers' unions. In most of the countries, as an example in Spain, the funding were allocated by public administrations to 40-60 percent of the fixed investments regarding the development situation of the regions and the administrations left the managements to the producers' unions.

## PROJECT 3.6.1.2: ESTABLISH STUD ANIMAL SPERM PRODUCTION CENTER IN MERZIFON

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.6 Increase competitive power in animal husbandry sector
Relevant measure	: 3.6.1 Improve animal breeds and take diseases under control

### 1 General Information about the Project

1.1 Project heading	: Establish stud animal sperm production center in Merzifon
1.2 Project location	: Merzifon
1.3 Sector	: Agriculture
1.4 Project objective	: Animal breeding
1.5 Project Owner	: Ministry of Agriculture and Rural Affairs, Amasya Directorate of the Ministry of Agriculture
1.6 Estimated duration	: 17 years 2006-2023
1.7 Total Estimated budget	: 10 million YTL

## 2 Objectives

### 2.1 Overall Objective

- Eradicating through artificial insemination the frequently seen diseases in the region like brucella, which can be contaminated by mating of the cattle,
- Determining the animals which have high efficiency by searching the herd book,
- Obtaining sperms from high efficiency animals,
- Dissemination of artificial insemination throughout the region,
- Supplying sperms to the private sector veterinarians and breeders,
- Establishing the organization of breeders and balancing the sperm supply and demand,
- Sustaining the training activities effectively for educating the breeders.

### 2.2 Relationship to the Plan Decisions of a National Scale

In the national scaled Medium Term Programme, Preliminary National Development Plan and the

9<sup>th</sup> Development Plan, it is emphasized that precautions intended to increase and diversify the income of the rural areas will be taken. In the 9<sup>th</sup> Development Plan, it is stated that “Even though raising productivity per livestock and increasing livestock production was aimed in the Plan period, limited progress has been accomplished in this field.” In the 9<sup>th</sup> Development Plan, it is also projected that “In 2006, the share of animal husbandry will be increased from 28,0 percent to 37,0 percent in the total agricultural production”. The meat and milk production per livestock unit has to be increased and the other animal husbandry activities have to be developed in order to achieve this aim.

Genetic enhancement and animal breeding will have a significant role in increasing the productivity from ovine and cattle animals. Besides, a development in animal husbandry is expected by improving the conditions of caring and nourishment and eradicating the animal diseases.

### 2.3 Position in the Regional Development Strategy

Even though, according to the data of year 2003,

the 8,3 percent of the total cattle stock, which is 807 965 in number, exists in this region, the productivity of meat and milk is very low due to the fact that the majority of these animals are native breed and cross breed. The daily milk capacity of 44, 9 percent of the animals is under 10 kilos. The 17, 9 percent have the daily capacity of 21-30 kilos. The lactation capacity per livestock unit in the region is 1 222 kilos which is far below the country average.

When the carcass weight of the livestock units slaughtered for meat production are taken into consideration, carcass weight of the unit animal is 155 kilos in the region, while this rate is 184,7 kilos in Turkey. The carcass weight of the animals slaughtered in EU is 250 kilos. When the productivity of meat and milk production of the developed countries is taken into consideration, it is observed that the milk capacity of the region is one-fifth or one-sixth of that of the developed countries and the meat capacity is approximately 62 percent.

In animal breeding, one of the main factors is to impregnate the cows by using the sperms of high productive animals with artificial insemination. On this account, the sperm production center, which will be built in Merzifon, will have a significant role in the development of animal breeding of the region.

### 3 Justification

#### 3.1 Activities Previously Carried out on This Subject

The artificial insemination studies are among the ongoing activities in the region. In 2003, the artificial insemination cases implemented in the region was 10,4 percent of the nationwide artificial inseminations and 66 255 animals were impregnated artificially. When it is considered that the majority of animals are native breed and cross breed, it would be seen that this number and rate are insufficient.

#### 3.2 Identification of Requirements and Problems

- Training of the staff who will make the artificial insemination,
- Educating the breeders about the subjects of animal breeding, artificial insemination and synchronization,
- Eradicating contagious and zoonosis diseases which can be contaminated by mating (natural insemination),
- Selection of the pedigreed animals for their sperms, concluding the necessary agreements with breeders and obtaining the required sperms,
- Dissemination of private sector veterinary services,
- Strengthening the existing Unions of Cattle Breeders (DSYB), establishing sub units intended for developing the assumed races,
- Providing the reorganization of all DSYBs as a senior union (Yeşilırmak Cattle Breeders Central Union) throughout the region in order to develop the institutional capacity.

#### 3.3 Definition of the Target Group and Its Estimated Number

The 25 percent of the agricultural production in the region is gained from animal husbandry. In order to develop the animal husbandry in the region, the medium and small scale establishments (90 percent of the total) which have 2-50 animals must have been the target group. The percentage of the establishments in the total which have more than 51 animal, is 6,4. These establishments in question are managing their own businesses because they have already recruited veterinarians and zoo technicians. The aim must be to establish an institution and organization in order to give services to 70 percent of these establishments in question as a target group.



### 3.4 The Reason for Preference Amongst Alternative Solutions

Merzifon district has advantages amongst its alternatives of Amasya central district, Suluova and Tokat city. Merzifon district, which is in the middle part of the region, has been preferred because it is in the intersection point of Ankara-Samsun and Erzurum-Karabük highways and has a facility of access in transportation. The district of Merzifon is a center which has an easy access to the provinces of Samsun, Amasya, Çorum and Tokat as well as to all provinces and villages of the region at all times.

In the future, the number of industrial facilities will be increased, 2nd Industrial Zone will be constructed and the development in agriculture will be implemented by irrigating the Geldingen and Merzifon plains. The district of Merzifon has been settled in a place which is susceptible of development with its allocation unit and position. When all these matters are taken into consideration, The district of Merzifon has been selected for this aim. Its position in the intersection of the highways and Merzifon Military Airfield which will serve for civilian transportation provides an advantage for the district of Merzifon. Merzifon Cattle Breeder Union which is formed by breeders has a significant role in the district. This union has a contribution in animal husbandry, especially the dairy.

### 3.5 Basic Assumptions

- The demand on animal products will continue to increase,
- The number and capacities of the facilities processing the animal products will be increased and will provide added value to the products,
- Animal diseases will be kept under control,
- The care and nutrition conditions will be improved, an increase in productivity will be obtained,
- Cultivation areas of fodder plants will be increased in the new irrigation areas, crude fodder deficit will be overcome,
- Production of organic animal products will be implemented in the region,
- The breeders will be organized and undertake the management of the stud sperm production center,
- The price of meat and milk products will be stabilized and animal husbandry will become a profitable sector.

## 4 Activities

### 4.1 Main Activities

- Training of technical staff,
- Establishing the sperm production center, providing necessary tools, equipments, instruments, devices and computers, and establishing a sperm freezing unit, completion of the infrastructure,

Activity	Years																	Application Unit
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Training of the staff	√	√		√		√		√		√			√				√	Ministry of Agriculture and Rural Affairs, University Special Provincial Administration, Directorate of the Ministry of Agriculture, Union of Cattle Breeders, Directorate of the Ministry of Agriculture, Union of Cattle Breeders
Installing sperm production center		√	√	√														Directorate of the Ministry of Agriculture, Union of Cattle Breeders
Training of animal breeders		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Directorate of the Ministry of Agriculture, Union of Cattle Breeders
Establishing DSYBs	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Directorate of the Ministry of Agriculture
Studies on artificial insemination		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Private sector companies
Developing private veterinary services		√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Directorate of the Ministry of Agriculture, Union of Cattle Breeders

- Obtaining stud animals, determining the animals with high efficiency through pedigrees,
- Implementing necessary actions for importing sperms, if needed,
- Providing sperms to the establishments, implementing the artificial insemination by public, DSYB and private sector's veterinaries,
- Monitoring the conclusions throughout the region,
- Implementing the producer/breeder organizations, dissemination of DSYBs, establishing senior organizations.

### 5 Project Duration and Plan of Activities

The project will be applied between the years of 2006-2023. In the first ten years, the route of development and aim will be to reach the average per livestock unit in Turkey, and in the later years is to reach the rates of productivity in EU countries. The productivity in the meat and milk of the animals in the region can be increased by improving the sheltering, care and nutrition conditions of the animals and implementation of artificial insemination.

### 6 Institutional Framework and Operating Model

The sperm production center will be established in collaboration with the Union of Cattle Breeders in the leadership of TKİB. In the beginning, a limited public administration support has to be given, but eventually in 5 years, an institutional structure in which all animal breeders will associate, have to be established. Therefore, a management model under the title of Yeşilirmak Cattle Breeders Central Union has to be organized with the representatives selected by the establishing DSYBs in the province and district centers. The number of delegates who will execute the representative duties, have to be determined by the management and inspectorate boards regarding the number of breeders in each city.

The public administration should not take a part in the management of this establishment but they have to be in this establishment as supervisors making suggestions and having active roles in solving problems. These establishments have to provide services such as artificial insemination, vaccination, prevention of the diseases and treatment with their own private veterinaries and zoo technicians.

Technical support has to be given in prepared type projects of training of breeders having animal husbandry establishments and animal keepers, care and nutrition of the animals and improvements in animal shelters.

### 7 Expected Results

#### 7.1 Impact Expected on the Target Groups

The productivity in meat and milk production per livestock unit will be increased by dissemination of artificial insemination and the improvements in care and nutrition conditions of the animals in the region. Middle and small scale animal husbandry establishments will be developed and the breeders will have the opportunity to market their products in better conditions by organizing. Animal husbandry will be implemented in the specialized establishments, a fortiori rather than realizing as a subsidiary work of agriculture. On the one hand, the productivity will increase, on the other hand employment will increase in the specialized animal husbandry establishments.

The increase in the animal products and productivity will contribute to the animal product processing industries and raw materials which have permanence will be supplied to these industrial plants. The development of animal product processing industry will provide employment, as well as improvement in other industrial facilities and increase in capacities.

## **7.2 Concrete Outputs**

Necessary precautions have to be taken in order to increase the meat and milk production per livestock unit above Turkey averages in ten years and then in the later years to increase it to the productivity rates of EU countries. The animal breeding in cattle takes a long time so the project has to be implemented patiently and pertinaciously. Significant development will be seen in the animal husbandry of the region in short time with animal breeding of native breed races and the genetic improvement studies in the cross-breed races instead of importation. It is estimated that the meat and milk production per livestock unit will be increased 30-50 percent. The chance of achieving this aim is higher in the medium and small scale agricultural establishments specialized in stock-farming and dairy. It is inevitable that the chance of achievement is very little in small agricultural establishments which have few cattles and which produce milk for their daily needs on non-commercial basis.

## **7.3 Sustainability**

The sperm sales and artificial insemination have to continue in order to provide the sustainability of the project. The income and expenditure balance of the sperm production center has to be well-established and the costs of sperm and artificial fertilization and the expenditure for staff, tools, devices and management have to be compensated in order to finance itself fiscally. Even if the public administrations support the work in the beginning, in the course of time the cost of the services has to be paid by the service receivers. TKİB has to support the artificial insemination studies by paying the premium funds per livestock unit. The continuity of these supports urge the breeders to emphasize on animal breeding.

## **8 Budget Breakdown and Estimated Costs**

A fund of 10 million YTL has to be allocated for the project between the years 2006-2023. The sperm production center has to be constructed, the training for technical staff has to be provided, tools, equipments and devices have to be purchased in two years time with approximately the half of the fund. A financial structure, where in income and expenditure balance is provided, has to be established in order to compensate the management and the other expenditures of the sperm production center.

**PROJECT 2.1.3.4: GIVE TRAINING ON ENTREPRENEURSHIP/ BUSINESS START-UP FOR ADULT INDIVIDUALS AND PARTICULARLY WOMEN AT THE REGIONAL CITIES (TAKING MAINLY NEW URBAN RESIDENTS INTO CONSIDERATION) IN COOPERATION WITH PUBLIC, PRIVATE SECTOR AND NGOS**

- **Ensure Inter-Sectoral Cooperation Initiated by Public Sector in Merzifon and Give Training on Entrepreneurship at Quarters Where New Immigrants are Concentrated**

Relevant strategic objective	: 2 Development of human resources and social structure
Relevant priority	: 2.1 Organize education at every level according to the production and service needs of the region
Relevant measure	: 2.1.3 Develop adult education programs

**1 General Information about the Project**

1.1 Project heading	: Give training on entrepreneurship/business start-up for adult individuals and particularly women at the regional cities (taking mainly new urban residents into consideration) in cooperation with public, private sector and NGOs
1.2 Project location	: Merzifon
1.3 Sector	: Social service
1.4 Project objective	: Providing employment to the new migrants, decreasing the unemployment and providing their social cohesion with the city,
1.5 Project Owner	: Turkish Employment Organisation, Governorship, Amasya Municipality
1.6 Estimated duration	: 12 years (2006-2017)
1.7 Total Estimated budget	: 6 million YTL

**2 Objectives**

**2.1 Overall Objective**

- Increasing the employment and decreasing the unemployment rates in Merzifon where population growth is anticipated,
- Providing the participation of the adult individuals and women who have disadvantages, to the social life,
- Developing institutional mechanisms and active employment policies against the poverty, unemployment and not having social security,
- Providing the social and regional coherence,
- Increasing the capacity of contribution for eliminating poverty.

**2.2 Relationship to the Plan Decisions of a Nationals**

Predominantly there is an agricultural structure in the region but in the “Aims of the Long Term Development Strategy” of the Five Year Development Programme, it is predicted that the non-agricultural employment in the country will be 90 percent (DPT, 2000: 22). Therefore, it is seen that increasing the employment in services and industry sectors is important for the region.

Preliminary National Development Plan (PNDP) is envisaged to apply active employment policies as one of the precedences of the development axis in order to develop the resources and increase

the employment. The precautions related with these precedences, supporting the employment of the disadvantaged groups in the labour market, supporting the participation of the unemployed young population and strengthening the lifetime education opportunities of the adults and redundant workers. (DPT, 2003: 107-109). Besides, it is envisaged to support the disadvantaged groups in labour market, including the women, under measure 1.1 of the active employment policies under this development axis (DPT, 2003).

In the related development axis of increasing the economic powers of the regions, one of the measures is identified as “Institutional support, including training will be provided in order to promote entrepreneurship” in the precedences supporting and strengthening the SMEs. Other precedence is, supporting the local initiatives. One of the measures related to this predicted as “Local initiatives will be supported by establishing new businesses or improving the current ones and providing SME consultancy and training services. Training and guidance services will be provided to the entrepreneurs with a view to avoiding the risk of failure during the establishment stage of the business (DPT, 2003: 131-132).

In the MTP, in the macroeconomic policies related with development and employment, it is said that “the increase in economic growth and employment has to be implemented by private sector” (DPT, 2006-1:5). In the development axes of Improvement of Human Resources and Increasing Employability, it is determined that employability will be increased with “a special emphasis will be given to the active employment” and “particularly enabling employment of the unemployed educated young population, by means of using distant and non-formal education opportunities” and “the training of human resources will be supported” and “necessary regulations shall be made for a more flexible labour market”. (DPT, 2005: 19). In MTP, in the development axis of Social Inclusion and Alleviating Poverty, in paragraph 8, it is predicted

that women’s participation in social life has to be provided and the sensitivity against women abuse has to be increased (DPT, 2006-1).

In the draft of 9<sup>th</sup> Development Programme, under the heading of Improving Income Distribution, Social Inclusion and Alleviating Poverty (5.4.3), the conditions of the women in education and employment are emphasized and in the development Axis of Increasing the Employment numbered 7.2; it is envisaged that the participation of the women in labour market and employment should be improved.

### **2.3 Position in the Regional Development Strategy**

One of the main strategies in the Master Plan is to improve the human resources and social structure; in this context, one of the arising precedences is to develop institutional mechanisms against the poverty, unemployment and not having social protection and increasing the human resources aimed at to this precedence and decreasing the unemployment can be significant measures. Income per capita (2001) in four cities of the region is far below Turkey’s average. The income per capita in Samsun and Çorum cities is a little bit higher than the others but the average of the region is rather low and in the development of the cities (2000), Samsun and Tokat are in ranks 32 and 61 respectively. Although the unemployment rate in the region, according to the 2000 data, is 6,1 which is 8,9 percent below Turkey’s average, it is high in percentage in provincial and district centers. The unemployment rates of women in the urban areas of the region are higher than that of the men. Besides, the employment in the region is in the agricultural sector (66,9%) which is above Turkey’s average (48,4); it is known that the unemployment in the agriculture is high in numbers.

In the light of the projections in the Main Plan, it is expected that some specific urban centers will become prominent and will be growth poles due to their advantages. It is considered that these centers

will attract more population than the other places due to their employment possibilities. Especially, these centers have to be prepared for the migrating population and the employment opportunities have to be created. In the main plan, it is aimed to attract the population (who were migrating to other cities) to the cities of the region but when the general unemployment rates in the region and the hidden unemployment in the agricultural sector are taken into consideration, it is observed that increasing the human resources and decreasing the unemployment have a strategic importance; the activated population can be kept in the region by increasing the employment opportunities. There are universities in the region but due to that there are limited employment opportunities, the young and educated population is leaving the region. When all these are considered, the city centers, especially the ones which have the potential to attract migrations, have to be prepared for the new population. Merzifon has advantages due to its position in the intersection of the important highways and its proximity to other transportation means. Besides, Merzifon draws attention with its proximity to the irrigated vast agricultural plains and the development in non-agricultural industries. If the Merzifon Military Airfield is assumed to be used in civilian transportation, it is predicted that the city will be the growth pole in the region and has the capacity to attract population.

It is important that the marginalization of the new town-dwellers' and social solidarity of the poor class have to be prevented; in consequence, the opportunities of active employment have to be increased. In this, providing trainings to the young people, adults and the women, who are in disadvantaged conditions, and managing the micro credit systems and increasing the entrepreneurship are preferential. The projects which grant a subsidy to medium scale interventions for providing vocational training, vocational professional training of the adults or entrepreneurship training, became significant among the regional development strategies.

### 3 Justification

#### 3.1 Activities Previously Carried out on This Subject

The acceleration of development, which is seen and expected to increase further in Merzifon, has to be prepared according to the needs of the increasing population. One of these important needs is that gaining new abilities to provide employment for the disadvantaged groups which consist of newcomers, adults and women. In this context, providing trainings of entrepreneurship and business establishments will create new employment opportunities and improve the accommodation of new town-dwellers to the city and the social life. In this subject, İŞKUR's active employment policies and increasing the skills instead of social assistance in order to alleviate the poverty and application of the support programmes for employment of the individuals or establishing businesses have to be applied. On this account, it is estimated that the training about entrepreneurship and business establishment which will be given to the adults and women with the contribution and support of İŞKUR, especially in the provinces which became a target of new immigrants will be beneficiary. Trainings on entrepreneurship and business establishment were applied in most of the regions of Turkey; for instance these trainings have been given in the region after the time of earthquake in 1999 and in Diyarbakır by GAP-GİDEM in recent years and micro credit opportunities have been provided for the people.

The contribution of the training provided to women in particular is highly significant for the welfare of the family and the education of children. It would be equally significant to benefit from the experience acquired in the regions as well as from those individuals involved in the implementation of such trainings.

### 3.2 Identification of Requirements and Problems

- Determining the districts in Merzifon in which the newly migrated people are living and the unemployment is a major problem,
- Implementing the studies and developing the suggestions in order to determine the production needs and the services sector in Merzifon,
- Determining the demands of the adults and women related to existing skills and current education conditions in the selected regions,
- Determining the subjects fore -grounded in the entrepreneurship trainings,
- Developing the collaboration with skill courses for unemployed young persons,
- Determining the micro credit and other credit organizations and developing collaboration with them,
- Sustaining and monitoring the supports after the trainings.

### 3.3 Definition of the Target Group and Its Estimated Number

The target group in this project is the adults and especially the women who are living in the congested districts of recent migrants; when these districts are selected, the places where unemployment and poverty have been seen as a serious problem have to be selected. First of all, in these districts the works of publicity about the trainings have to be held and the participation has to be promoted. The community centers, if any, or appropriate sections of the existing schools can be used for these training. The people living in close district can be gathered in a common place by providing their transportation.

The project has to be started with a group of 100 people and a multi dimensional framework has to be presented to the participants by constituting classes of 25-30 people. Variants of entrepreneurship including the cooperative trading system, the opportunities of trading jointly, different opportuni-

ties of business establishments, legal legislation, responsibilities and risks have to be explained. Besides, enhancement and self expression trainings have to be given to the participants. Searching microeconomic opportunities for the participants and explaining the ways of utilization are amongst the important factors for achieving the project.

### 3.4 Preference for Selection Among Alternative Solutions

It is thought that some of the cities in the region will be growth poles and attract population from the rural areas; Merzifon is one of these. But especially in the transitional periods, the migrating population cannot find jobs and have to struggle with poverty and this condition leads to lots of social problems including the employment of children. Consequently, this project can be implemented in a short period of time in terms of both constituting a model by setting good examples to the community and bringing out solutions to the employment problems.

### 3.5 Basic Assumptions

- Merzifon will be one of the centers which is highly migrated,
- There will be problems of the new migrants in the subjects such as orientation to the city, improving their skills according to the employment opportunities and finding employment,
- Developing the entrepreneurship and business establishment is important for both providing the production and services needed in the city and creating the employment,
- These training will be supported with other services such as providing micro credits,
- The collaboration with the establishments providing skill improvement courses such as Public Training Centers,
- The trainings will be diversified according to new emergent demands.

**4 Activities**

**4.1 Main Activities**

- Determining the districts congested with newly migrated people and where poverty is highly seen,
- Determining the education necessities according to the demands emerging due to new developments in Merzifon,
- Holding presentation meetings related with the training to be given in the districts and promoting the participation in training for entrepreneurship,
- Constituting the groups and determining the training necessities,
- Developing the training programmes for the subjects determined and preparing the training materials,
- Implementing the training,
- Giving support in finding the micro credit opportunities to the volunteers who are willing to establish business,
- Monitoring the conclusions and selecting the best examples,
- Reorganizing the training according to the conclusions.

**5 Project Duration and Plan of Activities**

It will be better if the project starts in a short period of time. The districts congested with newly migrat-

ed people and where poverty is commonly seen, have to be selected and the training programmes have to be planned. It has to be expected that the conclusions of the training programmes, which commenced in the short run, can be taken in medium terms. But on account of the fact that contents of the trainings will be formed up according to the new demands, this project will be developed consistently and the programmes will be renovated and sustained till 2023.

**6 Institutional Framework and Operating Model**

The active employment policies of İŞKUR are implemented and expanding there capacity by drawing benefit from EU funds. In order to expand the capacity, İŞKUR's collaboration pattern has to be developed with CCI, TESK and other economic and employment aimed non-governmental organizations within the framework of a protocol. Also, collaboration with municipality and district governorship is necessary when selecting the districts congested with newly migrated people and the poverty is highly seen. It is suggested that support from the ministry and the universities have to be taken both when the training programmes are prepared and the trainings are given. Also, the collaboration with other institutions like Public Training Centers is important due to the fact that it provides taking joint action in other skill improvement trainings.

YEŞİLİRMAK BASIN DEVELOPMENT PROJECT

Activity	Years												Application Unit	
	1	2	3	4	5	6	7	8	9	10	11	12		
Determining the districts	√	√	√	√	√									Municipality of Merzifon, District Governorship of Merzifon
Determining the training needs according to the new demands in the city	√	√	√	√	√	√	√	√	√	√	√	√	√	Ministry of National Education, Turkish Employment Organization, Chamber of Commerce and Industry
Holding the presentation meetings in the districts	√	√	√	√	√	√	√	√	√	√	√	√	√	Turkish Employment Organization, Municipality of Merzifon, District Governorship of Merzifon
Preparing education programmes and materials	√	√	√	√	√	√	√	√	√	√	√	√	√	İŞKUR, TESK, university
Implementing the trainings	√	√	√	√	√	√	√	√	√	√	√	√	√	Ministry of National Education, İŞKUR, university
Providing support in finding micro credits	√	√	√	√	√	√	√	√	√	√	√	√	√	Ministry of Industry and Trade, Municipality, District Governorship, NGOs
Monitoring the conclusions	√	√	√	√	√	√	√	√	√	√	√	√	√	Ministry of National Education, İŞKUR, university
Reorganization of trainings	√	√	√	√	√	√	√	√	√	√	√	√	√	Ministry of National Education, İŞKUR, university



## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

The project is planned to be implemented in the districts congested with newly migrated people and where poverty is highly seen in the provincial center of Merzifon. The trainings on entrepreneurship and business establishment will conduct the ways of realizing production and services in different branches of business by acting in concurrence with a limited capital. These trainings will both invigorate and improve the self-reliance of the participants and raise the awareness of people on the matter of finding solutions to their problems. After these trainings, it is expected that people will improve new relationships, constitute new working groups and force the entrepreneur opportunities which are needed for realizing the production and services. It is considered that this project is one of the solutions intended for unemployment and poverty problems.

### **7.2 Concrete Outputs**

It is essential to realize the preparations for this in the provincial centers which are predicted to be the center of attraction. The population of Merzifon in the year 2000 is 67 270 and it is expected to be 150 170 in the year 2023. When the development potential of Merzifon is taken into consideration, especially in the transaction periods it is understood that a serious employment problem will be seen and the newcomers will have difficulties in social cohesion with the city. This project is one of the main activities suggested for solving the problems which are expected to arise and have the chance to be realized in short terms. It is expected that after the entrepreneurship and business establishment trainings, the participants will develop their self confidences and improve their skills on taking joint actions and establish businesses in the needed fields. It is thought that the good examples arised in this field will give hope and encourage to the individuals.

### **7.3 Sustainability**

In order to sustain this project, the training conclusions have to be evaluated, the experiences on establishing businesses have to be shared and handed over. The trainings will be reorganized according to the conclusions emerged and will be changed in fine with the new demands. Also, it is expected that the project will sustain with the good examples developed and in order to obtain concrete results the trained people have to draw benefit from various long term credit opportunities and the micro credit application have to be applied rationally. The programmes have to be planned with Public Training Centers and when the entrepreneurship trainings are given, on the other hand the courses have to be organized in order to develop the existing skills of the adults and women.

## **8 Budget Breakdown and Estimated Costs**

This project will be funded by public administration funds but it is possible to benefit from EU grants and provide presentation, consultation and training services from the related NGOs. It is thought that the total cost of the project is 6 million YTL in which 5 million YTL will be owned by the public administration.

## PROJECT 3.1.1.6: ESTABLISH SPECIALIZED OIZS FOR DEVELOPMENT OF MARBLE PRODUCTION

- **Develop Amasya OIZ for Production of Marble**

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.1 Make use of agglomeration economies and externalities at regional and urban scale
Relevant measure	: 3.1.1 Develop OIZ, SIE and specialized industrial zones at the first- and second-degree agglomeration centers

### 1 General Information about the Project

1.1 Project heading	: Establish specialized OIZs for development of marble production
1.2 Project location	: Amasya
1.3 Sector	: Industry
1.4 Project objective	: Raising the quality of the marble production up to international level and increasing the exportation in the products which have high added values
1.5 Project Owner	: Ministry of Industry and Trade, Amasya Chamber of Commerce and Industry, Municipality of Amasya, Special Provincial Administration of Amasya
1.6 Estimated duration	: 12 years (2006-2017)
1.7 Total Estimated budget	: 50 million YTL

## 2 Objectives

### 2.1 Overall Objective

- Assembling the production of stone and marble which is disorganized, in the existing OIZ in Amasya, getting specialized and providing the clustering,
- Increasing the R&D activities in order to improve the marble processing techniques by utilizing the technological innovations,
- Decreasing the unit production costs in stone and marble production, increasing the competitiveness,
- Increasing the production of tools and machinery which will be used in stone and marble production,
- Producing high quality products which have high added values,
- Representing the produced stone and marble to the world markets as a trademark.

### 2.2 Relationship to the Plan Decisions of a National Scale

Assembling the establishment in specific areas will decrease the costs of infrastructure and production and this helps the establishments to develop the capacities of mutual learning from each other and establishing the corporate businesses. In the MTP, in the framework of sectoral policies, constructing the establishments in the specified industrial zones and conveying the existing ones to these areas is supported. (DPT, 2006-1: 37)

Besides this, one of the main aims of long term development strategy is to provide a production structure which is export oriented, technology intensive, high added valued, comply with international standards and utilizes the local resources. (DPT, 2000: 21) In the PNDP, increasing the competitive powers is the primary precedence of development axis; also the second precedence is increasing the competitive powers by developing

the technology and quality levels.

In this context the measures such as improving the financial instruments, supporting the R&D studies, providing the modernization of SMEs and increasing the consciousness of quality and productivity are foregrounded. (DPT, 2003: 101-104) Furthermore, in the MTP, the manufacturing industry having a “succeeding outward-oriented, dynamic and competitive structure” has been presented as the main aim and it is emphasized that the policies oriented in utilizing innovative and advanced technology more effectively will be initiated. (DPT, 2006-1: 37)

### **2.3 Position in the Regional Development Strategy**

The resources where the region has a comparative advantage, have to be actuated in order to provide the sustainability of the development and in the long term have to designate development in the inimitable fields which require experience and knowledge accumulation. Marble is one of these resources and measures have to be taken for the problems experienced in both production and marketing. In order to be specialized in marble production and making a contribution to the exportation by increasing the quality, the marble producers have to be assembled in the existing OIZ in Amasya and this OIZ have to be supplied with services appropriate for stone and marble production where these activities are important in terms of the regional development strategy.

In this field, providing the services such as advice center which is common facility and giving investment and marketing support, R&D and laboratories will decrease the utilization costs and will facilitate the utilization of these services. These common services are expected to develop the problem solving with each other and mutual learning capacities and encourage the companies in the subjects of technologic innovation and investment. In consequence, one of the most important measures is to

plan these types of industrial zones as the places where all these services can be provided.

## **3 Justification**

### **3.1 Activities Previously Carried out on This Subject**

When analyzing the investment incentives in the Specialization Commission Report of Evaluation of State Aid Policies in 8. FYDP (DPT, 2004-1), it was observed that in the distribution of investment incentives the share of mining sector was decreasing every year; the share of mining sector in incentives, which was 7 percent in 1987 declined to 3,4 percent in 2002. In the fixed capital investments, the share of the mining sector which was 2,8 percent in 1987 dropped to 0,9 percent in 2001, but it was boosted to 4,2 percent in 2002 (DPT 2004-1) The share of the Turkish mining in the economy is gradually decreasing in pace with the decreasing investments for exploration and operation; The mining sector's contribution to GNP which was 2 percent before 1986, declined to 1,06 percent in 2002. (MİGEM, 2004).

When the mining trade of Turkey is examined, it is observed that in spite of the increase in importation, the exportation still remains the same and this shows that emphasis has not been given to this sector. Mining and quarrying sector constituted 8,2 percent of the importation in 1998, this share increased to 14,1 percent in 2002. The share of the sector in exportation became 1,4 and 1,0 percent in the same years, respectively (MİGEM, 2004). But in Turkey, the stone production has gained significant acceleration in the last 15 years; the increase in the exportation of processed high added valued stone is significant.

In TR83 Region, there are 2 542 people working in 101 establishments in the mining and quarrying sector. In terms of establishments 5,6 percent is in TR83 Region but in terms of employees only the 3,4 percent is in this region throughout Turkey in

general. The main reason for this is the limited size of the companies. Also in 2002 in the mining and quarrying sector with 1,58 quadrillion TL added value gained throughout Turkey, in TR83 Region this value is 23,2 quadrillion TL which constitutes 1,5 percent of the total. This rate is not coherent with the number of working employees (3,4%); this condition shows that the added value have to be increased in the mining and quarrying production where the region has comparative advantage.

In TR83 Region, there are marble, brown coal, antimony, bentonite and chromium as significant mining resources. According to 2002 data, the most important mines for production in TR83 Region are the marble which constitutes 2,81 percent of the production and the chromium which is 2,70 percent. Utilization of the marble which is one of the important underground wealth and provide income for the development of the region and developing the existing establishments in the sector must be considered.

According to the Mining and Quarrying Statistics of DİE, 32 percent of the added value improved in the region is gained from Amasya and 33 percent from Çorum. According to the MİGEM data, there are 12 mining business licences within the boundaries of Amasya. Five of these licences are coal, five are marble and two are limestone licenses. In the five areas run by private sector, it is reported that there is 18 480 836 m<sup>3</sup> marble as reserve, the production in 2000 is 1 590 m<sup>3</sup>, the production in 2002 is 10 426 m<sup>3</sup>. The possible total reserve throughout Amasya is 52 million m<sup>3</sup>.

Amasya marble which is preferred in the market and widely used in sheet marble fittings of its yellow colour (honey-coloured) is designating a significant potential. The marble quarries are in the village Eliktekke of the Amasya's provincial center, systematic production is implemented in these five quarries which are very close to each other. There are 13 marble processing workshops and factories in Amasya OIZ. These factories process the

marbles which are produced in Eliktekke village of Amasya and in the cities of Tokat, Sivas and Yozgat and the marbles transported to Amasya OIZ. According to 2006 data, there are approximately 450 people employed in the quarries and marble factories. Changes are seen in the number of workers within the year according to the demand and seasonal grounds (Amasya Valiliği, 2006). But there are some insufficiencies in processing the marble into high added valued products in the existing condition and the marketing of the products by presentation in the world markets; the marble is presented in the market as blocks. Evaluation of the marble potential in Amasya has a strategic role on the utilization of local resources and increasing the employment by virtue of labour-intensive production techniques.

The Mining Law numbered 3213, which aims at exploring and operating our mines more rationally, has been revised in order to accommodate the present conditions and the new mining law came into force on 05.06.2004. It is a high possibility that the new effectuated Mining Law will solve the former problems related with mining in terms of application and make a significant contribution to the development of the sector. The mining sector has to provide low cost and qualified income to the local industry and has to increase the added value of the exported products in order to contribute to the development of the country. One of the major problems is the high costs of transportation due to highway transportation; especially in the large volume products such as marble, the transportation costs to the seaports for exportation reaches three times more than the production costs. In consequence, utilizing the opportunities of railway transportation is highly important in this sector. Also, it is seen that providing credit incentives and technical knowledge and the services such as technological support to the private sector investors are mandatory.

### 3.2 Identification of Requirements and Problems

- Promoting the formation of a clustering in the Amasya OIZ by allocating the available plots to the marble production, promoting the assembling of the marble producers which are disorganized, and the encouraging the establishment of new companies in this industrial zone,
- Providing consultancy services in the subjects of investment, production and marketing of marble in OIZ,
- Developing the railways connections and promoting the railway transportation,
- Monitoring the demand on marble in the world and determining the appropriate production strategies by selecting the target markets,
- Monitoring the technological developments in the world and researching for their application, strengthening the bounds between the universities and the implementing institutions.

### 3.3 Definition of the Target Group and Its Estimated Number

In Amasya, there are 26 companies and 748 wage workers in the mining and quarrying sector. Within these there are 13 marble processing workshops and factories. But, as mentioned before, only a small part of the marble reserves has been mined and processed in the five licensed areas. Besides the major part of the marbled mines is been exported as blocks and could not be processed into marble products which have high added values. Primarily these producers have to be aimed at in this project and the problems have to be solved. However, when the marble reserves in Amasya are taken into consideration, there will be increase in the number of producers. Consequently, the future strategies have to be built upon the clustering in marble production, finding common solutions to the problems and inclining in exportation of high added valued products.

### 3.4 Preference for Selection Among Alternative Solutions

There are marble reserves in Amasya which are not processed and have high usage value. Likewise there is a high potential to process the marble into high added valued products. The demand for natural stones and the marble in the world is very high.

Especially, the marbles which have deformation in their natural appearances, not having the standard appearances, are demanded in European and American markets used in floor and building coverings. The surveys conducted in the region, indicated that the existing potential cannot be evaluated by marble producers due to the various problems. It is predicted that supporting the marble production has a strategic importance in enabling the local potential which will contribute to the economy of the region and will increase the employment.

### 3.5 Basic Assumptions

- The demand on natural stone and marble will continue to increase,
- It is possible to export the Amasya marble by processing it into high added valued products with new technologies,
- Clustering and the common services used will decrease the production costs and increase the competitive power,
- Transportation costs will be decreased by developing the railway transportation to the part of embarkation,
- The production will be diversified according to the demand in the world markets.

**4 Activities**

**4.1 Main Activities**

- Allocating spaces in the existing OIZ and promoting the assembly of the producers in this area which are disorganized,
- Taking an inventory of natural stone resources (areas, types, origin and economic reserves of natural stone),
- In order to increase the quality by technological innovations, constructing a common facility workshop in the organized industrial zone (JUW) and/or common facility laboratories (JULAB)
- Providing quality control of raw material / semi-finished products and products,
- Providing training support to the managers of the establishments in the subject of production, design, planning and cost analysis,
- Providing workbenches for training apprentices and journeymen in Amasya Vocational Training Center.
- Determining the reserves and the opportunities of domestic and foreign markets,
- Supporting the participation of the establishments in domestic fairs and exhibitions, as well as in those abroad
- Constituting a trademark and supporting the works of its publicity,
- Preparing brochures to present the marble types and products of Amasya.

- Implementing seminars, symposiums and overseas presentations about the natural stones in long terms,

**5 Project Duration and Plan of Activities**

Studies on arranging the clustering of the marble producers in Amasya OIZ be commenced in the short run. (2006-2015). In this field, constructing JUW and JULAB will be started in short terms and will continue in long terms. The activities such as providing consultancy services and implementing presentation services are having permanence in accordance with changing demand. The works for strengthening the railway connections have to be commenced after inventory and marketing research activities in long terms.

**6 Institutional Framework and Management Model**

In the establishment and management of OIZs, the managements of OIZ and SIE, Special Provincial Administration of Amasya, Municipality of Amasya, Chamber of Commerce and Industry of Amasya, industrialist associations and cooperatives and professional institutions have to be in collaboration. In order to develop the natural stone sector, an association of marble producers has to be established and this association has to develop collaboration with Turkish Association of Marble,

YEŞİLIRMAK BASIN DEVELOPMENT PROJECT

Activity	Years												Application Unit	
	1	2	3	4	5	6	7	8	9	10	11	12		
Arrangements in OIZ according to marble producers	√	√	√	√	√									Management of OIZ
Constructing JUW and JULABs	√	√	√	√	√	√	√	√	√					Management of OIZ, KOSGEB, university
Providing consultancy services	√	√	√	√	√	√	√	√	√	√	√	√	√	KOSGEB, private sector companies
Taking inventory and implementing marketing surveys	√	√	√	√	√	√	√	√	√	√	√	√	√	KOSGEB, private sector companies
Feasibility studies for developing the railway connections	√	√												Ministry of Communication and Transportation, TCDD
Improving railway connections in the case of finding "feasible" after the research						√	√	√	√					Management of OIZ, Governorship, municipalities
Implementing presentations with fairs and brochures	√	√	√	√	√	√	√	√	√	√	√	√	√	Municipality, Management of OIZ, private sector companies

Natural Stone and Machinery Producers, Mineral Research and Exploration Institute, General Directorate of Mining Affairs and universities. The credits will be requested for the arrangements in the existing Amasya OIZ according to the necessities of marble producers from related institutions or the outsourcing credits, grants and funds. Furthermore, it is important to provide investment allowance and incentive premiums to the companies which will take part in the project.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

The clustering of the marble producers in Amasya OIZ will be beneficial by virtue of utilizing the common services, working in collaboration and raising the competitiveness with exchange of information. The establishments in the cluster can easily provide the services such as transportation, laboratories, technological consultancy, presentation and marketing which they can't afford individually and can become a trademark in the world market. It is expected that this kind of clustering and common energy will also promote the investments in this sector.

### **7.2 Concrete Outputs**

It is considered that accession to the world markets by processing the potential marble reserves in Amasya with high added value products which have not been commissioned so far will be important for region's development.

### **7.3 Sustainability**

When the positive sides of the concomitance of marble producers in OIZ emerge, the number of companies willing to invest in this sector will be increased. But supporting the companies in the subjects of investment and marketing and promot-

ing with long term credits is important in terms of sustainability. It is also observed that monitoring the demand in the world market and trending the production coherent to this is mandatory.

## **8 Budget Breakdown and Estimated Costs**

The allocation of a budget of 50 million YTL in a 10 year period by the public administration will be sufficient. Some parts of the funds have to be allocated in the training and research studies. 30-50 percent of the funds have to be given to the producers' unions to support the construction of these facilities.





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## ÇORUM

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## PROJECT 3.1.2.6 ESTABLISH BUSINESS DEVELOPMENT CENTER IN ÇORUM

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.1 Make use of agglomeration economies and externalities at regional and urban scale
Relevant measure	: 3.1.2 Establish common centers in the subjects of technological innovation and investment at OIZ, SIE and specialized industrial zones and provide consulting services

### 1 General Information about the Project

1.1 Project heading	: Establish business development center in Çorum
1.2 Project location	: Çorum
1.3 Sector	: Industry
1.4 Project objective	: Giving management consultancy services to SMEs, providing access to attain financial resources, providing working place, common office equipments and services
1.5 Project Owner	: Ministry of Industry and Trade, Small and Medium Industry Development Organization, Chamber of Commerce and Industry of Çorum, municipalities, governorship, industrialists' and businessmen's associations
1.6 Estimated duration	: 12 years
1.7 Total Estimated budget	: 15 million YTL

## 2 Objectives

### 2.1 Overall Objective

- Facilitating the activities of establishing and developing new businesses by small investors,
- Increasing the survival and development opportunities of establishments,
- Directing the local resources to new and different entrepreneurship,
- Contributing to and accelerating the local and regional development,
- Promoting entrepreneurship,
- Providing a safe job environment,
- Increasing the competitive power of establishments,
- Creating new business and employment opportunities.

### 2.2. Relationship to the Plan Decisions of a National Scale

One of the main aims of long term development strategy is to provide a production structure which is export oriented, technology intensive, high added valued, comply with international standards and utilizes the local resources. (DPT, 2000: 21) In the PNDP, increasing the competitive powers is the primary precedence of development axis; also the second precedence is increasing the competitive powers by developing the technology and quality levels. In this context the measures such as improving the financial instruments, supporting the R&D studies, providing the modernization of SMEs and increasing the consciousness of quality and productivity are foregrounded. (DPT, 2003: 101-104) Besides in the PNDP, in the related development axis of increasing the economic powers of the regions, one of the measures is identified as "Institutional support, including training to be provided in order to promote entrepreneurship" in the precedences supporting and strengthening

the SMEs. Other precedence is, supporting the local initiatives. One of the measures related to this predicted as “Local initiatives will be supported by establishing new businesses or improving the current ones and providing SME consultancy and training services”. Training and guidance services will be provided to the entrepreneurs with a view to avoiding the risk of failure during the establishment stage of the business (DPT, 2003: 131-132).

In the MTP, the manufacturing industry having an “outward-oriented, dynamic and competitive structure” has been presented as the main aim and it is emphasized that the policies oriented in utilizing innovative and advanced technology more effectively will be initiated. In this context, increasing the exportation by developing new sectors besides the traditional ones with generating and dissemination technologies are the sectoral policies. (DPT, 2006-1: 37)

Assembling the establishment in specific areas will decrease the costs of infrastructure and production as well as helps the establishments to develop the capacities of mutual learning from each other and establishing the corporate businesses. In the MTP, in the framework of sectoral policies, constructing the establishments in the specified industrial zones and conveying the existing ones to these areas is supported. (DPT, 2006-1: 37) Business Development Centers have to be thought in this context that they provide common services and opportunities by gathering the specific sector companies in a center.

### **2.3 Position in the Regional Development Strategy**

There are lots of weaknesses which restrain the growth of region industries. The difficulties in obtaining the information and consultancy services in addition to the condition that more than half of the establishments (59 percent) are in the micro scale category and have insufficiencies in receiving financial support, cause serious bottlenecks.

The weak financial structure of the companies and the production of low added value products create a vicious circle and eliminate the possibility to provide services which require high costs. Because of these problems, the entrepreneurs in the region invest in the sectors which they considered as more guaranteed and could not show encourage in investing in new sectors. In conclusion, the wannabe investments cause decrease of the capacity usage and profits.

In terms of regional development strategy, dissemination of R&D activities in the fields that one developed in needed and have to be the region and providing consultancy services in the subjects of technological renovation and fixed capital investment is important to preserve the competitive power of the developing and developed sectors in short and middle terms. The specialisation which the industry needs, accumulation of know-how and the requirement of expert staff are increasing. The employment cost of these people is high because of the the limited number of these people who have the required qualifications. Employing these experts in one establishment means preventing the self development of these people and utilizing the resources inefficiently. On this account a consultancy foundation which the required people employed only in specific periods, has to be adopted and the specialisation have to be provided by these people’s contribution.

- Specialization fields needed in the region can be sorted as:
- Exportation to Black Sea markets,
- Informatics (software, technologic production, project design, communication)
- Product packaging,
- Product development and industrial design,
- Brand planning,
- Improvement process of manufacturing industry

### 3. Justification

#### 3.1 Activities Previously Carried out on This Subject

Status Quo Analysis presents the center which has high development potential and it is essential that their deficiencies have to be complemented and the new investments have to be planned preferentially in these centers in order to take an active part in the development of the region. Çorum designates development especially in mechanical industry of the non-agricultural industries. It is considered that the demand for machinery and equipment which will be used in agriculture will increase together with the development of the region and requirement for material and equipment which will be used in the construction production infrastructure investments will arise. There is a potential of implementing the production in Çorum, but in order to make production in a competitive structure, it is important that the technological level has to be increased and the production costs have to be kept low. Although there are some institutional structures in the region, they have serious insufficiencies in consulting, conveying information and implementing R&D studies in the subjects of technological innovation and investment; also the establishments do not have the power to utilize these qualified services. In the region only one percent of the establishments draw benefit from these services. Accordingly, the dissemination of new technology utilization by supporting the SMEs in the non-agricultural sectors which are expected to develop and providing the consultancy services such as investment, production and marketing are aimed with this project. One of the important matters of facilitating the utilization of these services and increasing the costs is the companies have to take place in this areas as a body and have to utilize the services collectively in order to draw benefit from agglomeration and external economies.

Business Development Centers can be considered in this framework as one of the association areas.

Business Development Centers are described as “SME nursery” or “incubator” and giving management consultancy services to SMEs, providing access to attain financial resources, providing working place with optimum conditions, common office equipments and provide trade and technical support services, trying to find solutions to the problems which they faced especially in the course of establishment and development periods. There is approximately 1000 Business Development Centers (BDC) in Europe; they are sometimes sectoral based or aimed at technological support and they contribute to the development of their sectors which have strategic significance in their region. In Turkey there are six BDCs which are established in Tarsus, Adana, Mersin, Eskişehir, Karadeniz Ereğli and Van. These centers provide capital, infrastructure and working places to the deficient establishments in their foundation stages in order to decrease the production costs; on the other hand they provide consultancy services to increase the innovation capacities and contribute to their fortification.

#### 3.2 Definition of the Target Group and Its Estimated Number

- Providing places for the entrepreneurs,
- Providing management support to the entrepreneurs,
- Facilitating access to financial support mechanisms,
- Providing training and consultancy support in the necessary fields,
- Providing consultancy services in the product development and industrial design,
- Providing consultancy in the subject of packaging,
- Supporting in the subject of utilization and development of information technologies (software, technologic production, project design, communication),
- Providing common personnel and office services,
- Providing office equipment and special

equipments for common use,

- Supporting the market research and marketing.

### **3.3 Definition of the Target Group and Its Estimated Number**

The micro establishments (1-9 workers) founded in Çorum are the target group of the project. But the young investors, who have a certain knowledge accumulation and entrepreneur vision, will also be included in this project.

### **3.4 Preference for Selection Among Alternative Solutions**

SMEs in the region cannot change their weak conditions producing for the region or gain competitive power due to difficulties in obtaining qualified services and their insufficiencies in receiving financial support. Such weak condition discourage the realization of investments in new sectors and the wannabe investments are increasing. SMEs have to be developed and supported due to added value and employment which they created; besides the entrepreneurship in production and services sectors needed in the region have to be prompted with several mechanisms which will accelerate the development and deepen the relations amongst the establishments.

BDCs are providing infrastructure and qualified consultancy services to deficient SMEs which are established or will be established especially in their foundation stages and making contribution to the development of the sectors needed.

When we look at the examples in the world in and Turkey, it is seen that BDCs have an important function and achieve success in this field; establishing this kind of centers in TR83 Region and supporting the emergent development acceleration in Çorum by means of BDC is deemed necessary in terms of development strategy.

### **3.5 Basic Assumptions**

- In TR83 Region, Çorum has provided development acceleration in non-agricultural production areas such as machinery and equipment and this development is expected to continue.
- Supporting the SMEs nationwide is an important national development strategy and this support will be sustained.
- Several public administrations, local administrations and related NGOs will make collaboration intended for a common target in this project.
- The project will be supported by other opportunities such as providing long term credits.
- The World Bank funds will be benefited.
- The qualified consultancy services needed by SMEs will be provided in this center.
- Expert consultants from other regions will be employed in this project and contribute to the specialization in the region.
- Training aimed at entrepreneurship and business establishment skills will be provided.
- New services that may be needed pursuant to new demands will be obtained in this center.

## **4 Activities**

### **4.1 Main Activities**

- Allocation of a place by the municipality to construct the BDC,
- Making an attempt to utilize the World Bank credits,
- Tendering by KOSGEB for constructing the BDC,
- Selecting the projects which participated in the tender by KOSGEB with the support of representatives from the chamber of industry and commerce and related NGOs,
- Constituting the management of BDC,
- Planning and constructing the center in main activity field in accordance with the selected project and intended the services to be provided in this center,
- Renting work places in the center and

commissioning same,

- Providing support from various public and private credit institutions.

## 5 Project Duration and Plan of Activities

The project has to be commenced with in the short term. KOSGEB has to implement the tendering by utilizing the other examples in Turkey and selecting the most appropriate one amongst the submitted projects for Çorum with the support of representatives from the chamber of industry and commerce and related NGOs. In the middle terms the construction of this center and renting to the companies has to be completed and the center has to be put in service.

## 6 Institutional Framework and Operating Model

In this project KOSGEB will have the leading role. KOSGEB have to tender with the support of municipality. But in order to provide the qualified services preferentially needed in Çorum, KOSGEB has to hold meetings with the representatives from the chamber of industry and commerce and industrialists' and businessmen's associations and these precedences have to be placed in the tender. After the selection of the project, a management in

which the representatives of various sectors will take part, has to be selected and collaboration be sustained. Selecting the establishments which will take place in this center, renting of the working places and developing the center according to the new necessities will be under the responsibility of this management.

## 7 Expected Conclusions

### 7.1 The Expected Effect on the Target Groups

Gathering of the investors in the BDCs, who have limited financial resources but have not any knowledge accumulation and entrepreneurship vision, will enable such companies to jointly draw benefit from the specialized services and exchange experience and ideas with various organizations and establishments and collaborate with each other. The BDC which will be constructed in Çorum, is expected to promote the entrepreneurship, to contribute in the subjects of establishing successful businesses, to promote the investments in the fields that are needed and to increase the employment opportunities, in a similar manner with the examples observed in the world and in Turkey.

Activity	Years												Application Unit	
	1	2	3	4	5	6	7	8	9	10	11	12		
Allocation of place for BDC by the municipality	√	√	√	√	√									Municipality of Çorum, KOSGEB
The Application for credit	√	√	√	√	√									KOSGEB, Ministry of Industry and Trade
Tendering by KOSGEB	√	√	√	√	√									KOSGEB
Selecting the appropriate project in collaboration with various institutions	√	√	√	√	√									KOSGEB, Chamber of Commerce and Industry, related NGOs
Constituting the management of BDC	√	√	√	√	√	√	√	√	√	√	√	√	√	KOSGEB, Chamber of Commerce and Industry, related NGOs
Planning and constructing the center according to its activity field						√	√	√	√					Management of İŞGEM, KOSGEB
Renting the working places and commissioning						√	√	√	√	√	√	√	√	Management of İŞGEM, KOSGEB
Collaboration with credit institutions						√	√	√	√	√	√	√	√	Management of İŞGEM, KOSGEB

## 7.2 Concrete Outputs

It is expected that the establishments which take place in BDCs, will make an important contribution to the regional economy in terms of providing added value and tax revenue and also creating employment. In Adana BDC, an added value of 676 413,64 YTL has been created in the period of April,1 – December, 31 2005 and more productive results are obtained when compared with other world examples in terms of employment cost and management creation costs.

The BDC which will be constructed in Çorum, will decrease the risks of failing in business by facilitating the development and fortification of the establishments, increase the sales of the establishments by providing consultancy services, promote the entrepreneurs and it is expected to provide investments of the qualified labour force in the region, prevent the brain drain and create employment

## 7.3 Sustainability

The region has to be the arbiter in the fields that cannot be imitated in the short term, which require experience and knowledge accumulation in order to provide the sustainability of the development. The competitive position which was gained in some sectors can be lost due to the developments in other countries in the course of time. In this regard the precedences have to be determined based preferential technologic activity subjects which have been determined by the Scientific and Technological Research Council of Turkey (TÜBİTAK) and have to be supported and promoted by these consultancy services for producing the high added valued products in the developing sectors of Çorum.

Increasing the capacity of innovating continuously by monitoring the improvements in the world is mandatory for sustainability of the development. A self-employed consultant's pool has to be consti-

tuted in order to provide the necessity of experts in the region. Ideally, it must be expected that the sustainability of these services will be provided by the wages taken by these experts for their services. It must be targeted to train the experts who have working experience in specific specialization fields by this project; consequently these consultants have to be employed in the center for specific periods from the consultant pool and have to contribute to train the experts in the necessary fields. It is important that qualified young people, grown up in the region and know the problems of the region have to gain specialization and experience in different fields in terms of sustainability.

## 8 Budget Breakdown and Estimated Costs

The financing of the project will be provided by public funds but it is possible to use the EU grants and World Bank credits. The total cost of the project is estimated as 15 million YTL.

**PROJECT 5.2.1.3: PREPARE SMALL ENTERPRISES FOR CLUSTERING, ENCOURAGE DEVELOPMENT OF PARTNERSHIPS AND PROVIDE CONSULTANCY TO STRENGTHEN THE INSTITUTIONAL STRUCTURE OF SMEs**

• **Form Clustering at Çorum OIZ**

Relevant strategic objective	: 5 Strengthen institutional structure
Relevant priority	: 5.2 Strengthen civil society and private sector
Relevant measure	: 5.2.1 Strengthen private sector structurally

**1 General Information about the Project**

1.1 Project heading	: Prepare small enterprises for clustering, encourage development of partnerships and provide consultancy to strengthen the institutional structure of SMEs
1.2 Project location	: Çorum
1.3 Sector	: Industry
1.4 Project objective	: Increasing the innovation capacity of small establishments, establishing the consciousness of working together, increasing the productivity and profitability, directing the local resources to different business establishments
1.5 Project Owner	: KOSGEB, Chamber of Commerce and Industry of Çorum, management of BDC, industrialists and businessmen's associations
1.6 Estimated duration	: 12 years
1.7 Total Estimated budget	: 10 million YTL

**2 Objectives**

**2.1 Overall Objective**

- In Çorum, especially the small establishments' drawing benefit from agglomeration and external economies,
- Strengthening the reciprocation bounds between the establishments and network relations,
- Constructing technology centers, common workshop and laboratories in order to develop the products and foreground the quality,
- Providing the consultancy and support services in order to create common funding, marketing researches and marketing channel for establishments,
- Increasing the innovation capacity and competitiveness,
- Decreasing the production costs,

- Increasing the productivity,
- Increasing the survival and development opportunities of establishments,
- Creating new business and employment opportunities,
- Directing the local resources to new and different business establishments,
- Providing the mentality for working together.

**2.2. Relationship to the Plan Decisions of a National Scale**

One of the main aims of long term development strategy is to provide a production structure which is export oriented, technology intensive, high added valued, intended to comply with international standards and activate the local resources. (DPT, 2000: 21). In the PNDP, increasing the competitive



powers is the primary precedence of development axis; while the second precedence is increasing the competitive powers by developing the technology and quality levels. In this context the measures such as providing the modernization of SMEs and increasing the consciousness of quality and productivity are foregrounded (DPT, 2003: 101-104). Besides in the PNDP, in the related development axis of increasing the economic powers of the regions, one of the measures is identified as "Institutional support, including training will be provided in order to promote entrepreneurship" in the precedences supporting and strengthening the SMEs (DPT, 2003: 131-132).

Assembling the establishment in specific areas will decrease the costs of infrastructure and production and this helps the establishments to develop the capacities of learning from each other and performing joint works. In the MTP, in the framework of sectoral policies, constructing the establishments in the specified industrial zones and conveying the existing ones to these areas are supported. (DPT, 2006-1: 37).

### **2.3 Position in the Regional Development Strategy**

In the existing globalization environment, gaining competitive power in both domestic and international markets, and the measures, which will promote the SMEs for assembling their capital and human resources, have to be taken in order to overcome the competitive pressures especially in the international markets. But in the region the behaviour patterns of investing collectively, selecting consolidation of funds and preventing non essential expenditures by acting together have not been developed sufficiently. In the cases where these conveniences are not adopted, entrepreneurship is getting difficult and the savings could not turn into investments.

Necessity of complementing each other and making collaboration arises in allcases. In the places

where the industrialization is congested, clustering in terms of small and medium scale establishments is deemed important in respect of the benefits provided in subjects of providing the common services, decreasing the infrastructure and production costs, struggling with pollution, sharing information and making collaboration. In the current situation establishments in sufficient members or types to provide such clustering are non-existent; accordingly, the development of creative establishment clusterings and the determination of programmes and projects in order to support the new investment fields which are aiming at sustainable development which is needed in the region, are becoming significant. It is considered that constituting the collaboration which invigorates the input-output relations will strengthen the establishments in the subjects of solving the common problems and will increase their productivity and competitive powers. In order to realize such collaboration, gathering these established companies in the OIZ, SIE and industrial zone have lots of benefits. The infrastructure deficiencies of the existing OIZ and SIEs have to be complemented and the new areas for the expected industrial investments have to be determined and developed according to the spatial priorities of the region.

Generally, the transaction of the SMEs dependent to the big companies and the involvement to the production (capacity outsourcing) in order to complement their capacities causes problems in the long term, especially in the crisis times. The establishments existing on the market intended for the demand of the big companies are obliged to close down when the demand is reduced. On this account, the developments of the SMEs intended for being specialized have to be prioritised and their production with the principles of acting collectively and complementing each other, have to be supported. The consultancy services intended for this and the production of the goods and services by these companies which are needed in the market have to be promoted.

### 3. Justification

#### 3.1 Activities Previously Carried out on This Subject

In the countries like Turkey, owing to the convenience of finding available works in the market, lack of consultancy services, non-development of the behaviour of working together and the lack of confidence, the condition of not taking risks arises and the producers entering the market mostly prefer the capacity outsourcing. A dependent relation like this requires investing on similar technology and manufacturing similar products in order to attend in the production chain; consequently opportunities of making innovations and manufacturing new products are restricted. But these outsourcing relations based on specialisation deepen the input-output relations among the companies and lead to stronger and sustainable relationship. It is seen that the companies specialised in specific fields have the chance to create more productive solutions and innovations in the technology and the organisation of production. Developing the relations based on the confidence amongst the collaborated companies which are producing a common product, constituting common research-development and marketing units by sharing the knowledge, technology and innovations, and the development of an awareness of sharing a common faith is important for the development of the region. In consequence, after the constitution of creative clusters, industrial zones, which provide sustainability by means of the condensed collaboration amongst the companies and improve the learning and development potential, is expected to arise.

The development acceleration seen in the cities such as Denizli and Gaziantep can be explained by these strong input-output relations and the collaboration amongst the small specialized establishments. But at this point, it is seen that these cities gradually became distant from this structure and evolved towards a hierarchic and pyramid like

structure. The big establishments incorporate all the production stages in the course of time and decrease the chance of the specialized companies. When the dependency decreases, the inclination to share the same fate and making collaboration also decreases. On this account, it is expected that the SMEs which are considered to be highly significant for providing added value and employment, have to obtain the advantages by constituting creative clusterings already reached by the big companies and have to develop their innovative capacities.

#### 3.2 Identification of Requirements and Problems

- Allocation of places for manufacturing clusters which will be constituted in OIŽ and giving priorities to the specialized companies,
- Determining the problems and necessities in the subjects of the machinery, equipment and material production which is developing in Çorum with the collaboration of KOSGEB and university,
- Evaluation of international, domestic and regional market demands and determining the products which will be manufactured,
- Providing investment consultancy according the determined demands,
- Providing the research support in the subject of technological innovation in the production,
- Providing training support to the entrepreneurs in the subject of technological innovation,
- Implementing the production development studies with new materials and designs,
- Providing marketing support for the products,
- Researching the credit institutions and implementing the collaboration,
- Supporting the producers' unions,
- Implementing the entrepreneurship and business establishment trainings.

### 3.3 Definition of the Target Group and Its Estimated Number

This project is aimed at supporting the innovative and complementary manufacturing of SMEs which have been manufacturing in different specialization fields or intended to invest by assembling. It is considered that especially in Çorum, a developed structure which has an innovative capacity can be provided by assembling small establishments of the non-agricultural industries and directing the entrepreneurs to the new investment fields which are needed.

### 3.4 Preference for Selection Among Alternative Solutions

A structure based on agriculture is seen in the region and a competitive structure can not be improved in other sectors. When we look at the condition of the industrial investments, it is noted that the senseless, wannabe investments and the idle capacity are high. However, the region has a significant capacity to overcome these problems; there is an existing infrastructure in order to develop the industrial branches in the region.

The existences of Small Industrial Estates (SIE) and Organized Industrial Zones (OIZ) in the region have an accelerative effect on the development.

There is a structure which shows diversification in the region; consequently, developing an industrial zone which is supporting each other with input-output relations can be achieved by developing the existing industries and promoting the investments in new fields. It is assumed that gathering the industry and the specialized services in specific areas will cause the more productive and effective utilization of the existing resources and provide a balanced distribution of the complementary functions of the settlements.

### 3.5 Basic Assumptions

- In Çorum, the development acceleration seen in the subjects of the machinery and equipment will continue,
- The public administration's support will be provided for strengthening the financial structures of SMEs, consultancy services and subsidization,
- The OIZs and SIEs will be planned according to the clustering and precedence will be supplied to the establishments which have input-output relations and can act as a part in the allocation of places,
- The collaboration of different institutions, such as KOSGEB, university, chambers of commerce and trade, chambers of tradesmen and craftsmen and NGOs, will be provided in this project,
- This project will be supported by other services such as providing long term credits,

Activity	Years												Application Unit	
	1	2	3	4	5	6	7	8	9	10	11	12		
Implementing spatial arrangement according to the clustering in OIZ	√	√	√	√	√									Management of OIZ
Communicating with the universities and determining the necessities	√	√	√	√	√									KOSGEB, university
Determining the market demands	√	√	√	√	√	√	√	√	√	√	√	√	√	KOSGEB, university, producers, chambers of commerce and industry, chambers of tradesmen and craftsmen
Providing investment consultancy	√	√	√	√	√	√	√	√	√	√	√	√	√	KOSGEB, university
Constructing the JUW and JULAB	√	√	√	√	√	√	√	√	√					KOSGEB, university
Providing consultancy in the subject of technological innovation	√	√		√	√	√	√	√	√	√	√	√	√	KOSGEB, university
Providing marketing and presentation	√		√	√	√	√	√	√	√	√	√	√	√	KOSGEB, university
Providing the establishment of sectoral foreign trade company by producers	√	√	√	√		√	√	√	√					KOSGEB, , chambers of commerce and industry, chambers of tradesmen and craftsmen
Providing financial support	√	√	√	√	√	√	√	√	√	√	√	√	√	The Ministry of Finance

- Training will be provided in order to develop the entrepreneurship and business establishment skills,
- Constructing the common facility workshop (JUW) and common facility laboratories (JULAB) in the OIZs and SIEs will be supported,
- Marketing support and consultancy will be provided,
- The producers' unions will be supported.

#### 4 Activities

##### 4.1 Main Activities

- Allocation of places for manufacturing clusters which will be constituted in OIZ and implementing the spatial planning,
- Determining the problems and necessities in the subjects of machinery, equipment and material production which is developing in Çorum with the collaboration of KOSGEB and the university,
- Evaluation of international, domestic and regional market demands and determining the products which will be manufactured,
- Providing investment consultancy according the determined demands,
- Constructing the JUW and JULAB,
- Providing training support to the entrepreneurs in the subject of technological innovation,
- Implementing the production development studies with new materials and designs,
- Providing marketing support for the products,
- Researching credit institutions (lending agencies) and implementing collaboration,
- Supporting the producers' unions (sectoral foreign trade companies etc.),
- Implementing the entrepreneurship and business establishment trainings.

#### 5 Project Duration and Plan of Activities

The project has to be commenced in the short terms. In short terms the production needs and market demands have to be determined and the spatial arrangements have to be implemented in the OIZs, in middle terms training and consultancy services have to be provided to the entrepreneurs. In the middle terms support will have to be provided for forming the unions with the strengthening common workshop and laboratories which are needed by the small entrepreneurs needed and instituting the union will be supported.

#### 6 Institutional Framework and Operating Model

KOSGEB, the adherent centers and Çorum OIZ will be the implementing institutions. Chamber of Commerce and Industry of Çorum, chambers of tradesmen and craftsmen and vocational organisations will be stakeholders of the project; besides the consultancy services will be provided from TÜBİTAK and the universities.

#### 7 Expected Results

##### 7.1 Impact Expected on the Target Groups

It is expected that the products, which are determined according to the necessities of the region and the domestic and international demands, will be produced by collaboration with the small establishments and these establishments will increase their innovation capacities by specialization. The world examples of the companies specialized in specific subjects show us that monitoring the developments in this subject, finding creative solutions according to the necessities and their innovation capacities are very high. It is expected that the small establishments existing in the machinery, equipment, tools and fittings production fields which are developing in Çorum, will be strengthened in this kind of collaboration and will gain power in the domestic and international mar-

kets in a competitive structure. The establishments manufacturing in different kinds of specialization fields will be the parties which have to solve their problems pursuant to the same target with an organization like this.

### **7.2 Concrete Outputs**

There are lots of weaknesses which restrain the growth of region industries. All the establishments, excluding the governmental enterprises, are in the status of SME but according to the number of workers, the average management size is considerably below the national and EU averages; also rate of the workers who are in the group of microscale category (1-9 worker) in the total establishments is 59,6 percent and this is considerably above the Turkey average (31,3%). This existing condition is one of the important reasons that prevent the establishments from being strong and productive. Besides, it is observed that the rate of capacity utilization is low due to the wannabe investments in the region. In the existing conditions, SMEs have serious bottlenecks in the subjects of providing the financial support, utilization of the incentives and accessing the knowledge and consultancy services; as a matter of fact the rate of the establishments which utilize these services, is nearly 1 percent. Within these limitations, SMEs are either manufacturing dependant to the big companies or trend into a smaller regional market. After the clustering of establishments in the determined production areas, it is expected that the existing small establishments will combine their powers and generate solutions to their problems intended for a common purpose and will make a synergy.

### **7.3 Sustainability**

The good examples and concrete conclusions have to develop in order to sustain the project. Consequently, also the support mechanisms for the producers have to be considered with the application of the project. These supports can be either financial support for the existing com-

panies on the new ones to be established, and the supports given in the subjects of technological innovation and marketing, are the most important criteria for success. In addition, the common workshop and laboratories, unions and the foreign trade companies which have been established by these businesses, are highly important in terms of sustainability.

### **8 Budget Breakdown and Estimated Costs**

The financing of the project will be provided by public administration's resources but also EU funds can be used at the same time. The estimated cost of this project is 10 million YTL.

### PROJECT 3.3.1.3: ESTABLISH TWINNING AND MARKETING CENTERS AT OIZs AND SIEs

- **Establish a Twinning and Marketing Center with the Support of Çorum OIZ Management (of the Nature of a Pilot Project)**

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.3 Opening Out
Relevant measure	: 3.3.1 Diversify and increase national and international commercial activities

#### 1 General Information about the Project

1.1 Project heading	: Establish twinning and marketing centers at OIZs and SIEs
1.2 Project location	: Çorum
1.3 Sector	: Industry
1.4 Project objective	: Trending into international collaboration such as foreign trade, common production/investment and enabling to compete and taking share in the international markets
1.5 Project Owner	: The Ministry of Trade and Industry, KOSGEB, Chamber of Commerce and Industry of Çorum, industrialists and businessmen associations
1.6 Estimated duration	: 17 years
1.7 Total Estimated budget	: 10 million YTL

## 2 Objectives

### 2.1 Overall objective

- Trending into international collaboration such as foreign trade, common production/investment,
- Enabling to compete and taking share in the international markets
- Providing the basic services such as finding potential partners in the target country, transmitting the demand coming from the opponent country, presenting the member catalogues and samples, preparing visa/letter of invitation, hotel reservation, helping for obtaining residence permit
- Providing organizational services such as preparing web site/imaginary catalogue, projection, office supplies such as computer, implementing the organization of overseas trade visits, changing driver's license, helping the driver/car rentals, banking/insurance/security services, rental of assembly hall, interpreting and translation

- Providing consultancy services such as marketing research, supplier research for raw material, research for machine/workbench, research/evaluation of contract, research for demand specification, research for domestic regulations, research for finance resources, common investment/feasibility studies, preparing common investment/feasibility, research for technology, research for human resources,
- Providing permanent exhibition/showroom services such as allocation of covered area, construction of standard stand, transportation of goods, discharge – storage – loading activities, security and cleaning works of the permanent exhibition/showroom, customs procedures of the products and overseas transportation insurance transactions,
- Directing the local resources to new and different business establishments,
- Increasing the survival and development opportunities of establishments,
- Creating new business and employment opportunities.

## **2.2. Relationship to the Plan Decisions of a National Scale**

In order to increase the exportation of industrial and agricultural products manufactured in the region, establishment of foreign trade companies and foreign trade capital companies should be encouraged in the framework of first development axis in PNDP (DPT, 2003: 101-102). Twinning centers (TWICE) have to be considered in this scope since they increase the expanding to the foreign markets and the opportunities to export their products by presentation. Additionally this, in order to reveal the region's transition to open economy, the infrastructure deficiencies have to be solved. As a matter of fact, it is emphasized in the sectoral strategies of MTP that the transportation has to be worked in a complementary manner and the combined transportation has to be widespread. (DPT, 2005: 39-41). Additionally the utilization of internet has to be widespread and the other communication means have to be developed in the region. It is emphasized in the MTP that the service ability of the electronic communication sector has to be enhanced globally in a competitive environment and this development will enable the regulatory role of the government and will widespread the potential development of the market and services of information society (DPT, 2005: 39-41). These precedences constitute the infrastructure for the exportation of products by the establishments.

TWICEs are increasing the exportation potential of the small establishments in particular by providing qualified services such as presentation in overseas, marketing, transportation and insurance, and enhancing their fortification. Besides this, one of the main aims of long term development strategy is to provide a production structure which is export oriented, technology intensive, high added valued, complies with international standards and utilizes the local resources (DPT, 2000: 21). In the PNDP, increasing the competitive powers is the primary precedence of development axis; also the second precedence is increasing the competitive powers

by developing the technology and quality levels. In this context the measures such as improving the financial instruments, supporting the R&D studies, providing the modernization of SMEs and increasing the consciousness of quality and productivity are foregrounded (DPT, 2003: 101-104). Also, in the MTP, the manufacturing industry having a "succeeding outward-oriented, dynamic and competitive structure" has been presented as the main aim and it is emphasized that the policies oriented in utilizing innovative and advanced technology more effectively will be initiated. In this context, increasing the exportation by developing new sectors besides the traditional ones with generating and dissemination technologies are the sectoral policies. (DPT, 2006-1: 37)

## **2.3 Position in the Regional Development Strategy**

TR83 Region has strong sides and opportunities in terms of expanding foreign trade potential. The region has transportation opportunities to transport the manufactured goods to the domestic and foreign markets. The region could easily develop its trade with the neighbour countries in the north due to having north-south and east-west highway connections, a sea shore and the existence of a seaport. The exportation relations of the region with the neighbour countries are very limited. Besides, the non-existence of institutional structures which can provide marketing research and marketing support in the region makes the region withdrawn. It is seen that of rate of the establishments which are exporting in the region is 15-30 percent (KOSGEB, 2005). Another problem which restrains the expanding of foreign trade in the region consists of the products that do not comply with the standards and competitive production cannot be achieved.

Turkey has been developing industrial policies oriented to expanding foreign trade and exportation since 1980s and conducting for becoming a member of EU; this effort has to be taken into con-

sideration for the future of the region. Developing the products of the region which have competitive superiority with the utilization of innovative potential, trending to create new specialization areas and expanding into foreign markets with high added valued products are the prerequisites of sustainable development. The region has to develop its foreign trade capacity which has a strategic importance in the framework of Black Sea Economic Cooperation (BSEC) and EU. But in order to evaluate this chance, necessary standards have to be provided and the institutional structures which are intended for this purpose have to be constituted. Besides, it is important to constitute the institutional structures for monitoring the changes in outside world/market day by day.

Twinning Centers are the synergy centers which provide the main, organizational and consultancy services, the permanent exhibition/showroom services by KOSGEB in order to provide the success of the establishments who are intended in exportation. It is expected that the TWICEs will facilitate the access of the establishments of the region to the foreign markets and the production in the region will be framed, diversified and improved its quality according to the demands coming from the markets.

### 3. Justification

#### 3.1 Activities Previously Carried out on This Subject

KOSGEB has developed a "Twinning Central Model" in order to help the establishments have access into world markets. This model is aiming to provide the twinning between the high competitive powered SMEs of countries where twinning centers have been established, and the high competitive powered Turkish SMEs in the subjects such as commercial cooperation, common investment and technology transfer. The difference of this model from the similar ones in the world is it is role in not only to respond the

demands but also creating demands for its members. Approximately 40 developed and underdeveloped countries demand for instituting twinning centers, after the Russia Twinning Center which commissioned in November 2005 and the center in Germany entered into service in June 2006. In the line there are many countries like Azerbaijan, Ukraine, Kyrgyzstan, Qatar, Israel, Holland and Iran and with some of the countries the protocol signings which is the first agreement have been implemented. The application to these centers is free of charge and the half cost of the services given is provided by KOSGEB.

The twinning and marketing center which will be established in Çorum will be implemented by KOSGEB and the fair area which is intended to be constructed in Çorum will be planned with Çorum OIZ. It is expected by constructing this center for the first time in Çorum similar to the ones in overseas, will increase the exportation opportunities of the developing sectors. It is considered that this center will provide the information exchange with the other constructed overseas centers and will provide services in collaboration.

#### 3.2 Identification of Requirements and Problems

- Providing collaboration amongst the TWICEs which are established in Russia and Germany, and the centers which are considered to be established in other countries and providing exchange of information,
- Providing easy transportation of TWICE to the fair area and the OIZ,
- Finding partners from the institutions and establishments in foreign countries which are manufacturing the same or similar products, transmitting the demand coming from the supplier country to related companies, preparing member catalogues, presentation of the samples to the customer, their exhibition, researching the foreign fairs, preparing the visa/invitation letters, providing accommodation and companion services,
- Providing other social services such as



preparing web site/imaginary catalogues, preparation of CD, projection, office supplies such as computer, arranging trip for foreign trade connection, changing driver's license, helping with the driver/car rentals, providing banking/insurance/security services, holding meetings the establishments of the sector can participate, interpreting and translation services,

- Providing consultancy services such as marketing research by contacting the establishments manufacturing same products, research for producer cost and raw material, research for machine/workbench and know-how, evaluation of contract and research, research for domestic regulations, overview of legal problems, research for finance resources, common investment/feasibility studies preparing common investment/feasibility, research for technology, research for human resources,
- Providing the allocation of covered area for the industrialist to come from domestic and foreign countries to attend exhibition and fairs, construction of standard stand, transportation of products which will be exhibited and/or marketed, domestic and overseas discharge-storage-loading activities of the products, security and cleaning works of the permanent exhibition/showroom, customs procedures and overseas transportation insurance transactions of the products and permanent exhibition/showroom services,
- Greeting the foreign visitors and providing services such as hotel reservations.

### **3.3 Definition of the Target Group and Its Estimated Number**

This project will be constituted to have the foreign producers and buyers come to Çorum and to increase the foreign marketing opportunities of the SMEs established in Çorum as well as to provide the necessary services. Consequently, the areas in the center where the foreign producers exhibit their products, have to be arranged as well. It is expected that the producers of the region and other regions will also be benefited from this twinning and marketing center. It will be connected with the producers by KOSGEB and a pilot application will be commenced with the interested producers.

### **3.4 Preference for Selection Among Alternative Solutions**

Turkey has been developing industrial policies oriented to expanding foreign trade and exportation since 1980s and conducting for being a member of EU; this effort has to be also regarded for the future of the region. Developing the products of the region which have competitive superiority with the utilization of innovative potential, trending to create new specialization areas and expanding into foreign markets with high added valued products are the prerequisites of sustainable development. The region has to develop its foreign trade capacity which has a strategic importance, in the framework of Black Sea Economic Cooperation (BSEC) and EU. But in order to evaluate this chance, constituting the necessary standards have to be provided and the institutional structures which are intended to this have to be constituted. Besides, it is important to constitute the institutional structures for monitoring the changes in outside world and market.

TR83 Region has transportation opportunities to transport the manufactured goods to the domestic and foreign markets; having north-south and east-west highway connections, a sea shore and the existence of a seaport provides advantage to the region. However, the non-existence of air cargo transportation, the insufficiency of the seaport facilities and non-existence of sufficient airway, highway and railway networks which strengthen the network relations amongst the settlement within the region and connect the settlements to the other regions, causes important restrictions in both the organization of the production and marketing of the products. The existing potentials and opportunities in the region could not be evaluated. The exportation relations of the region with the neighbour countries are very limited. Besides, the non-existence of institutional structures which can provide marketing research and marketing support in the region makes the region withdrawn. The necessary presentation and organizations

have to be provided in order to increase the variety of the products and services presented by the establishments of the region and to be expanded in foreign markets within the framework of the project. Implementing fair organizations which assembling the domestic and foreign companies has a strategic importance in order to make these kinds of presentations.

**3.5 Basic Assumptions**

- The development acceleration in Çorum will continue.
- The producers in Çorum can easily obtain the necessary services for exportation in this center.
- This center will be in collaboration with the other overseas centers.
- There will be developments in the transportation opportunities for increasing the exportation.
- The electronic communication and e-trade opportunities will be developed.
- The project will be supported by long term credit opportunities.
- Training will be provided in order to develop the entrepreneurship and business establishment skills.
- The producers' unions and cooperatives

will be supported.

- There will be diversification in the product according to the new demands.
- Production and control mechanisms having world standards will be developed.

**4 Activities**

**4.1 Main Activities**

- Tendering by KOSGEB for constructing the twinning and marketing center,
- Selecting the company for the center's management,
- Allocating and arranging an area for the twinning and marketing center,
- Arranging area where the domestic and foreign producers would exhibit their products, in the center,
- Providing the attainable transportation to the fair area of TWICE,
- Arranging covered areas where would domestic and foreign producers exhibit their products, and the stands,
- Connecting with different companies for providing the services given in the center and obtaining services,
- Determining lending establishments and cooperating with same

Activity	Years												Application Unit	
	1	2	3	4	5	6	7	8	9	10	11	12		
Bidding of KOSGEB	√	√	√	√	√									KOSGEB
Selecting the company which will operate the center	√	√	√	√	√									KOSGEB
Allocating space for the center at OIZ and making necessary arrangements	√	√	√	√	√	√	√	√	√	√				KOSGEB, Management of OIZ, enterprising company
Arranging inner space of the center in line with the services	√	√	√	√	√	√	√	√	√	√				KOSGEB, Management of OIZ, enterprising company
Purchasing services for services to be provided	√	√	√	√	√	√	√	√	√	√	√	√	√	KOSGEB, Management of OIZ, enterprising company
Pilot implementations and training producers	√	√	√	√	√	√	√	√	√	√	√	√	√	KOSGEB
Monitoring and transferring the experiments	√	√	√	√	√	√	√	√	√	√	√	√	√	KOSGEB, Management of OIZ, enterprising company

- Monitoring the conclusions and implementing their presentations.

## **5 Project Duration and Plan of Activities**

KOSGEB has to invite bidders for managing the center and select the company in short terms. After selecting the company, the location of the center will have to be chosen and the inner arrangements have to be implemented in middle terms. The results will be seen in middle and long terms.

## **6 Institutional Framework and Operating Model**

The twinning model is providing the twinning function for the SMEs by a private company which has bases in Turkey and in the opponent country, in the name of Twinning Center and under the collaboration umbrella of KOSGEB and a governmental institution in the opponent country equivalent to KOSGEB. After the signing of the protocol with the other country, an incorporated body which has adequate criteria approved by the institutions of both countries will commence the twinning functions in the capacity of Twinning Center Management. In order to show activity as Twinning Center, first of all participation in the previous tenders held by KOSGEB in specific times and the connection with a public institution abroad is mandatory. KOSGEB Foreign Relations and Coordination Group accepts the applications of the companies which are officially registered at home and abroad and willing to be the Twinning Center management, and makes a selection from the ones which comply with the terms of the tender. The company will commence to provide services after such selection.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

It is considered that this project will lead the establishments in the region to the exportation and the production will be shaped according to the

demands coming from the foreign markets, at the same time new demands will be created by the increase in the quality of the products.

### **7.2 Concrete Outputs**

The establishing of TWICEs started in 2005 in Turkey. It is seen that the TWICEs which are established in Russia in November 2005 and in Germany in June 2006, commenced their activities in collaboration with the producers of these countries and contacted with the buyers. It is expected that the TWICE which is considered to be established in Çorum, will contact the producers of the region and provide services easily; besides the producers and buyers who come to Çorum will create development acceleration and promote the entrepreneurship. This center will provide services to the producers and buyers coming from their countries in collaboration with the TWICEs established in the foreign countries; at the same time this center will contact with similar centers which are established in different countries, in order to ensure their visit to Çorum and building up connections with the establishments.

### **7.3 Sustainability**

The necessary infrastructure for exportation has to be provided for sustainability of the project. Developing the transportation means and decreasing the costs are important factors for success. Besides, e-trade opportunities and the related institutional structures and the infrastructure have to become sufficient and their interoperability have to be provided in order to expedite the exportation of the SMEs and expand into foreign markets. The good examples and concrete results and their presentation are important to promote the establishments in the region to the exportation. On this account, the financial support mechanisms for the producers have to be thought with the application of this project. Furthermore, obtaining the services from the companies of the region in the course of time, which have been purchased before, will

increase the contribution of the project to the regional development.

### **8 Budget Breakdown and Estimated Costs**

This project will be financed by public administration funds but it is possible to benefit from EU grants and provide the presentation, consultation and training services from the related NGOs (foundation, association etc.). It is estimated that the total cost of the project is 10 million YTL.

## PROJECT 3.4.1.4: TRANSFORM THE EXISTING PROTECTION PROPOSALS RELATED WITH BOĞAZKÖY-ALACAHÖYÜK HISTORICAL NATIONAL PARK INTO A MANAGEMENT PLAN AND IMPLEMENT IT

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.4. Develop by diversifying and promote regional tourism
Relevant measure	: 3.4.1. Open the region to tourism within the principle of sustainability of nature and cultural heritage

### 1 General Information about the Project

1.1 Project heading	: Transform the existing protection proposals related with Boğazköy-Alacahöyük historical national park into a management plan and implement it
1.2 Project location	: Çorum (Boğazkale-Alaca districts)
1.3 Sector	: Tourism
1.4 Project objective	: In Boğazköy-Alacahöyük Historical National Park, in accordance with protection proposals in terms of utilization preservation stabilities planning as a whole, developing actions to increase the tourism activities.
1.5 Project Owner	: Ministry of Tourism and Culture
1.6 Estimated duration	: 15 years
1.7 Total Estimated budget	: 65 million YTL

## 2 Objectives

### 2.1 Overall Objective

The main importance of the management plan of Boğazköy-Alacahöyük Historical National Park for the region is due to the fact that this area has been the capital city of a great empire which becomes more prominent than the many other famous historical places in Turkey and the world. The area in question and the historical artifacts are in the UNESCO's World Heritage List. It is essential that the insufficient infrastructure of these centers and the other areas in the background of the national park area, which are the most attractive places for domestic and foreign tourists in the region, under the existing circumstances have to be planned to give services according to a specific aim by implementing the planning activities. On this account, the management plan which will be prepared will be an exemplary model for reevaluating the other historical protection areas and values into the

economy and more significantly to the history of humanity.

The general aim of the project as follows:

- Implementing a planning study for determining the environmental and social capacity which will be a model for the tourism of the region, in order to understand the demands and the anxieties of the local stakeholders related with the tourism in the perception of the tourism in the national park and in its background areas,
- Increasing the visitor capacity of the National Park,
- Implementing the protection and restoration works and taking protection measures in the Sphinx and the statues, where fractures are seen, in order to deliver the historical artifacts to the posterity without corruption,
- In order to give a safe and interesting experience to the visitors, providing a single entrance to the area(s), studies of the groups related with the area, informing the relationship between the area and

the local people and providing audiovisual materials for constituting the technical infrastructure of the visitor center,

- Enhancing the information provided in the area and developing more competitive informative applications in order to increase the accessibility of the information of Alacahöyük and Boğazköy excavations and promoting visuality to higher levels,
- By following the activities of Temper project of the Economic and Social History Foundation of Turkey, constituting long term education activities and the utilization of these activities by the local schools,
- Developing an effective and sustainable tourism which can provide direct income to the local communities in the national park and its background area.

### 2.2 Relationship to the Plan Decisions of a National Scale

According to the direction shown in PNDP and MTP, main points are a sustainable tourism income with an increase in the number of tourists and in quality. In order to implement this, the necessity for the facilities have to be met, human resources which the sector needs, have to be trained, a research for diversification of the tourism products, supporting the protection and certification activities and accessibility of these studies to the potential crowds by several means.(DPT, 2003 and 2006-1)

In the 9<sup>th</sup> Development Plan it is stated that, "Tourism sector will divert to minimize imbalances of welfare and development, will improve an economic and social development in the areas which have the potential but never been considered till now", and also said that "The investment related with the sector will be taken care of in an approach that is observing, protecting and developing the natural, historical and social environment".

### 2.3 Position in the Regional Development Strategy

The selected measure come into prominence on account of that the project predicts a structure, which provides the deliverance of the cultural and

national inheritance of the region to the posterity, combines the utilization aspect by providing the protection and utilization balance of the potential which the region has after a specific study and the protection aspect which increases the total income of the region.

## 3 Justification

### 3.1 Activities Previously Carried out on This Subject

The idea of publicizing the Hittite culture in the city and making this publicity as the main axis of tourism comes into prominence. In the frame of Hittite Destination Plan which is prepared by the Governorship of Çorum with the participation of related experts in the leadership of Ministry of Culture and Tourism, similar proposals intended with the project area submitted.

### 3.2 Identification of Requirements and Problems

The population is decreasing in the settlements of Alacahöyük and Boğazköy where the project site is by emigration. There are not any facilities appropriate to accommodate the incoming tourists in order to see the historical places in question which are the most important settlements of the Hittite Civilization and there are not any activities to reflect the historical events. Due to the fact that there is an insufficiency in the qualified staff and insufficiency of the infrastructure of the accommodation for providing the services to the tourists, the tourist are staying in Boğazköy and Alacahöyük for a short time and this makes no contribution to the local economy.

The excavations in the historical areas and the restoration activities are progressing very slowly. The presentation plates, brochures, CDs and similar material for conveying the information about the historical artifacts to the next generations and for presenting the region and the area to the domestic

and foreign tourists which are visiting to see these values in question are very less in number.

The museum in Alacahöyük is insufficient to exhibit these artifacts. It will be better to develop this museum (as is in the Gordion museum) and also to implement activities in Boğazköy in accordance with the new museum perception and conveying more knowledge and information by exhibiting more artifacts. Most of the artifacts are exhibited in Ankara Archaeological Museum and the other part in Çorum Archaeological Museum. The fractures and corruptions are seen in the sphinxes, statues and rock relieves which are in the open air and has no protection. The water which leaks from the fractures is freezing in the winter times and the water dilates and causes the expansion of the fracture with each year. The historical artifacts will be perished in the future if no precautions are taken.

The Hittite Civilization will be publicized and the number of visitors can be increased if the activities which visualize and remind the old cultures in the visiting places can be implemented, the night entertainments can be arranged and the historical events can be animated without exaggeration. Therefore;

- The Battle of Kadesh and The Peace Treaty of Kadesh which is the first peace treaty in the world can be celebrated as a day or a week. This program can be organized by Turkey and Egypt in collaboration.
- The information in the subjects such as the laws, trading manners and rules, daily life, religious beliefs of the Hittite Civilization based upon the written texts of the clay tablets can be given by headphones in the excursions and visual explanations can be implemented interactively by the means of electronic media in the museum.
- The rituals which reflect the Hittite established traditions and customs in Anatolia can be arranged.
- Excursion tours with stone wheeled chariots can be arranged.
- The costumes of the Kings (made from felt) can be sold as souvenirs.

- The activities such as wedding ceremonies will attract the tourists. If these all can be achieved the region will attract more tourists.

### **3.3 Definition of the Target Group and Its Estimated Number**

In the year 2023, the population of the region is expected to be approximately 3,5 million people where Çorum will be 526 000 people, Alaca will be 36 000 people and Boğazkale will 2 790. The population in city center of Çorum will approach 325 000 people with the movements in the emigration. It is expected that the exchanges in the tourism sector will have effect on the condition and new attraction centers will be constituted in this context. In order to create new employment opportunities for the increasing population in the region, the number of tourist who will visit the Hittite Civilization have to be multiplied 5-10 times of its current level in the next 20 years. If the necessary measures are taken, a sufficient accommodation opportunities will be created and a better publicity can be implemented, it is expected that the number of tourists will change between 500 000-1 000 000 people annually.

### **3.4 Preference for Selection Among Alternative Solutions**

The project is an integrated approach of combining the two proposals, excessively than the particulated approaches of the proposals, which are constructing the facilities of the national park in accordance with the plan mentioned in the Hittite Destination Plan and the commissioning of the facilities and the development of the tourism infrastructure of the rural areas which is proposed and thought. Herein the main approach is the local people have to protect the rural tourism deliberately and voluntarily with the protection and utilization equilibrium.

### 3.5 Basic Assumptions

- Implementing the stages thought to be applied in the project,
- Constructing the accommodation facilities which will be the headstone of the tourism infrastructure of Çorum city,
- Increasing the number of visitors by including the project site to the tour destinations held in Turkey,
- Increasing the periods of accommodation by integrating the historical and touristic values of the region,
- By preparing different touristic activities for the visitors of the region, they can be prompted to spend more.

## 4 Activities

### 4.1 Main Activities

#### Implementing studies intended to determine the local capacity and projections

- Implementing meetings and workshops with the authorities, institutions and the people who are responsible for the excavation areas in the National Park about the activities which will be implemented.
- Exposing the plans intended to increase the tourism capacity in the national park area in accordance with the determination studies executed by the local authorities.
- Implementing the protection based restoration activities.

#### Increasing the quality of services presentation

- Constructing the facilities at short notice in order to increase the service quality
- Training and employing the qualified staff needed for the commissioned facilities in terms of the project aims

#### Increasing the tourism share of the area

- Providing the increase in the tourism capacities by implementing the organization of the local communities intended for tourism with necessary trainings and technical supports, increasing the participation of local people, developing countryside lodging and ecotourism

- Providing the publicity of the area
- Developing a website with the universities, associations and institutes of the excavation teams in order to announce the current developments and detailed information about the excavations in the National Park to the people and communities who are interested in the area, and the website must be updated continuously.

## 5 Project Duration and Plan of Activities

The project has three stages till its estimated completion in 2023.

- The first stage, developing the local consciousness and commencing with the protection activities.
- The second stage, the intensification of protection and excavation works and execution of the restoration works.
- The third stage, providing the necessary accommodation and similar services to the visitors in terms of protection and utilization balances by developing the infrastructure of local tourism.

## 6 Institutional Framework and Operating Model

The Ministry of Culture and Tourism, Ministry of Environment and Forestry, the excavation teams of Boğazköy and Alacahöyük and the universities these teams are bound with, foundations, associations and local NGOs are the foundations of this institutional structure. In this scope, the planning and application activities will be implemented by the contribution of the local administrations, technical support of the universities and the associations, participation of local entities within the coordination of the ministries.

## 7 Expected Results

The main contribution expected from the project is planning all the activities which will be done in the determined project site within a specific logical and systematic structure and implementing all these activities according to this plan. The project



will enable the application of all the activities within integrity throughout the time.

The project will provide the transformation of the idle cultural values and resources of the region into an income-producing state. In the case that these cultural values cannot be utilized in tourism within a plan, the production and utilization balances are regarded and they could not be conveyed to the next generations. For this reason, this project is a model in terms of the other cultural properties of the region

### **7.1 Impact Expected on the Target Groups**

The employment opportunities will be developed and the income and life standards will be increased by making new investments in tourism and similar activities in the villages within the project site and in the districts in the vicinity of the project site.

### **7.2 Concrete Outputs**

The aim of the project is to increase the number of tourists visiting the region and raise the number of foreign tourists in this total number. The number of the domestic and foreign tourists visiting the historical ruins is expected to reach one million at the end of the project.

### **7.3 Sustainability**

When the main effects mentioned in the expected effect on the target groups heading are implemented, the protection and utilization balances will be internalized with the information given to the local people. A consciousness will be gained by sustaining the existing cultural inheritances with the activities. As the conveyance of the cultural inheritance to the next generations will be provided with this consciousness, on the other hand more tourists will be acquainted about the region and the number of visitors will be increased, and there will be improvement in the life standards of the local groups affected by the project area. Local

entrepreneurs will gain income from the services provided and the commitment to the project will be increased. The life standards of the people living in the project area will be increased and in parallel to the increase in the number of visitors, a permanent income for protecting the cultural properties will be provided.

## **8 Budget Breakdown and Estimated Costs**

65 million YTL resources are needed in order to be utilized in the plan and restoration activities within the scope of the project. It is predicted that 15 million YTL of the fund will be used in developing the countryside lodging and the remainder will be used in other activities. On this account, an effort must be shown in order to provide fund for the plan which is the first stage of the project, by applying the European Union's new period activities of Cultural Heritage Fund. In funding of the project finance, as an alternative resource, funding can be provided from Euromed Heritage Fund which is intended to protect the cultural heritage of EU.

**PROJECT 3.5.4.3: PRODUCE ORGANIC CEREALS (WHEAT, CORN, OATS AND BARLEY)**

<b>Relevant strategic objective</b>	: 3 Increase competitive power and open out
<b>Relevant priority</b>	: 3.5 Develop irrigation in agriculture and increase vegetable production generating high income and carry out agricultural researches
<b>Relevant measure</b>	: 3.5.4 Develop organic farming

**1 General Information about the Project**

<b>1.1 Project heading</b>	: Produce organic cereals (wheat, corn, oats and barley)
<b>1.2 Project location</b>	: Çorum
<b>1.3 Sector</b>	: Agriculture
<b>1.4 Project objective</b>	: Production of high added valued organic products and increasing the life standards of the producers
<b>1.5 Project Owner</b>	: Ministry of Agriculture and Rural Affairs, Directorate of the Ministry of Agriculture,
<b>1.6 Estimated duration</b>	: 10 years
<b>1.7 Total Estimated budget</b>	: 10 million YTL

**2 Objectives**

**2.1 Overall Objective**

- Ensuring the food safety and healthy nutrition,
- Increasing the agricultural added value per unit of area,
- Providing more foreign exchange earning by increasing the exportation,
- Creating a well-informed and conscious farmer crowd.

**2.2 Relationship to the Plan Decisions of a National Scale**

In the national scaled MTP, PNDP and the 9<sup>th</sup> Development Plan, it is emphasized that precautions intended to diversify and increase the income of the rural areas will be provided. The organic agriculture which creates high added value is one of the important activities for increasing the income of agricultural rural sector. In the 9<sup>th</sup> Development Plan, based on the assumption that between the

years 2006-2013, the area for organic agriculture will increase; it is proposed to allocate 3 percent of the agricultural land of Turkey for organic farming.

The organic agriculture is implemented by “contracted agriculture” rules according to “Organic Agricultural Act” and “Organic Agriculture Regulation” which help to create well-informed and well-educated farmer group. In the long terms it will be possible to increase the education level of the farmers as a result of attending the courses of organic agriculture and being strict in collaboration with the certification and the experts of directorate of the ministry of agriculture.

**2.3 Position in the Regional Development Strategy**

Developing the organic agriculture is important for the diversification of the agricultural activities and expanding foreign trade in the region. The organic agriculture has not yet been started in the region. As dry farming is generally done in the lands of the city, the production of agricultural organic products has to be initiated in dry conditions. The agricul-

tural lands of Çorum have suitable conditions for the organic agriculture. Consequently, part of the farming lands have to be allocated for the production of organic crops and the activity in question has to be commenced with.

### **3 Justification**

Organic products market is one of the rapid developing sectors in the world. Although the increase on the demand of organic products varies in the countries, the average increase is 10-40 percent and the market of organic products is estimated as 25-40 billion USD annually (ZMO, 2005).

In the province of Çorum; dry farming is exercised for wheat, barley and oat cultivated in the lands near Kızılırmak river and paddy is on the alluvial lands which are filled up by the river throughout the centuries inside the deep valleys. According to 2002 year data, 0,79 million tons of crop production of the total production of the region 2, 1 million tons which corresponds to 37 percent are cultivated in this province.

Flour which is produced in the factories established in Çorum and used in bread production stands out with the name of "Flour of Çorum" is esteemed by the bread and pastry industries. It is deemed possible to export the bread and pastry products prepared produced with this flour by cargoplanes from merzifon Airport.

The high quality rice obtained from "Osmancık-97" paddy which is produced in the vicinity of Osmancık district in the Kızılırmak Valley can be sold for higher prices.

The areas in question which are irrigated with the irrigation water of Kızılırmak River have to be inspected in terms of water and soil pollution, and then the experts of certification institution have to decide whether the "organic paddy" can be cultivated. Although in some parts of Kızılırmak the water is not suitable in terms of pollution param-

eters, the reservoir outflows are generally clearer.

The organic oat flour is used in the production of infant food, bread, biscuit and pastry products. The organic barley can be used in the production of animal products and beer. Consequently, the production of organic crop products has to be focused in crop production which has an important part in the agricultural production value of the city.

Efforts must be exerted in order to develop the organic crop production which can provide an increase in the incomes and create high added value. The production, processing and exportation of the organic products are necessary to keep the province population from migrating areas which are among those having a big number of immigrants. By developing the flour and bread industry established in this city, it would be possible to produce and export fresh "organic bread, pastry products" from Merzifon Airfield by cargo planes.

#### **3.1 Activities Previously Carried out on This Subject**

When the production and exportation of agricultural products of the region are examined, it is observed that a limited number of producers have implemented the organic production in Samsun and Tokat provinces in the years 2004 and 2005, and the majority of the products were reaped from the nature.

In Samsun, in 2004, 68 producers have produced 1 579, tons fresh products and 533,9 tons dried products in 882,75 ha area. Pear, quince, apple, plum, cherry, peach, blackberry, walnut, wheat, corn, paddy, soybean, bean, pea, melon, watermelon, onion and honey are produced in organic conditions.

In Tokat, in 2005 nettle, lemon balm, linden, raspberry and blackberry are reaped from nature. These products, in the total of 65 tons, are exported (TKİB, 2006). Production of organic products has

not been implemented in Çorum and Amasya.

In 2004, in our country, 9 314 producers have produced 279 663 tons of organic products in 162 194 ha area, in 2005, 9 427 producers have produced 289 082 tons of organic products in 175 074 ha area (TKİB, 2006). In the period of 2003-2005, the number of producers which are dealing with organic production and the amount of the products have not been changed significantly. The area allocated for organic production is 0,1 percent of the total agricultural area in our country. Both the area allocated for organic production and the production of organic products are inadequate. In EU countries 3,5 percent of the agricultural areas are allocated for organic production. This rate is 11,6 percent in Austria, 10 percent in Switzerland, and 8 percent in Italy and 7,0 percent in Finland (ZMO, 2005). In Australia and area of 7,6 million hectares have been certificated for organic agriculture (41,2 percent of the agricultural area of Turkey which is 18,4 million hectare in total).

It is expected that the agricultural areas allocated for organic production will be increased in the future in almost all countries of the world. Most of the countries are planning to allocate 10-25 percent of their total agricultural areas for organic agriculture. The market of organic products is estimated as 25 billion USD in 2003. The measures for allocating the 5-10 percent of the regional area for organic production have to be taken in order to take share from and be an arbiter in the market.

### 3.2 Identification of Requirements and Problems

Organic agricultural activities are expanding slowly in the region as well as domestically. The matters have to be implemented by the region and Turkey in order to be an arbiter in the production of organic products in the world markets, as follows:

- Training of the instructors who will train the farmers about the production of organic products (in addition to the universities in our country, arranging training intended

for application abroad for 1 year or more and the training programmes at the level of master's or doctor's degree),

- Assigning staff in the province of Çorum and throughout the region who are trained about the production of organic crops,
- Implementing the production techniques of organic products, contracted agriculture and certification services of the farmers and providing trainings in the subjects of Organic Agriculture Act and regulations in force,
- Promoting the establishment of certification institutions' branch offices in order to develop the certification services in the region and reducing the certification costs,
- Supplying the organic seed, organic fertiliser and other inputs adequately in due time as needed in the production of organic crops,
- Making efforts for utilizing the poultry's manure varying between 140 000 - 150 000 tons annually in Çorum, in the production of organic products and constructing facilities for evaluating same,
- Carrying out necessary research activities for utilizing poultry's manure in the production of organic products,
- Implementing applied studies in the subjects of the production of organic crops in the arable field of the farmer,
- Reinforcing the research institutes in terms of personnel and conducting research studies with the universities,
- Developing integrated control methods,
- Constructing industrial facilities for processing organic products and strengthening the relations between the industrialists and farmers,
- Increasing and sustaining the supports given to the organic crop producers,

### 3.3 Definition of the Target Group and Its Estimated Number

5 percent of the 63 086 agricultural establishments existing in Çorum, in the next ten years and at least 10 percent of same in the following decade have to be promoted for the production of organic crops and at least 370 000 decares of agricultural area of 3 689 135 decares, have to be allocated for the

production of organic products. Awareness meetings have to be held in the villages aiming at promoting the farmers who are interested in organic agriculture, and relevant lists have to be prepared by the Directorate of Agriculture of Çorum and private sector companies collectively. The contracts between the producers and the companies which will buy the products have to be implemented in trust of the Provincial Directorate of Agriculture of Çorum. In the beginning the farmers which have high education and are interested in the production of organic products are selected as the target group in order to provide a high success rate.

### **3.4 Preference for Selection Among Alternative Solutions**

The irrigation opportunities are limited due to the insufficiencies in river and underground water resources. The pumped irrigations from Kızılırmak done to high elevations by utilizing electric energy are not economical and problems are encountered in the payments of irrigation fees. The irrigation unions which are taking the irrigation water with pumps are generally indebted and their electricity is cut off. The production of wheat, barley and oat in dry farming conditions will be sustained throughout the city in the future. An additional added value will be created with the production of crops in organic conditions and more income will be acquired. Consequently, "organic crop production" has to be emphasized as a new agricultural activity for the province of Çorum.

### **3.5 Basic Assumptions**

- Farmers will be interested in organic agriculture and they will allocate a part of their land for producing organic crops.
- The certification companies will be interested in the region; they will establish a branch in one of the cities and certification costs will be thus reduced.
- Training needed by the instructors and farmers will be given both theoretically and practically, any deficiency in the education of farmers will be corrected.

- Written and visual training materials, brochures and handbooks regarding the organic agriculture will be prepared.
- The relations between research institutions and universities will be improved; applied researches will be conducted in the arable field of the farmer.
- Provincial Directorate of Agriculture and private sector companies will provide necessary input and technical support for grain production in Çorum.
- Necessary conditions will be provided before the production season and during the production, products will be in the desired standards.
- The productions which are implemented according to the contracted agricultural terms will be bought by the buyer companies with accordance with the provisions of the contract. Legal problems and disputes will be kept minimum level.
- Fresh bread and bakery products can be exported by developing the cargo transportation in Merzifon Airfield.

## **4 Activities**

### **4.1 Main Activities**

- Training of the instructors at home and abroad will be provided.
- The training of the farmers will be provided theoretically and practically.
- The organization of the producers will be achieved; relations between the producer and private sector companies will be, contracted agriculture will be widespread.
- The technical support needed during the production will be provided, necessary inputs for the production of organic products will be provided by public administrations and private sector companies.

In addition to the main activities during the application of the project, subsidiary activities will be carried out, according to the type of the sowed crop, whether summer or winter and preparations of arable field and seedbeds, seeding, maintenance, harvest, threshing, certification works, packaging and marketing services will have to be executed.

**5 Project Duration and Plan of Activities**

The project will be applied in the period of 2006-2015. In dry conditions one year, in watered conditions 2 years of preparation and transition period is needed for shifting to the organic agriculture. For this reason, the trainings of the instructors and farmers have to be sustained while the awareness meetings are held in the first year. The land studies have to be commenced in parallel to the training activities and the land must be prepared for organic agriculture. In this period the supports given to the organic agriculture must continue in order to reduce the losses of the farmers

**6 Institutional Framework and Operating Model**

The organic agriculture project will be implemented by Directorate of the Ministry of Agriculture of Çorum. The private sector will have active part in the project. According to the provisions of the laws and regulation, organic agriculture is an activity implemented by the contracted agricultural model, the rights and interests of both parties have to be protected equally in the contracts to be signed between the private sector and the farmers. Because the technical staff working in the Directorate of the Ministry of Agriculture of Çorum is inadequate and old aged, there is a need for new employees. At least 20 new employees, who have bachelor’s degree or postgraduate education and preferably have experience in organic agriculture, have to be assigned in the Directorate of the Ministry of Agriculture of Çorum. If it is assumed that in the

next ten years 3 000 – 6 000 farmer will realize organic agriculture (app. 5-10 percent), 150-300 farmers (agriculture establishment) and 9 000-18 000 decare land, 900-1 800 plots will fall to every engineer. Additionally necessary tools and devices have to be provided in order to carry out necessary controls. Implementing the condensation in the plots of organic agriculture will be economical for the services provided by public administration and private sector. This condition will also have an effect on decreasing the costs of certification services. The purchase of the products by the buyers at determined prices before the seeding and paying the product costs according to the contract terms will provide the sustainability of the system. Any hitches or delays in this regard will cause differences and the interest of the farmers in organic agriculture will decrease or completely disappear.

**7 Expected Results**

**7.1 Impact Expected on the Target Groups**

When approximately 5 percent of the agricultural areas is allocated for organic agriculture, the income in the areas in question is expected to be much more than the agriculture implemented by classic methods. In dry conditions one year, in watered conditions 2 years of preparation and transition period is needed for shifting to the organic agriculture. In this period the income of the farmers will decrease. In order to compensate the decrease “organic agriculture support fund” of TKİB have to be used. The organic agriculture is

Activity	Years										Application Unit	
	1	2	3	4	5	6	7	8	9	10		
Training of the instructors	√	√										TKİB
Training of the farmers		√	√									Directorate of the Ministry of Agriculture
Researches			√	√	√	√	√	√	√	√	√	Agricultural research institute
Organizing the farmers			√	√	√	√	√	√	√	√	√	Directorate of the Ministry of Agriculture
Production and certification			√	√	√	√	√	√	√	√	√	Private sector companies
Processing, packaging and marketing			√	√	√	√	√	√	√	√	√	Private sector companies

an application which can create more added value per unit area in long terms. Although there are no any analyses that show the income and expenditure differences between the organic agriculture and classic agriculture which has been done in the arable area of the farmer, a distinct value cannot be defined on this subject.

### **7.2 Concrete Outputs**

The organic products, vary according to the type of the crop, generally can be sold for 30-50 percent higher prices. On this account the loss of 5-10 percent caused by the decrease in the productivity can be compensated by the higher selling price of the product. The production of bread and other bakery products from the wheat produced in Çorum will create an additional added value. The added value of barley will increase if it is used in organic beer and organic animal products. Oats will be processed and evaluated in infant food and the other usages. Paddy will be processed into organic rice and rice flour and they will be packed and served to the consumers. The added value will be created by processing the organic products and on the one hand the producers will sell their products for higher prices and on the other hand industrialists will acquire higher income by processing these products. Besides as more manpower is entailed for producing organic products an increase will emerge in employment.

### **7.3 Sustainability**

The application will be sustained as long as the products gained in the organic agriculture conditions are marketed. An appropriate marketing strategy is needed in order to change the customer habits. Consequently, the demand and supply have to be balanced and the production has to be directed according to the demand. In this context TKİB, İGEME, private sector companies and other institutions involved in this deal have to be in collaboration.

### **8. Budget Breakdown and Estimated Costs**

The resource which will be needed for organic agriculture project is 10 million YTL for a ten year period. This resource will be used in the domestic and foreign training of the technical personnel, training of the farmers theoretically and practically, preparing the training materials, providing organic seeds, and organic fertiliser for production. Also, the resources will be provided for the researches to be conducted in the organic agriculture. In the beginning it is planned that the 50 percent of these resources will be provided by public administration and the remaining 50 percent will be provided by private sector companies.

## PROJECT 3.6.2.1: ESTABLISHING AN ORGANIZED HUSBANDRY ZONE AND MANAGEMENT OF ANIMAL MANURES

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.6 Increase competitive power in animal husbandry sector
Relevant measure	: 3.6.2 Develop Organized Husbandry Zones (OHZ) and fairs at the centers that have animal potential

### 1 General Information about the Project

1.1 Project heading	: Establishing an organized husbandry zone and management of animal manures
1.2 Project location	: Çorum
1.3 Sector	: Agriculture
1.4 Project objective	: Assembling the poultry husbandry establishments and evaluation of poultry's manure
1.5 Project Owner	: SPA, TKİB, Çorum Egg Production and Marketing Co.
1.6 Estimated duration	: 2006-2015
1.7 Total Estimated budget	: 75 million YTL

## 2 Objectives

### 2.1 Overall Objective

- Preventing the environmental pollution and the repulsive odors,
- Controlling the solid and liquid wastes drained into Yeşilirmak river via Çorum creek,
- Evaluating poultry's manure with low costs and utilizing in arable fields,
- Developing organic agriculture by using poultry's manure, utilizing same these in the areas where needed (fresh cut flower, strawberry, greenhousing vegetables etc.),
- Assembling the poultry establishments, increasing the exchange of knowledge,
- Developing the marketing organisation,
- Reducing the production costs by providing the clustering.

### 2.3 Relationship to the Plan Decisions of a National Scale

In the 9<sup>th</sup> Development Plan, it is stated that "Production of non-domestic wastes will be reduced and the collection, transportation, recycling

and disposal systems which are suitable for the type of the waste and conditions of the country will be established". In this scope it is aimed to constitute the clusters in order to collecting and evaluating the animal manures which are non-domestic wastes and assembling the poultry establishments. By assembling these poultry establishments in question, the egg collection costs will be reduced, the classification and packaging can be implemented in one center and the production costs will be reduced which will increase the competitive power of the establishments. Also, the environmental pollution will be prevented and the poultry's manure can be used in agricultural areas. The most important subjects emphasized in the scope of these implemented activities are minimizing and eliminating the pollution effects directed to water and soil resources and supporting the capacities and infrastructures for this subject in a regional sense. A strategy has been developed for applying the principles defined in MTP and PNDP in the subjects of soil and water resources in the region in order to prevent the pollution which the region has been facing with currently and in the future. It is expected that the common services will develop their collaboration of problem solving and their mutual learning capacities, and will encour-



age the companies in the subjects of technologic innovations and investing. Accordingly, this type of organized husbandry zones and the clustering of the agricultural establishments which all these services can be provided are the most important measures to be planned.

**2.3 Position in the Regional Development Strategy**

In Çorum the egg poultry and in Samsun broiler chicken production have been developed. Çorum, besides the egg production, is specialized in the production of hen-coup equipment and is now manufacturing equipment for the region and outside the region. The sector is making a great contribution to the economy of the city and creating employment by producing equipment for both chicken and egg production. Increase in the production will be provided by widespreading the accumulation of knowledge throughout the region which is gained in Çorum and by utilization of the poultry’s manure in the irrigated farming areas. Especially in the production of cut flower in the Bafra and Çarşamba plains of Samsun, it is possible to utilize these poultry manure. Therefore, sustaining the poultry manure implemented in Çorum and utilization of the poultry’s manure in the agricultural areas are important for the economy of both the province and the region.

**3 Justification**

**3.1 Activities Previously Carried out on This Subject**

The poultry enterprises which are settled indiscriminately in the environs of Çorum are emitting repulsive odors in the city, and the solid and liquid wastes are drained into Çorum creek. The pollution occurred in Çorum creek is mixed into Yeşilırmak River and make contribute to the pollution of Black Sea. The coops in the districts (quarters) and in the neighborhoods of the city which have negative effects on the environment have to taken

under control eliminated. Assembling the poultry activities into an area far away from the city center where people live, in accordance with the techniques of modern poultry establishments is the most important justification to establish “Organized Husbandry Zones (OHZ)”. There are 136 poultry enterprises of different magnitudes which are in operation in the neighbourhoods of the quarters in the city center and around. The poultry enterprises are one of the leading sub-sectors which have been affected by the crisis occurred in the country and the sector.

Some of the poultry establishments are closed due to the economic crises occurred in recent years and began their production again when the conditions have become consistent. In July 2001, 1 365 050 units of laying hens were determined to exist in the coops. The number of animals in the poultry enterprises of Çorum varies between minimum one million and maximum three million units (in the year 1999) in the last ten years. The numbers of chicken and eggs which are existed in the poultry enterprises of Çorum between the years 1990-2002 and their ratio to the production of Turkey are shown below.

**Table 2.1 Egg Production by Years**

Years	Egg production in Turkey (unit)	Egg production in Çorum (unit)	Share of city (percentage)
1990	7 698 637 000	349 409 500	4,5
1991	7 667 990 000	410 737 500	5,4
1992	8 215 016 000	440 455 500	5,4
1993	10 006 269 000	607 147 750	6,1
1994	9 845 407 000	456 203 000	4,6
1995	10 268 668 000	613 021 400	6,0
1996	9 787 220 000	523 395 000	5,3
1997	12 089 341 000	732 502 500	6,1
1998	13 887 864 000	719 542 500	5,2
1999	14 090 016 000	513 192 500	3,6
2000	7 245 000 000	615 420 000	8,4
2001	10 575 504 000	635 570 000	6,0
2002	11 554 912 000	566 560 000	4,8

Source: Çorum Tarım İl Müdürlüğü (2002), DİE (1990-...-2002).

As indicated in the analysis of the table, important fluctuations occurred according to the domestic and foreign demand in Çorum and throughout the country. When the variation is examined according to the years it is noted that, there are changes at the rate of 30-100 percent in the consecutive years. This condition is an indicator that this sector is one of the most affected sectors by the crisis occurred in the country. The 3,6 – 8,4 percent of the egg production of Turkey materialized in the Çorum province.

The annual production value of the poultry sub-sector in Turkey is varying between 1,2-1,5 billion YTL. It is estimated that the egg and chicken meat produced in Çorum will have a 50-120 million YTL contribution to the economy; 800 people are employed in the sector.

The exportation from Çorum which is 5-6 million USD annually between the years 1994-1998, has been deteriorated to 1,0-1,5 million USD after 1999. If the bird flu and similar diseases are eradicated, it is assumed that the exportation of eggs can be raised to minimum 5-8 million USD annually.

“Çorum Egg Production and Marketing Co. (ÇEYÜPAŞ)” has been founded in order to market the eggs produced in Çorum. This company has accomplished significant works in the subjects of marketing eggs domestically and abroad and making efforts in solving the problems of the producers. This establishment of which all the poultry producers are members and the shareholders, has conducted studies in Çorum and throughout Turkey in order to develop the poultry enterprises, decrease the costs and stabilize the egg prices at a specific level.

The adverse effects of the coops on the environment within the districts (quarters) and around have to be taken under control and be eliminated. In modern poultry enterprises poultry manure has been evaluated according to its technique. The

animal manure was recycled into composts, dried and fermented in the pneumatic conditions and eliminated by gasification. The determination of which methods will be used, has to be decided after detailed inspections in situ and cost analysis.

As the egg production is directly in relation with the number of chickens, there may be decreases and increases in the chicken number in the coop and the amount of the manure. The capacity has to be determined considering the future necessities in the application of the project.

### 3.2 Identification of Requirements and Problems

- Assembling the poultry establishments which causes pollution in the city and Yeşilirmak and increasing or eliminating the pollution,
- Benefiting from the manure of the poultry economically and utilization thereof in agricultural areas and developing the organic agriculture,
- Strengthening the Çorum Egg Production and Marketing Co., implementing market researches in order to increase the exportation,

### 3.3 Definition of the Target Group and Its Estimated Number

The activities to establish an Organized Poultry Raisine Zone (OHZ) in Çorum has commenced approximately 10 years ago but no significant progress has been achieved. A study has been implemented by ÇEYÜPAŞ but this report which was in the quality of a preliminary investigation hasnot been published. The first serious scientific research and investigation has been implemented by TÜBİTAK in 2001 and issued under the name of “Disposal of poultry and Stable Fertilizers”.

During this research, also the establishments in Kayseri and Manyas were examined by using the same method and suggestions for proposals developed for all these three centers. According to this research, the total indoor area which these

poultry coops existing in Çorum comprises, is approximately 1 000 decares (1 million m<sup>2</sup>).

The total area of these poultry enterprises' garden garage, feed storage, manure storing areas and administrative buildings is estimated as 2 500 decares. A document which shows the facility details of all poultry enterprises has not been prepared as yet. Neither the Directorate of the Ministry of Agriculture Çorum, nor the other public institutions have a document detailing the conditions of the existing facilities.

### **3.4 Motive for Preference for Selection Among Alternative Solutions**

When considering the capacity expected to be reached for establishing an OHZ by assembling the poultry coops existing in Çorum it was noted that a complex that can provide at least 3 million hens would be needed. For this, it is estimated that at least 250 hectares (2 500 decares) area will be needed for the current necessities and the future necessities of the existing poultry establishments.

The area in question can be provided from the lands around the city which belong to the Treasury. The selected area must be non-agricultural area. As 3 or 4 chicken can be grown in each meter square area, approximately 40 percent of the area, in other words 1 000 decares (1 000 000 m<sup>2</sup>) have to be allocated for the construction of coops.

The smallest coop in the poultry establishments shelters 8 000 chicken and the biggest 61 000. Approximately the half of the poultry establishments' capacity is varying between 20 000 – 30 000 units, while the average magnitude will be close to these values. It is estimated that the above capacities will slightly increase though no significant changes are expected.

It will be appropriate to construct 5 different kinds of coop composed of typical designs of 10 000 - 20 000 - 35 000 - 50 000 - 100 000 units in the

selected area. However, the opinion and suggestions of the breeders must be obtained via polls and taken into account before preparing the coop projects, and the in line with the decisions taken at the meetings held with the participation of the producers the designs comprising the most suitable and economical solutions will be prepared and implemented. Some of the existing coops have one floor while others have two floors.

The preferences of the breeders have to be taken into consideration, and emphasis must be given to select coop equipment from those produced in Çorum. It is estimated that approximately 10 percent (250 decares) of the suggested 2 500 decares area both indoor and open space will be needed for the management buildings, keepers' houses, feed storage, fertiliser storing areas, social facilities and other needs. The other areas have to be allocated for service roads between the coops, green areas, sports areas, parking areas and other necessities. The necessary measures have to be taken for disease control and the hygiene of the coops besides the future necessities when the facilities in question are planned.

When selecting the equipments for coop, the local equipment manufactured in Çorum has to be promoted, the necessities have to be implemented in order to decrease the production costs. Recent developments have to be considered besides the existing knowledge in the local conditions about the subject.

From the poultry coops existing in Çorum, it is calculated that an amount of 350-400 tons of fertilisers (assumed as every animal generates 175 grams of manure ) which varies by the number of the animals, is produced every day. It is estimated that the annual fertiliser production is 140 000-150 000 tons.

In the province of Çorum, when the data collection and the studies on the fertiliser have been implemented by TÜBİTAK in 2001, 240 ton/day

chicken manure is gained from an approximate 2 million chickens. But, it is stated that in the period in question, owing to the problems developed in the economic conditions, there was a fall in the production and number of hens.

In the normal production conditions, it is predicted that 400 ton/day chicken manure will be gained from approximately 3 000 000 million chickens for the year 2020. The specifications of the solid wastes (composite) originating from Çorum are given in the table. In the calculation of the composite chicken waste sample characterization, it is assumed that 80 percent of all the waste supplied in Çorum, are from one floor coops and the other 20 percent from two floor coops.

The total solid component amount is calculated as 38,8 percent, C/N rate is 9,9 which the composite solid sample comprises. The optimum humidity rate for composting process is given as 50-60 percent; the most appropriate C/N rate is 25-30 (Topkaya, 2001). In this condition, it is seen that especially the C/N rate could not be provided for composting and the humidity rate is slightly higher.

Furthermore, it is believed that the waste will not always have the composite feature and it will be a waste having chicken waste features coming from one storey coops due to the location of the farm and the time when wastes come to the planned composting facilities.

In this case the solid component rate which the waste comprises, has to be raised from 25 percent to 40-50 percent in order to obtain a good compost and eliminate problems in the production process. The drying process can be implemented by heat

(warm air) or mechanic dehydrators.

A widespread method applied in dehydration of the waste and concurrently increasing the C/N (Carbon/Nitrogen) rate is to mix with another waste having high carbon content.

In general the chicken fertiliser has a low porosity and adhesive structure. In this case the oxygen needed for composting process cannot be used by micro organisms easily. Mixing with another waste is also an advantage because it increases the porosity of the chicken manure and eases the air passage during the composting process.

The size of the particles has a significant part in composting. When the tree particles which comprise the same amount of carbon compared with wood shavings, the carbon utilization of the shavings which have a larger surface area, is much easier by the micro organisms. The evaluation of C/N rates of some wastes in the composting

**Table 2.3 The C/N rates of some wastes used in Compost Process**

Waste Type	C/N
<b>Components have high carbon content</b>	
Leaf	30-80:1
Straw	40-100:1
Trimmings of tree, shavings	100-500:1
Bark	100-130:1
Mixed paper	150-200:1
Newsprint paper or carton paper	560:01:00
<b>Components have high nitrogen content</b>	
Vegetable wastes	15-20:1
Cut grass	15-25:1
Droppings	5-24:1

Source: Topkaya (2001).

**Table 2.2 Features of Solid Wastes**

Fertiliser/parameter	Solid material (percentage)	*Volatile material (percentage)	*Constant carbon (percentage)	*Phosphate (g/kg)	Total carbon (percentage)	Carbon/nitrogen (C/N)	Thermal value kJ/kg	Solid waste amount ton/day
1 storey coop	25,6	60,9	7,9	16,7	36,2	10,2	14 108	320
2 storey coop	91,9	39,4	2,8	21,9	32,4	8,7	10 543	80
Compozit	38,8	56,6	6,9	17,7	35,4	9,9	13 395	400

\* Results of analysis of dried samples.  
Source: TÜBİTAK (2002).

process in terms of carbon and nitrogen are given in the table.

Even though the balanced adjustment of C/N rate in the beginning helps the planning of the composting process, a correction in this rate has to be done according to the biological reducibility of the material in question. Since the major part of the nitrogen inside the compostable materials is biologically usable, a part of the nitrogen can depend on the components which have resistance to biological fragmentation.

The newsprint papers are an example for this. The cellulose fibres which are the raw material of the newsprint papers, against the other type of papers covered with lignin. As known lignin is a resisting element found in tissue of the tree. The corncobs and straw which are constituted by a resisting form of cellulose are also fragmented very slowly. Although the elements are composable, a very slow occurrence in the fragmentation shows that the carbon they comprise could not be used by micro organisms. In this case, in the management of process in the conditions of compost facility management a higher C/N rate has to be planned.

In the framework of the criteria given above, in the chicken waste compost facility which has been predicted to be established, considering the regional conditions, seasons and other existing solid waste types and amounts, it is suggested by TÜBİTAK that adding wastes having a high carbon content to chicken wastes before processing would be the

best solution.

An average of C/N=10 is accepted for animal solid wastes in Çorum. On the assumption that the chicken fertiliser emanated from one floor coops the composite waste conditions could not be provided every time.

In this condition in terms of the characterization of general waste, the dry substance (KM) has been accepted as KM = 25 percent and C/N=10 in the design. In this case, in order to adduce the solid waste rate of the 400 ton/day chicken waste into the ideal compost conditions (% 50 KM), the amount of necessary added organic wastes such as leaf, straw, trimmings of tree, is calculated as 350 ton/day. The disused egg wastes or chicks dead during the production (in pieces) can also be added into the chicken wastes. All these can be used in compost production. The value of C/N=30 have to be provided in the mixture of the fertiliser and organic wastes. Also, the substances have to be added in order to provide approximately C/N=65 for every additional 250 ton/day. When there are sufficient chicken wastes which can provide the composite features come to the compost production facility, the amount of other organic wastes which again have 90 KM percent content, have to be added to the chicken waste is 50 ton/day. In this case, an adjustment and selection have to be implemented as approximately C/N=190 for the mixture for 50ton/day waste given from outside. Generally in the management conditions in order to sustain the composting process in better condi-

**Table 2.4 Solid Waste-additive Waste KM and C/N Rates in Çorum Animal Waste Compost Facility Establishment**

Waste amount coming to facility	Amount, ton/day KM, percentage, C/N	Additive organic waste amount, ton/day	Additive organic waste C/N	Mixture KM (percentage)	Mixture C/N
One storey coop fertilisers	400 t/day	250	65	50	31
	% 25 KM	200	70	47	30
	C/N=10	265	60	51	30
Composite fertiliser (one+double storey coop)	400 t/day % 38KM C/N=10	50	190	50	30

tions, it is beneficial to add high amounts of organic waste from the outside with a view to sustain the composting process in better conditions by providing high porosity.

According to the experiences gained during the application, the amount of substances and their mixture rates which will be added to the fertiliser and other organic wastes, have to be changed and the most economic and appropriate solution have to be applied.

If the “organized breeding zone-OHZ”, which is suggested as to assembling the poultry establishments in Çorum could be established, the transportation costs of fertilisers will be reduced and it will be possible to use the manures in the agricultural areas. In the case that utilizing the approximate 150 000 tons of manure which is expected to be obtained every year, by 500 kg per decare, 300 000 decares of irrigated agricultural area (30 000 ha) could be fertilised. This amount is 12,5 percent of the 240 000 ha area which has been currently irrigated in the region. The obtained fertiliser can be sufficient for only 5,6 percent of the area when all the 530 000 ha irrigable area is irrigated.

### 3.5 Basic Assumptions

- Public administration can provide the needed land from the treasury area.

- The interest in poultry will continue, the coop owners will respond positively to the subject.
- The bounds existing between the public administration and private sector companies will be strengthened; coop projects will be prepared and applied according to the demands of the poultry enterprises.
- Production of poultry equipments will continue, the new constructed coops will be equipped with modern equipment.
- Necessary technical and financial support will be provided to the producers.
- The chicken manure will be evaluated in the agricultural areas, agricultural production will be increased.
- The exportation of eggs will be increased; poultry will make more contribution to the city economy and will provide more employment.
- Pollution in Çorum creek and Yeşilirmak will be prevented; the repulsive odors will be eliminated.

## 4 Activities

### 4.1 Main Activities

- Taking the egg producers' opinions and suggestions,
- Selecting an area for poultry enterprises,
- Preparing the projects for coops,
- Constructing the infrastructure and the coops,

Activity	Years										Application Unit	
	1	2	3	4	5	6	7	8	9	10		
Taking opinions and suggestions of the producers	√											Directorate of the Ministry of Agriculture, ÇYÜPAŞ
Selecting the area	√	√										SPA, Directorate of the Ministry of Agriculture, related institutions
Allocations of area		√	√	√	√	√	√	√	√	√		SPA, Directorate of National Estate
Preparing coop projects		√	√	√	√	√	√	√	√	√		Directorate of the Ministry of Agriculture, ÇYÜPAŞ
Implementing the constructions		√	√	√	√	√	√	√	√	√		Directorate of the Ministry of Agriculture
Transportation of chickens to coops		√	√	√	√	√	√	√	√	√		Private sector companies
Evaluation of fertilisers		√	√	√	√	√	√	√	√	√		Directorate of the Ministry of Agriculture, ÇYÜPAŞ
Developing the marketing	√	√	√	√	√	√	√	√	√	√		ÇYUAŞ, private sector companies

- Transporting chickens to the coops,
- Evaluating the fertilisers by gathering and as compost,
- Implementing marketing researches in order to increase the exportation.

## **5 Project Duration and Plan of Activities**

The application period of the project assumed as 10 years (2006-2015). Within this period, the selection of the area, the capacity of the facilities, types of the poultry material, procurement, necessary measures for reducing the costs and the relations between the public administration and private sector companies have to be determined distinctly with a survey study and sequential meetings in order to define the demands, contributions and participations of the producers. The public administration has to allocate the area, prepare the infrastructure and provide the support while the private sector companies have to implement the necessary investments.

## **6 Institutional Structure and Operating Model**

The OHZ facility, which is thought to be established in Çorum, has to be applied by constituting a common structure which has the collaboration of Ministry of Environment and Forestry, Special Provincial Administration of Çorum, Municipality of Çorum and ÇEYÜPAŞ. In this institutional structure, Directorate of the Ministry of Agriculture of Çorum, Directorate of Environment and Forestry of Çorum, Directorate of Public Works, Chamber of Commerce and Industry of Çorum, Chamber of Agriculture and other related public and private sector institutions and NGOs have to participate. It is predicted that it will be possible to easily provide funds from EU if more NGOs are involved in this institutional structure.

The works to be carried out by the public administration and private sector have to be defined according to an agreement reached between

both parties will implement. Especially, allocation of the area has to be implemented by free of cost or with low costs in the selected area for establishing coops and the collections have to be spread in long terms. ÇEYÜPAŞ have to assume the responsibility of all the works as a party in the contracts concluded with the public administration, and the rights and benefits of the members have to be protected.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

The assembling of the poultry coops which are settled indiscriminately in Çorum will prevent the environmental pollution. Disagreeable odors emitted through the city will be eliminated and, gases caused by decomposition of the manure will be removed from the environment. By assembling the facilities, the egg production costs will be reduced and the exchange of information between the establishments will increase. This synergy will be a factor for overcoming the crises and economic bottlenecks together and the crises will be overcome with minimum loss.

An economic added value will be created by evaluating the fertilisers whose annual amount varies between 145 000-150 000 tons, more products can be taken from the agricultural areas. The organic agriculture will be developed in Çorum and throughout the region. The sharing of information will be increased by assembling the poultry establishments, the necessary training programmes for providing the qualified staff in the sector can be implemented.

### **7.2 Concrete Outputs**

By establishing the OHZ outside the city, the disagreeable odors prevailing at all times in the city will be eliminated, the pollution of Çorum creek and Yeşilirmak will be prevented, and part of the decision which Turkey has taken to decrease the

pollution in the Black Sea, will be thus realized. It will be possible to evaluate the manure as “compost” in the direction of TÜBİTAK’s proposal due to the fact that the collection cost of the fertilisers obtained from the poultry enterprises will be reduced. The fertiliser in question can be used in the agricultural areas as an economic asset and the agricultural production will be increased. The chicken manures can be used in the areas of strawberry, cut flower, vegetable gardening areas, orchards and in paddy cultivation areas.

### 7.3 Sustainability

In order to provide a healthy environment for the society, poultry coops have to be gathered in a specific center and detailed studies have to be commenced for establishing an OHZ and compost facility and the project has to be implemented by selecting an appropriate area. If these are achieved, the collection costs of fertilisers and the environmental pollution will be decreased and after the evaluation of the fertilisers in the agricultural areas, the organic fertilisers will be used instead of chemical fertilisers. The poultry could market their products more effectively and acquire more incomes. This application will provide the sustainability of the system and contribute to the city economy and employment.

## 8 Budget Breakdown and Estimated Costs

In order to reduce the needed resource and not paying the expropriation costs for establishing an OHZ which assemble the poultry enterprises in Çorum, a Treasury-owned area has to be allocated, if possible. When selecting the area, emphasis must be placed to ensure that the area has the facility of access, potable and utilization water can be provided, and must be a non-agricultural area.

Cage production cost needed for one unit of chicken is 8,5 USD (13 YTL) at 2005 prices. If the building costs are added to this value, the estimated cost of the facilities in question is calculated as

51 million YTL for chicken coops, 9 million YTL for administration buildings, social facilities, worker maintenance houses and other facilities, and 10 million YTL for car park, roads, sports areas and similar buildings.

The estimated cost of the compost facility which has a capacity of 400 ton/day is calculated as 4,5 million USD according to 2001 unit prices. The area needed for constructing the compost facilities is predicted as 4,8 ha (400 m x 120 m= 48 decares). When all these costs are taken into consideration, the resource which will be needed in the next 10 years is estimated as 75 million YTL. But when the application projects of the facilities in question are prepared and their lengths in meters become definite, net production costs will be determined. After application drawings of the facilities have been prepared, necessary activities have to be implemented in order to provide funds from EU with a project prepared by public administrations and animal breeders collectively.



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**SAMSUN**

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**PREFEASIBILITIES**

## PROJECT 3.3.1.5: ESTABLISH FAIR AREA AT INTERNATIONAL STANDARD IN SAMSUN

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.3 Opening Out
Relevant measure	: 3.3.1 Diversify and increase national and international commercial activities

### 1 General Information about the Project

1.1 Project heading	: Establish fair area at international standard in Samsun
1.2 Project location	: Samsun
1.3 Sector	: Services Increasing the commercial capacity of Samsun and the region, expanding the foreign trade, increasing
1.4 Project objective	: the exportation by presenting the produced goods and services.
1.5 Project Owner	: Metropolitan municipality of Samsun, Chamber of Commerce and Industry of Samsun
1.6 Estimated duration	: 17 years (2006-2023)
1.7 Total Estimated budget	: 76 million YTL

## 2 Objectives

### 2.1 Overall Objective

The relation of the project with the middle and long term plans and other regional strategies is given below.

- Opening of Samsun International Fair is an important infrastructure for developing the national and international trade. On this account, one of the strategies related with this project is diversifying and increasing the national and international commercial activities which are one of the important strategic aims of the Master Plan.
- It is aimed to develop the region as culturally and socially, not only commercially. The international fair area will be used for cultural and social aims besides its utilization for commercial aims. Consequently, the fair area to be built would be serving the strategic aim of developing the urban cultural and social structure.
- Expanding foreign trade is one of the precedences of the region. The fair area having the international standards, will provide expanding of the products of the region into foreign markets, will particularly attract the sellers and visitors from the countries on the Black Sea Coast and will be one of the factors which will expand the region into outside world.

- The fair will contribute to the region's economy in terms of both commercial and touristic features. When the fair areas used accurately, it can attract national and international visitors. For this reason, the aims of the project as herein defined overlap with the targets of developing the tourism in the region by diversifying.

### 2.2 Relationship to the Plan Decisions of a National Scale

Developing the urban cultural and social structure has been noticed in the national scaled plan and programmes. It is predicted that supporting of the physical and social infrastructure which has importance in respect of implementing the new investments and increasing the urban life standards for the inadequacy of physical and social infrastructure in urban and rural areas of less developed regions which has been defined as a problem in the section "Disparities between Economic and Social Development Levels of Regions" of PNDP.

### 2.3 Position in the Regional Development Strategy

The urban cultural and social structure has to be

developed in the cities of the region in order to be preferred by the trained manpower and entrepreneurs. With this measure, it is aimed to constitute high quality life areas and strengthening the social infrastructure of the cities.

### **3 Justification**

#### **3.1 Activities Previously Carried out on This Subject**

Even though the commercial activity in TR83 Region is not at an advanced level, it does not show an effect important diversion from overall Turkey's. Samsun stands out with its relative developed infrastructure. One of the main strategies of YBDP is that Samsun will be a metropolitan city and be implementing relative functions.

Samsun has the seaport facilities which has an important position amongst the seaports in the Black Sea and is planned to become more important. Besides the city's strong relations with Central Anatolia region, it has sufficient transportation and communication connections with the adjacent regions. Through the medium of seaport, the hinterland of Samsun is expanding from East Europe countries in the west, Ukraine in the north, Russia and Caucasian countries in the east, and the countries which are east via the connection with these countries. Different transportation opportunities, fast growing trend in foreign markets attained from the Black Sea, the production of greengrocery which is intensive in the region and planned to be a progressive expansion, and the production industry's development trend have been providing important chances to the region in terms of commercial means. It is aimed with Samsun International Fair project that;

- Samsun will become a commercial concentration center,
- Increase in the exportation of the region,
- Presentation of the products which are produced in the region,
- Developing the tourism in the region.

The project has to be directed by a consortium constituted in the leadership of Metropolitan municipality of Samsun and Chamber of Commerce and Industry of Samsun by trade unions, businessmen associations, local administrations and the faculties of Management and International Relations Ondokuzmayıs University.

The fair will be constructed in a 40 000 m<sup>2</sup> area. This area will comprise the trade offices, congress center and accommodation and services facilities besides the fair areas. The infrastructure of this area has to be completed and the transportation links with the main intercity highways have to be provided. After completion of the studies realized by the Samsun Chamber of Commerce and Industry and the Metropolitan Municipality of Samsun, the West Sealant Area is defined as a fair area.

The Samsun International Fair Area will have 30 000 m<sup>2</sup> covered and 10 000 m<sup>2</sup> open area. In the covered areas, besides the exhibition areas there will be appropriate for congress, seminar and press conferences and accommodation and other services facilities. In the first stage, construction of 10 000 m<sup>2</sup> closed area will be sufficient. It is planned that the first stage will be commissioned till 2010 and by 2015-2020 additional structures have to be provided.

#### **3.2 Identification of Requirements and Problems**

The regional fairs have an important function in the city they are established and their neighbourhood cities for expanding to the outside markets. The Samsun Fair has made a great contribution in respect of the publicity of the region and the development of the trade since the day it was established. But the inadequacy of the current fair area has decreased the interest in the fair and the fair can no more attract the visitors. Consequently, a new fair complex is needed considering the developments in the world.

In addition to the requirement for a physical fair space, the necessary trainings have to be given in order to create the arrangement of the fair, the fair management and the human resources which can provide services to the visitors. Consequently measures have to be taken in order to constitute a team for managing the modern facilities, make the best of the facilities, utilize the facilities effectively and has experience in fair organisation

**3.3 Definition of the Target Group and Its Estimated Number**

The project is affecting not only Samsun, but also the hinterland of Samsun which comprises the TR83 Region. If there will be sectoral and seasonal share with International Çorum Fair which will be in the same region, it is expected that it will take a part in developing the regional and

national economy and the trade with especially the countries of the Black Sea. The preferential markets of the fair are Russia, Romania, Bulgaria, Ukraine, Azerbaijan and Georgia. But the Far East countries, China, Japan, Africa and EU countries can be perceived as potential customers.

**3.4 Motive for Preference for Selection Among Alternative Solutions**

Samsun city has an appropriate location amongst the cities of the region to organize a fair. The city has advantages such as having interconnection with sea, connected to Anatolia via railway line and being in the intersection of main highways. The agriculture, trade and tourism activities are highly developed in Samsun.

**3.5 Basic Assumptions**

- The amount of agriculture and industrial products generated in the region will be increased.
- A commercial development in the region will be provided; the region will make more efforts to expand into the outside world.
- Some products which are produced in the region will become trademarks and will be identified with the name of the region,
- Integration of agriculture and industry will be developed, the processed food production will be increased,
- Further resources will be transferred to regional publicity works, the historical and touristic values of the region and the natural assets will be introduced and will attract more tourists,
- The local people and NGO will make

**Figure 2.1 Construction of Samsun Fair Area**



Source: Zemin Harita (2006)

YEŞİLIRMAK BASIN DEVELOPMENT PROJECT

Activity	Years																	Application Unit
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Construction of fair area	√	√	√							√	√							Municipality, CCI, SPA
Training of the staff		√	√	√	√		√		√		√		√		√		√	SPA, MEB
Implementing fair services			√	√	√	√												Municipality, CCI, private sector
Collaboration between the institutions	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	Municipality, SPA

- efforts in order to expand to the outside world and provide integration,
- Necessary qualified manpower will be trained.

**4 Activities**

The main activities of the project; may be briefly summarized as

- Construction of fair area,
- Training of the staff,
- Implementing fair services, and
- Collaboration between the institutions

**5 Project Duration and Plan of Activities**

The project will be applied between the years 2006-2023.

**6 Institutional Framework and Operating Model**

The project will be applied in collaboration of Metropolitan municipality of Samsun, Chamber of Commerce and Industry of Samsun and NGOs.

**7 Expected Results**

**7.1 Impact Expected on the Target Groups**

The goods and services which are produced in Samsun and other provinces in the region can be distributed to outside world by this project. Samsun will be developed; trade and tourism activities will give vitality to the market.

**7.2 Concrete Outputs**

If it is assumed that Samsun International Fair will increase the commercial activities in Samsun by 10 percent, commercial activities in the region by 5 percent and it will have an impact on the manufacturing industrial production at the rate of 5 percent in Samsun, and 3 percent in the region, the annual contribution of the fair to the regional economy is predicted as 570 million YTL at 2006 unit prices.

In this project constructing the fair is not sufficient by itself, it has to be well managed in order to provide expected economic income and it has to be marketed especially in the target countries by international levels.

**7.3 Sustainability**

After completion of the project, the fair has to be opened in appropriate periods considering the other fair dates in the country. The fair area must be utilized with maximum efficiency by organizing activities during the year.

**8 Budget Breakdown and Estimated Costs**

The estimated cost of the project is given in Table 2.5. It is predicted that the land cost and infrastructure expenditures will be financed by public resources and the construction works will be financed by the private sector by build-operate-transfer model.

**Table 2.5 Estimated project budget**

	(YTL)	
	2006 - 2010	2015 - 2023
Land cost (40 000 m <sup>2</sup> )	4 000 000	-
Infrastructure and road connections	4 000 000	-
First stage of Fair construction (10 000 m <sup>2</sup> closed, 5 000 m <sup>2</sup> open space)	15 000 000	-
Second stage of Fair construction (20 000 m <sup>2</sup> closed, 5 000 m <sup>2</sup> open space)	25 000 000	-
Car park and landscaping	3 000 000	-
<b>Total</b>	<b>51 000 000</b>	<b>25 000 000</b>
<b>Grand Total</b>	<b>76 000 000</b>	

## **PROJECT 1.2.1.3 STRENGTHEN RELATIONSHIP OF SAMSUN CITY WITH THE SEA**

Relevant strategic objective	: 1 Build an effective spatial organization
Relevant priority	: 1.2 Prepare the cities for future in a secure and planned manner
Relevant measure	: 1.2.1 Achieve planned urban development

### **1 General Information about the Project**

1.1 Project heading	: S strengthen relationship of Samsun city with the sea
1.2 Project location	: It will be applied in Samsun seaport and behind the seaport side
1.3 Sector	: Construction and services sector
1.4 Project objective	: The project is aiming at transforming a part of the Samsun Seaport (regarding the seaport will be developed) into cultural and recreation areas, converting the seaport and city into an attraction center.
1.5 Project Owner	: Samsun Seaport is under the management of TCDD as required by 6186 numbered Law. In accordance with the project, it is expected that the Metropolitan Municipality of Samsun and TCDD will establish a project partnership after the partnership the Chamber of Commerce and Industry of Samsun, private sector entrepreneurs and the first stage municipalities will participate.
1.6 Estimated duration	: The period for implementing the project is 3 years.
1.7 Total Estimated budget	: The project comprises the transformation of approximate 10 ha area within the total of 58, 8 ha area. The 2 million YTL resources are needed for project designing. The total cost of the project can be determined after the final projects

## **2 Objectives**

### **2.1 Overall Objective**

With the project of strengthening Samsun's connections with the sea, it is aimed that

- The city's connections with the sea will be strengthened.
- Functionalization of the unused areas of Samsun Seaport and realization of the seaport as an attraction center
- Bringing in new cultural and recreation area to Metropolitan province of Samsun.

### **2.2 Relationship with the Plan Decisions at National Scale**

The suggestions are listed that "supporting physical and social infrastructure, which are important for the new investments and the quality of urban

life, in the precedences of the national level regional development strategies (DPT, 2003). For this purpose, it is said that the reconstruction of small-sized public infrastructure related to tourism and public buildings such as museums and cultural centres with a view to increasing tourism, and restoration of historical and cultural assets will be supported in order to improve the living standards in less developed regions in the section "Regional development Main Aim and Strategy at National Level" of PNDP (DPT, 2003).

In the development axis of "Regional Development and Reducing Regional Development Disparities" in the MTP, it is said that "the basic migration-related problems of cities, which are under the pressure of massive migration, will be identified, and physical and social infrastructure will be improved in the areas, which suffer the most from the migration" (DPT, 2006-1).

### 2.3 Position in the Regional Development Strategy

In respect to the development of TR83 Region, as Samsun is being an opening of the region to the outside world by its seaport and being specialized in industry and especially in the services, are defined as a strategy. Samsun will be driving the force of regional development. On this account, as Samsun being an attraction center and having the cultural and recreation areas, has an important role in the development strategy of the region.

### 3 Justification

Samsun Seaport is the only seaport having railway connection to the Black Sea (except Istanbul) of the TR83 Region in Turkey. The accession to EU and utilizing the opportunities emerging in the framework of the Black Sea Economic Cooperation, being ready for the conditions that globalization brings are directly related with the effective use of Samsun Seaport. With the improvements in the seaport, an area will be provided for the utilization which is needed and requires more spaces in order to develop the importation and exportation activities. Similarly, there will be an acceleration in Samsun's becoming a specialized metropolitan city in the trade, industry and the services.

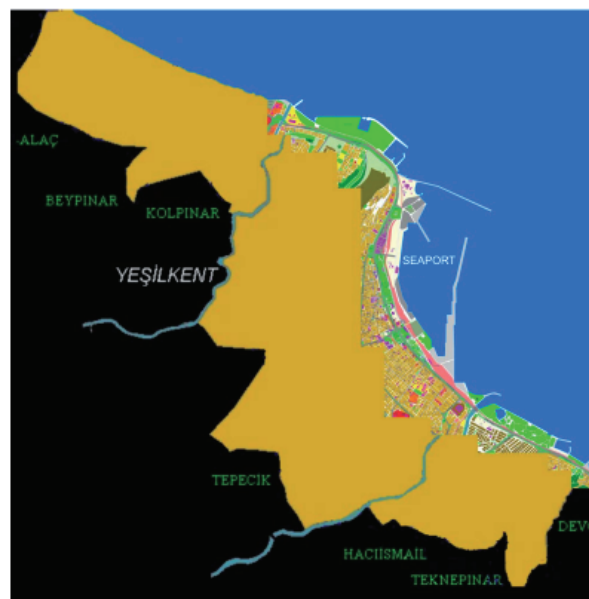
But the seaport of Samsun is idle as of the year 2006. Even though Samsun is a seaport city, its development as an oil stain in the south of the seaport, the existence of the seaport and storage activities which having a total area of 58, 8 ha resulted in the interruption of the relation area between the city and the seaport (Figure 2.2). In order to establish a relation between the sea and the seashore, the recreation areas (Eastpark and Westpark) have been established by filling a 85 ha area in the sea. In order to be a metropolitan city which is specialized in trade, industry and services, on the one hand the idle seaport have to be developed and on the other hand the connections between the city and the sea have to be

strengthened and cultural recreation areas have to be arranged. In order that Samsun become an attractive maritime city, it is suggested that the seaport has to be coped with as a prestige area and a part of it (approximately 10 ha) has to be transformed into cultural and recreation area besides the seaport activities (loading, unloading, storage etc.). This functionality can be supported by various utilization (mixed use) activities dependent on the project decisions.

### 3.1 Activities Previously Carried out on This Subject

In Samsun, as mentioned above, in order to provide a connection between the city and the seashore, Eastpark and Westpark are constituted in the east and west of the seaport by filling the sea. There are activities implemented in the city which are intended in functionality/ conversion of the idle buildings/ areas such as old Tekel Building

Figure 2.2 Seashore of Samsun and the Position of Samsun Seaport



Source: Zemin Harita (2006).

### 3.2 Identification of Requirements and Problems

The green areas and social structure areas are very limited in the city. The green area per person which is one of the parameter that affects the life standards, is 3,8 m<sup>2</sup> as of the year 2002. On the other hand, the seaport and storage activities in the city center by their physical appearance have a negative effect on the city aesthetics and causes urban quality losses.

### 3.3 Definition of the Target Group and Its Estimated Number

The project is aiming at constituting public spheres by transforming some parts of the seaport into cultural and recreation areas. On this account, the target group of the project can be defined as all the people in Samsun.

### 3.4 Motive for Preference for Selection Among Alternative Solutions

Samsun is a maritime city, but its relation with the sea suppressed after the construction of the seaport. The recreation areas were formed when this problem was noticed. But this is implemented by artificially filling of the sea. Such areas will be insufficient for population which is predicted as 600 000 in Samsun at the end of the plan.

One of the important strategies of the plan is to utilize the agglomerations in the scale of regional and city. At the regional scale this is to constitute compact urban macro forms.

In order to prevent the extreme wide spreading of Samsun, the idle areas in the city have to be transformed. Samsun city and the seaport have a strategic singificance in terms of the regional development. Increasing the attractive capacity of the city and the seaport, and the animation of

the city center and associating with the sea physically are preferred in respect of regional and urban strategy.

### 3.5 Basic Assumptions

It is assumed that the TCDD which has the authority of operating the seaport, will evaluate the project in order to transform a part of the seaport into cultural and recreation area and will be in a partnership with the Metropolitan Municipality of Samsun.

## 4 Activities

### 4.1 Main Activities

The main activities of the project may be listed as follows:

- Project partnership
  - o Establishing a project partnership between TCDD and Metropolitan Municipality of Samsun,
  - o Invitation to Chamber of Commerce and Industry of Samsun, the first stage municipalities and private sector entrepreneurs in order to participate in the project partnership,
  - o Organizing the local participation process and establishing a local office,
- Constituting a local situation determination and database throughout the seaport for defining the recreation area,
- Determining the project area (recreation area),
- Determination of detailed condition for the project area and updating the database,
- Preliminary decision of project design and project design,
- Preparing the pre-feasibilities and resource requirements,
- Implementing the project at urban scale,
- Complementing the subscale projects,
- Grading,
- Application.



## **5 Project Duration and Plan of Activities**

constitute a cultural focus in the city.

## **6 Institutional Framework and Operating Model**

In accordance with the project's characteristic, a project partnership has to be established between Metropolitan Municipality of Samsun and TCDD. It is possible that Chamber of Commerce and Industry of Samsun, private sector entrepreneurs and the first stage municipalities will participate to this partnership.

The technical staff who will be assigned in the project design and application stages in terms of implementing the project (when the technical staff of Metropolitan Municipality of Samsun are insufficient) can be provided by consultancy services procurement.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

The attraction of the city and the seaport will increase by implementing the project and a new cultural recreation area will be brought in. Consequently, it is expected that there will be rises in the life standards of Samsun urban population socially and economically.

### **7.2 Concrete Outputs**

A cultural and recreation area for Samsun and Samsun city and seaport which has an attractive and dynamic center is the concrete outputs of the project.

### **7.3 Sustainability**

The sustainability of the project depends on the success of the management of the area and its relations with the city after the project has been implemented. On this account, the area has to be managed professionally and by a vision which can

## **8 Budget Breakdown and Estimated Costs**

The project is transforming approximately 10 ha area within the total of 58, 8 ha area. The resource needed for project designing is 2 million YTL. The total cost of the project can be defined after the final projects.

**PROJECT 3.2.1.3: UNIVERSITIES DEVELOP JOINT RESEARCH PROGRAMS IN SOME CRITICAL AREAS OF AGRICULTURE, INDUSTRY AND SERVICE SECTORS**

- **Conduct Research in the Subject of Production of Medical Tools Under Cooperation Between Ondokuzmayis University- industries**

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.2 Strengthen the bond between knowledge and production in order for researches to be effective in decision-making processes and guide policy
Relevant measure	: 3.2.1 Increase university, industry, public cooperation and R&D activities in the region

**1 General Information about the Project**

1.1 Project heading	: Universities develop joint research programs in some critical areas of agriculture, industry and service sectors
1.2 Project location	: Samsun
1.3 Sector	: Industry
1.4 Project objective	: Establishing collaboration between university and industry, implementing research in the subject of manufacturing medical equipment, developing a product having international standards
1.5 Project Owner	: OMÜ, TEKMER, KOSGEB, chambers of commerce and industry, private sector companies
1.6 Estimated duration	: 12 years
1.7 Total Estimated budget	: 6 million YTL

**2 Objectives**

manpower educated in the universities of the region.

**2.1 Overall Objective**

- Implementing common projects in the leadership of Technology Center (TEKMER) with the participation of the university and industrial establishments,
- Supporting the transformation of the university's research infrastructure and accumulation of knowledge into an economic asset,
- Generating technological knowledge which will activate the regional resources,
- Directing the local resources into distinct and different investments of new technologies such as medical equipments,
- Supporting new production technologies,
- Supporting the manufacture of high quality products,
- Creating new employment opportunities, providing employment to the qualified

**2.2 Relationship to the Plan Decisions of a National Scale**

One of the main aims of long term development strategy is to provide a production structure which is export oriented, technology intensive, high added valued, complying with international standards and utilizes the local resources. (DPT, 2000: 21)

In the PNDP, increasing the competitive powers is the primary precedence of development axis; the second precedence is increasing the competitive powers by developing the technology and quality levels. In this context the measures such as providing the modernization of SMEs and increasing the consciousness of quality and productivity are foregrounded (DPT, 2003: 101-104).

Besides in the PNDP, in the related development axis of increasing the economic powers of the regions, one of the measures is identified as “Institutional support, including training will be provided in order to promote entrepreneurship” in the precedences supporting and strengthening the SMEs (DPT, 2003: 131-132).

Also in the MTP, the manufacturing industry having a “succeeding outward-oriented, dynamic and competitive structure” has been presented as the main aim and it is emphasized that the policies oriented in utilizing innovative and advanced technology more effectively will be initiated. In this context, increasing the exportation by developing new sectors besides the traditional ones with generating and dissemination technologies are the sectoral policies. (DPT, 2005: 37)

Besides, in order to realize the preference of strengthening the relation between knowledge and production, support for the cooperation of universities with the regional institutions and industrial establishments and improving institutional capacities for R&D is required. This measure is focused on in the first development line of Preliminary National Development Plan (DPT, 2003: 102-103). In addition to that, within the sectoral politics regarding science and technology of the Medium Term Programme, universities cooperating with industrial institutions and other establishments and leading R&D activities according to the demand of the market are supported (DPT, 2006-1: 34).

### **2.3 Position in the Regional Development Strategy**

The region has to be the arbiter in the inimitable fields which require experience and knowledge accumulation in order to provide the sustainability of the development. Consequently, besides the productivity, competitive superiority and the increase in the added value are tried to be provided in the sectors which have advantages in the current situation; on the one hand; on the other hand

emphasis has to be paid to develop high quality products where new technologies are used with high added value.

The researches implemented by TÜBİTAK contain proposals for which ways R&D studies which will be implemented in Turkey on this subject, have to be directed. The preparations have to be done in order to reach a commercial maturity by developing technologies and replace the ones whose economic superiorities decreased.

It is important to implement studies in the strategic fields for the region in the Technocity which is prescribed to be established within the Samsun TEKMER and Samsun Ondokuzmayıs University. These centers, besides their implementation of research and applications about increasing the productivities of the existing industries by new technologies and strengthening their competitive features will undertake the mission to implement researches in order to provide a sustainable development, developing new technologies and transforming these into high added valued products.

In the Technocity which will be established in Samsun, it is aimed that developing the manufacturing technologies (flexible, agile production, rapid prototyping, metal forming, welding, machining etc.) and besides the traditional materials such as iron and steel, ceramics, glass and cement, developing the materials of high technology products (polymeric and composite materials, advanced structural and functional materials, light and high-strength materials etc.) which will be used in defence, aviation, micro-electronics, communication and automotive sectors and supporting the production. An opportunity like this has to be evaluated in the medical equipment production sector which is developing in Samsun. It is an important project that is implementing these researches in collaboration with the university and the industrialists, developing the products of high quality which can compete with the international standards and providing the specialization of the

region on this subject.

The specialisation the industry needs, accumulation of know-how and the requirement of expert staff are increasing. The employment cost of these people is high because of the fact that the number of these people who have the required qualifications is limited. These experts do not have to be employed permanently and after they completed their duties in the periods needed, it will be possible to hand over their duties to the permanent staff of the establishments. The collaboration of university and industry which is prescribed in the project provides this opportunity.

### **3 Justification**

#### **3.1 Activities Previously Carried out on This Subject**

It is a precedence to develop the capacity of making innovation in the production capacity of the TR83 Region in order to be in an advanced level in Turkey's future. Consequently, constituting the institutional structures which have well educated human resources and can learn easier, and increase the capacity of making innovations have strategic importance for the region. "Learning region" concept depends on the togetherness of the production and training; the relations among the research and education institutions, local administrations and the establishments in the region have to be strengthened within this structure and the R&D studies have to be sustained within the mutual learning processes. In other words, it is believed that applying the developed techniques in practice and solving the problems in collaboration will constitute the mutual learning process and accelerate the development. In addition, establishing a technocity and technology centers within the university will ease the scientific and technical researches and the collaboration will be possible among various units.

It is seen that Samsun made a leap in the pro-

duction of medical products and Samsun showed improvements especially in the production of surgical equipments. It is observed that a clustering is developing in Samsun especially majored on the producing surgical equipments from the existing manufacturing establishments of medical equipments, precise and optical devices the total number of such establishments being 181 in Turkey, in recent years. Those established in Samsun are in the total number of 20 have made the name of Samsun stand outwith the production of medical products by selling them to domestic and foreign markets.

Many sections of the population are supporting the development in this field and being a trademark in the world markets. As a matter of fact, I. National Medical Devices Production Industry Congress and Exhibition has been held by Chamber of Mechanical Engineers of TMMOB in Ondokuzmayıs University on 30 September-2 October 2005. In this congress the developing technology, innovation and R&D policies, applications in the sector, development in the technology and application, EU technical legislative alignment, the existing problems and possible solution proposals were discussed. The producers in Samsun who showed a great interest in the first congress, carried out activities directed to the ISO 13485, ISO 9001 and CE markings and completed their product and system certifications; by the year 2006, there were not any establishments in Samsun which had a lack of certification. The second congress has been planned after the success of this congress in 2007 (TMMOB Makina Mühendisleri Odası Samsun Şubesi, 2006).

The medical products of advanced technology in the international area produced by limited number of large companies which have a monopoly status and these companies are also producing in computer, electronics and other fields by utilizing their R&D facilities. These companies are making big profits by selling the disposable materials and spare parts besides the medical products. According to the year 2000 data of World Health Organisation

(WHO), there are 500 000 different kinds of medical devices in the world market (TMMOB Makina Mühendisleri Odası Samsun Şubesi, 2005). It is important to enter the international production chain and be a trademark by making progress; Samsun is in possession of such a potential like.

### **3.2 Identification of Requirements and Problems**

- Authorized institutions (authorized test laboratories, national approved institutions) have to implement the harmonisation and the infrastructure and realize the market inspection about Standardization (CE, ISO 9001/2003, ISO 13485 etc.).
- Competitive powers of the manufacturing companies are limited due to the insufficiency in R&D studies and far not having the possibility to produce by utilizing the high technology.
- Qualified human resources needed in the production of medical products are insufficient.
- Collaboration among the production industry of medical products, universities and especially its faculties of medicine, the chambers of mechanical, electrical, physics and chemistry engineers have to be established and institutionalization of this relation have to be provided.
- Necessary emphasis has to be given to the technology centers and technoparks in terms of partnership of university and industry.
- Governmental supports for R&D studies have to be developed.
- Utilization of high technology by the sector has to be realized in order to increase its competitive power and the collaboration with the university is essential.
- Ergonomic products have to be designed by implementing the anthropometric measures of the medical products and standards have to be constituted according to this.
- Researches have to be implemented about the characteristics of production in the world, markets which can be entered and the products which are needed.
- Collaboration has to be implemented with institutions which provide long term credits and the governmental support has to be provided.

### **3.3 Definition of the Target Group and Its Estimated Number**

It is predicted that by this project the related branches of Samsun Ondokuzmayıs University and private sector companies will work together. A specialization is seen in Samsun especially in the surgical equipments; a competent and educated manpower has been obtained on the subject matter. The experience in manufacturing and repair of the weaponry which is a highly developed sector in Samsun, could have been conveyed into this sector. In this project, a collaboration among the producers of medical products, the investors who are willing to enter this sector, and the universities will be provided by utilizing the opportunities represented by Technocity which is planned to be established within the scope of Samsun TEKMER and OMÜ and the activities on the subjects of product development and production will be implemented.

### **3.4 Motive for Preference for Selection Among Alternative Solutions**

There are many companies which are producing medical equipments and consumables materials but the majority of them could not compete with the large companies most of them consist of foreign suppliers. As known our country has substantially external dependence in this field. Almost all the medical devices and most of the medical equipment and consumable materials are imported. According to the 2004 data of Undersecretariat for Foreign Trade, our foreign trading volume in the sector of medical devices and materials is 815 million YTL. 54 million YTL of this amount is exportation and 760 million YTL is importation. The export coverage import ratio is 8 percent. This constitutes an excess rate over the disequilibrium between the exportation and importation in our country and this is increasing the cost of health services (TMMOB Makina Mühendisleri Odası Samsun Şubesi, 2005). For the foregoing reasons, the production of medical products which shows an

development acceleration in Samsun, have to developed with collaboration with the university, the products which are having international standards have to be developed and the sector have to be competitive in the world markets which is important in the terms of development of the region and the economy of the country.

**3.5 Basic Assumptions**

- The Technocity’s opportunities which will be constituted within the scope of TEKMER and OMÜ, will be used for the execution of this project.
- Implementing the preparations intended for future in the production areas within the framework of TÜBİTAK is necessary for the regional development.
- An important experience has been forming in the non-agricultural areas in the region such as machinery and equipment and it is considered that the production of medical equipments will continue to develop in Samsun.
- The facility of access to the services produced and the new technologies that developed in the Technocity will be provided for SMEs.
- This project will be supported by government grant aids and long term credits. The

trainings of the academicians who are specialized in this subject in the related branches of the universities will be supported by foreign scholarships.

- The qualified manpower will be attracted from other regions.

**4 Activities**

**4.1 Main Activities**

- Initiating a research in Samsun Ondokuzmayıs University on the subject of medical device production,
- Benefiting from the scientists as consultants who have studied on this subject by collaborating with the extraterritorial universities,
- Examining the production of medical devices produced in the existing companies in collaboration with the university and determining the problems in the production,
- Developing new techniques and materials in the production and their testing in the production,
- The authorized institutions (authorized test laboratories, national approved institutions) about standardization (CE, ISO 9001/2003, ISO 13485 etc.) have to implement the harmonisation and

YEŞİLIRMAK BASIN DEVELOPMENT PROJECT

Activity	Years												Application Unit	
	1	2	3	4	5	6	7	8	9	10	11	12		
Commencing a research on the subject of medical device production in OMÜ	√	√	√	√	√									Samsun Ondokuzmayıs University, TEKMER, KOSGEB
Contacting with private companies and preparing a protocol	√	√	√	√	√									Samsun Ondokuzmayıs University, TEKMER, KOSGEB
Providing consultant form extraterritorial universities	√	√	√	√	√									Samsun Ondokuzmayıs University, TEKMER, KOSGEB
Determining the problems in the existing production	√	√	√	√	√									Samsun Ondokuzmayıs University, TEKMER, KOSGEB, private companies
Developing new techniques and products	√	√	√	√	√	√	√	√	√	√				Samsun Ondokuzmayıs University, TEKMER, KOSGEB, private companies
Implementing market research and constituting the options	√	√	√	√	√	√	√	√	√	√				TEKMER, KOSGEB
Implementing studies on the subject of standardization	√	√	√	√	√	√	√	√	√	√				TEKMER, KOSGEB
Implementing a pilot application and trainings of producers	√	√	√	√	√	√	√	√	√	√				Samsun Ondokuzmayıs University, TEKMER, KOSGEB, private companies
Providing financial support	√	√	√	√	√	√	√	√	√	√	√	√	√	Ministry of Finance, private finance institutions

infrastructure,

- Researching the demand in the world market and determining the products having competitive chances,
- Implementing pilot applications with the producer companies and providing trainings,
- Obtaining long term grant or credits opportunities for technological investment.

## **5 Project Duration and Plan of Activities**

The project has to be started in the short run. Relations have to be established with the producers in collaboration with the scientists both from OMÜ and from extraterritorial universities and studies have to be commenced. The results of the activities implemented in the short run are expected to be taken in medium and long terms.

## **6 Institutional Framework and Operating Model**

The project will be implemented in collaboration with the scientists coming both from OMÜ and from extraterritorial universities, KOSGEB and local producers. It is important to establish collaboration with the Chamber of Commerce and Industry of Samsun in order to provide the proprietorship of the private sector and participate and support the local producers. These entities will undertake responsibilities in the different stages of the project according to the protocol implemented among them.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

It is aimed with the project that the quality of medical products manufacturing which is developing in Samsun, will be increased and the products will be diversified. There will be improvements in the production techniques and the products as a result of determining the problems in the production

during the project and the trainings will be given to the companies about this subject and the technology intensive investments will be supported. It is expected that the project will make important contribution on the subject of developing the medical device production and the manufactured products will find purchasers in the world markets by being a trademark. It is thought that in middle and long terms the production and services sectors which are specialized in this field, will be developed and promote the investment in this field.

### **7.2 Concrete Outputs**

It is seen that Samsun made a leap in the production of medical products and noteworthy improvements are achieved especially in the production of surgical equipments. Sensitivity has been developed on this subject in the city; an experience has been gained and a competent manpower emerged. It is considered that the project will use this potential and develop the production of medical devices, equipments and consumables materials in Samsun which are needed in the world markets. It is furthermore expected that a development will be seen in the repair of the devices and losses that may arise in this subject will be prevented. Many processes of the production show a labour-intensive characteristic; this characteristic will result in a serious employment increase in the city.

### **7.3 Sustainability**

When knowledge is considered as a production factor, the precedence given to the research and development activities and an organization / institutionalization skill will be one of the important means to accelerate as a sustainable manner of its development pursuant to other regions. But the sources of the knowledge are various and are needed for the development of the region and a part of the knowledge used especially in the agriculture and industry production are generated from regional sources and appear as a result of experience. On this account, supporting the generation and shar-

ing of the knowledge will have a strategic role in development of the region. Knowledge like this, is regenerated every time when the different entities are in a solution of the problem as being parties and the sharing of this knowledge by the entities in the region is increasing the sustainability.

The circulation of the knowledge has to be supported by various institutions; utilizing the common services which are provided by TEKMER and the establishing Technocity are important in terms of sustainability. The necessity for qualified manpower which will be employed in this sector, will be increased. Consequently, it is very important to open related branches of the industrial vocational high schools and vocational high schools and increase the quality and the equipments of the existing branches.

The authorized institutions (authorized test laboratories, national approved institutions) about standardization (CE, ISO 9001/2003, ISO 13485 etc.) have to implement the harmonisation and infrastructure, and realize the quality control and the market inspection.

### **8 Budget Breakdown and Estimated Costs**

The project will be financed with the public administration resources. At the same time it will be possible to utilize the EU funds. But in order to provide the proprietorship and sustainability of the project, the companies which participate in the pilot application of the project also have to participate in the finance of the project. It is important that the Chamber of Commerce and Industry have to support the project and promote the entrepreneurs by informing them about the project. It is thought that the total cost of the project will be 6 million YTL 5 million YTL of which will belong to the public administration.



## PROJECT 1.1.1.3: TRAIN PERSONNEL OF SAMSUN PORT

Relevant strategic objective	: 1 Build an effective spatial organization
Relevant priority	: 1.1 Develop the regional infrastructure in line with the philosophy of an effective spatial organization
Relevant measure	: 1.1.1 Develop transportation infrastructure

### 1 General Information about the Project

1.1 Project heading	: Train personnel of Samsun port
1.2 Project location	: Samsun
1.3 Sector	: Transportation
1.4 Project objective	: Developing the management of Samsun Seaport and expanding the foreign trade
1.5 Project Owner	: TCDD, DM, DLH
1.6 Estimated duration	: 5 years
1.7 Total Estimated budget	: 3 million YTL

## 2 Objectives

### 2.1 Overall Objective

- Providing training of technical, administrative and auxiliary staff of the seaport,
- Constituting a training set and material about harbour management,
- Improving the harbour management,
- Training of qualified staff in order to increase the exportation,
- Increasing the number and quality of staff with knowledge of foreign languages,
- Creating a permanent staff who can provide a well-informed and conscious harbour service, transforming the Samsun Seaport into a seaport which can compete in the international level.

### 2.2 Relationship with the Plan Decisions of a National Scale

In the 9<sup>th</sup> Development Plan, under the heading of “Increasing the Sensitivity of Education to Labour Demand”, it is stated that “A lifelong education strategy will be developed towards increasing the employment skills of individuals in line with the requirements of a changing and developing econ-

omy and labour market. In order to develop the skills and abilities of people, this strategy will cover mechanisms that will support increasing formal and informal education opportunities, strengthen the horizontal and vertical relationship between the types of training, structure apprenticeship and public education towards these types of education as well as support the involvement of the private sector and NGOs in this area”.

The training of Samsun Seaport staff is important for educating the permanent staff who can counteract the demands of the manpower market and implement the management of the harbour according to the necessities of the century. The productivity and the services quality will be increased by training the manpower which the economy demands.

### 2.3 Position in the Regional Development Strategy

Samsun Seaport is providing services for the region, Central, East and Southeast Anatolia regions. The training of the seaport staff become important due to the fact that the seaport works with the north countries and providing goods and services for EU

countries. Qualified staff are needed in order to provide the foreign language training, educating the modern harbour management techniques and increasing the labour productivity. The staff in the current conditions have lack of training and there are not enough staff who know foreign languages. Fore this reason, the training of the seaport staff is needed not only for the region but also for the extraterritorial areas.

### 3 Justification

Samsun Seaport has been operated by TCDD. Although the transfer of the operating rights of the public managements and the privatisation of harbour management are in the agenda, it has not been implemented as yet. The harbour equipment has to be renovated, the infrastructure has to be strengthened, the replacement of worn-out equipment have to be implemented and the staff who will operate these equipments and device, have to be trained. As a matter of fact the investment in humans will give results sooner or later, providing the harbour management, computer utilization and foreign language trainings to the staff will ease the integration of the region with the outside world. The non-existence of adequate number of staff who know foreign languages in the seaport causes problems in the management. Samsun has an important function by virtue of its being the only port of the region to the outside world by its railway connection. It is predicted that the loading and unloading capacity which is 2,38 million tons in 2005, will be increased to 6,1 million tons in 2023. It is obvious that developing the human capacity is necessary in order to operate this load capacity effectively.

#### 3.1 Activities Previously Carried out on This Subject

There are 386 people working in the Samsun Seaport consisting of 105 clerks, 236 permanent and 45 temporary workers, as of September 2006. Six of these clerks are working as managers, 26 of

them working on harbour management works, 40 on security and protection works and 31 on administrative works. 67 of the 236 permanent workers are employed on loading and unloading works, 46 as operator and vehicle drivers, 45 as seaman and the 78 in the workshop units. The temporary staff are employed according to requirements and they are discharged after the work is completed. TCDD which is responsible for the harbour management is applying short period training programmes according to the necessity by implementing annual training programmes. Although these training in question are implemented regularly, they are not sufficient. There is a necessity to increase the training studies in order to monitor the technological developments and the staff can provide services at a specific level.

#### 3.2 Identification of Requirements and Problems

- Vocational training (providing training on the subject of harbour management theoretically and practically),
- Implementing applied training about the utilization of the renovated equipment in the seaport,
- Implementing trainings about increasing the productivity and cost reduction in the harbour management,
- Implementing a total "Quality Management System – QMS" trainings (in this scope; the trainings prescribed in QMS as being team leader in project management, crisis management, customer management, resource management, product and process development have to be given),
- Staff and business administration (for managers),
- Foreign language training based on long term practical speaking for educating the international main languages,
- Computer training,
- Training about the exchange and customs legislations of the foreign countries,
- Motivation training has to be given.

**3.3 Definition of the Target Group and Its Estimated Number**

There are 341 people are working in Samsun Seaport. Every year, the 2-3 day for 2-3 weeks in-service trainings have to be given to the 25 percent of the staff due to the specification of the work. Theoretical and applied training for 6-12 months about harbour management have to be given to the key staff who are not included this group.

**3.4 Preference for Selection Among Alternative Solutions**

Samsun seaport is one of the important ports opening to the Black Sea for the region, neighbour cities and Central Anatolia. Any kinds of goods can be transported due to the railway and highway connections of the seaport. In the recent years, Trabzon Seaport which has been privatized, becomes a rival to Samsun and has magnetized most of the load traffic. More freight and passengers can be transported by the improvements in the management of Samsun Seaport which has a better location than Trabzon. Especially the scheduled services which will be realized by sea buses or similar vehicles between the other countries' cities in the Black Sea shore will make Samsun Seaport important, the number of tourists will be increased and an economic revival will be seen in the region.

**3.5 Basic Assumptions**

- The freight and passenger traffic will continue to increase in Samsun Seaport.
- The worn-out cranes and other equipments in the seaport will be renovated,

the seaport will be equipped with modern equipment,

- The training which the managers and seaport staff need, will be given theoretically and practically, and the lack of training will be eliminated,
- Printed and visual training materials for the training of seaport staff will be provided, handbooks will be provided,
- Support will be provided from the universities on the subjects needed for the training, modern managing techniques will be provided to the staff, theoretically and practically,
- The operating models applied in the world seaports will be studied and an appropriate model will be developed for Samsun Seaport.

**4 Activities**

**4.1 Main Activities**

- The domestic and abroad training will be provided to the seaport staff according to their positions and duties.
- The training of the staff will be implemented theoretically and practically.
- The relations between the seaport management and private sector companies will be promoted; the management services will be improved in accordance with the customer demands.
- Printed and visual training materials and manuals will be prepared.

**5 Project Duration and Plan of Activities**

The project will be executed between the years 2006-2011. The theoretical and practical lack of training of the seaport staff will be overcome in five years, the experience of the staff on the subjects of modern harbour management will be ensured.

Activity	Years					Application Unit
	1	2	3	4	5	
Trainings of the instructors	√	√			√	TCDD, DHL, DM
Trainings of the staff	√	√	√	√	√	TCDD, DHL, DM
Collaboration with university	√	√	√	√	√	TCDD
Collaboration with private sector		√	√	√	√	TCDD, DHL, DM

### **6 Institutional Framework and Operating Model**

The project of training the staff in Samsun Seaport will be implemented by TCDD which is responsible for the management of the harbour. It will be beneficial to obtain the demands of the private sector companies, in other words the customers, which provide services of loading and unloading in the harbour when preparing the content of the training programmes. And also it will be beneficial to select the instructors from these companies in the framework of the collaboration with these companies.

### **7 Expected Results**

#### **7.1 Impact Expected on the Target Groups**

The qualifications of the staff will be increased with the trainings of seaport staff; there will be an improvement in the management services. The productivity of the staff who are well educated and know their duties, their and customers satisfaction will be increased, there will be a rise in the number of companies which are providing loading and unloading services and in the amount of load handled annually.

#### **7.2 Concrete Outputs**

It is rather hard to measure and evaluate the concrete outputs in which the investments implemented due to developing the human resources. But the improvement in the services quality, increase in the annual amount of loads handled and the rise in the work productivity are the concrete outputs. Also the increasing dialog with foreign countries, the time gained in transportation of freight and passengers and the savings implemented; decrease in the unit loading and unloading costs can be counted as concrete outputs of the project. The working of the well educated and appropriate staff with the perception of eminent service will increase the effectiveness of the harbour services.

### **7.3 Sustainability**

There will be a rise in the freight and passenger traffic with the improvement in the harbour management, the annual income of the establishment will be increased and the staff will be more satisfied. There will be a positive development in the region economy with the increase in exportation implemented from the region and the transportation periods of importing goods to their destinations will become shorter. The improvement in the service quality and the increase in the annual amount of loading and unloading will provide the sustainability of the system.

### **8 Budget Breakdown and Estimated Costs**

The resource needed for the training project of Samsun seaport staff is 3 million YTL in 5 years period. This resource in question will be used in the domestic and abroad training of the technical staff, theoretical and practical training of the auxiliary staff and preparing training materials and handbooks. Also foreign language trainings which have international acceptance will be provided to the selected staff at home or abroad within the period varying between 6 months and one year. A plan has to be realized for the trainings of the languages especially such as English, Russian, Chinese, German, Japanese and Arabic and the other neighbourhood countries in location and these training have to be given in foreign language schools of selected countries as full time. The lack of foreign language education has to be overcome by implementing the course programmes in Saturday and Sunday which do not affect the services, in order to train the staff working. These instructors which will be assigned in these courses have to be recruited domestically or from abroad.

## PROJECT 3.1.1.9: ESTABLISH SHIP CONSTRUCTION INDUSTRY IN SAMSUN PROVINCE

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.1 Make use of agglomeration economies and externalities at regional and urban scale
Relevant measure	: 3.1.1 Develop OIZ, SIE and specialized industrial zones at the first- and second-degree agglomeration centers

### 1 General Information about the Project

1.1 Project heading	: Establish ship construction industry in Samsun province
1.2 Project location	: Tekkeköy district of Samsun
1.3 Sector	: Industry
1.4 Project objective	: Developing naval architecture, renovation of vessel fleet of Turkey, countervailing the needs of foreign countries
1.5 Project Owner	: Undersecretariat for Maritime Affairs
1.6 Estimated duration	: 10 years
1.7 Total Estimated budget	: 500 million YTL

## 2 Objectives

### 2.1 Overall objective

- Developing the naval architectural industry and building necessary vessels for the naval transportation in Samsun dockyards.
- Taking share from the world naval architectural industry.
- Strengthening the Turkish naval fleet and taking more shares from world naval transportation.
- Rejuvenating the transportation fleet and haul freights to EU seaports with new vessels.
- Taking benefits from the technological innovations in the world, manufacturing some of the imported machinery and equipment autochthonously.
- Contributing the employment.

### 2.2 Relationship to the plan decisions of a national scale

In the 9<sup>th</sup> Development Plan, it is stated that “With the purpose of designing and manufacturing military and commercial vessels in Turkish shipyards

with high domestic contribution and renewing the Turkish Maritime Fleet, new shipyards will be established primarily in the Ceyhan region based on the Turkish Shipyards Master Plan”. Within this scope, the entrepreneurship are accelerated which are sustained in order to establish new shipyards in the seashore of the Black Sea. Samsun shipyard is one of the planned shipyards and found competitive with the national scaled plans.

### 2.3 Position in the Regional Development Strategy

The region is under-developed because of the non-existence of the big shipyards in the seashore of Black Sea and the region has dependent on the agricultural products such as hazelnut, tea and corn. The naval architectural sector is activating many subsectors, provide acceleration in the industrialization and create employment due to its labour intensive feature. On this account, the industrialization and employment opportunities will be increased by allocating the appropriate areas to the private sectors which are willing to build vessels. The industrial entities which are producing machinery parts in the midlands of the region



designing and lay on the stocks according to the demand. In the near future, there will be a requirement for newer vessels in order to rejuvenate the world marine merchandise fleets. On this account, the development will be seen in many subsectors in the region by constructing various kinds and size of the vessels in Samsun Tekkeköy Shipyard.

The thought of establishing a shipyard in Samsun has been discussed for long years but the progress has been implemented in the last few years. A 1 000 decares area has been selected from TİGEM land in Tekkeköy and allocated to the Undersecretariat for Maritime Affairs in 1999 for establishing a shipyard in Samsun. The area in question is in the east of the carbon and nitrogen facilities parallel to the shore (Figure 2.3). The canal of Çoban riverbed is on its west, the canal of Orta Köprü is on its east and the shipyard is in between these two canals. The Black Sea Agricultural Research Institute is on its south and the land of General Directorate of Erosion Control and Forestation is on its north. The area is rather flat and suitable for constructing a shipyard.

The 1/1 000 scale zone plans of the area which is within the limits of the Tekkeköy Municipality, have been prepared by the Undersecretariat for Maritime Affairs and the prepared zone plan has been approved by Tekkeköy Municipality in 2004. Naval construction industry of 50 000 – 170 000 tons capacity is planned to be constructed on four big and one small plots of the shipyard area which has a 1 000 meter sea front.

Three of the plots in question have been given out by contract in 2004 to the companies which are planning to construct a shipyard. But three of these companies have been nullified their allocations in 2005 by claiming that the existing forest area of 280 decares will cause technical, legal and financial problems. These companies took these decisions due to the fact that they could not solve these problems with the forest administration.

An area of 191 505 m<sup>2</sup> has been allocated to a private company which is willing to invest in this field 191 million USD. When the planned naval architectural industry commenced its operation in full capacity, 3 138 people will be employed. The related company has been implementing the quarrying activities, Environmental Impact Assessment (EIA) report and investigation of ground conditions. The company in question has been undertaken to implement the following conditions.

Naval architectural capacity	: 750 000 DWT/year
Steel processing capacity	: 300 000 ton/year
Maintenance service capacity	: 2 500 000 DWT/year
The biggest vessel tonnage which will be constructed	: 225 000 DWT/year
Annual employment	: 3 138 people

The private company which is planning to establish a naval architectural industry and sustaining its activities, has planned to complete its undertaken investments in 48 months.

There is a need for rapid, small and middle tonnage vessels in order to sell the agricultural and industrial products produced in the region to the foreign markets with low costs. New vessels are necessary to increase the exportation of the region by utilizing the river routes such as Danube and Volga. The farmers of the region will gain more incomes by processing and marketing the vegetables in greenhouses in the region in the times the north countries are under heavy winter conditions.

Most of the shipyards in the world are not taking orders for the next five years. The marine transportation which is the cheapest transportation system, is increasing every day. The 95 percent of the goods transported in the world are transported by sea.

The vessels which are older than 15 years would not enter the territorial waters of EU countries in the near future. Consequently, Turkish naval architectural industry has to transport more goods

to EU seaports by building new vessels and sell vessels to the demanding companies. The market of vessel architectural industry is an open market and it is assumed that this market will precisely increase in the future.

Multi purpose utilization has to be aimed by determining the types of vessel to be built when the shipyard is establishing. The demand on the petroleum tankers, product tankers, bulk freight vessels, gas tankers, container vessels and car ferries in the world have to be taken into consideration. These types of vessels will play an important role in increasing our country's share from the marine transportation.

### 3.2 Identification of Requirements and Problems

The project design work for the breakwater construction which will be one of the important infrastructures needed in Samsun Tekkeköy for naval architectural industry, has been taken into investment programme of 2006. The project preparation work for the breakwater which is planned to eliminate the wave action of the sea, will be tendered by DLH to an engineering company in the near future (2006). After the project has been prepared, the quantity surveys for the works which have to be implemented in the sea and the land, estimated costs and application time table will be determined.

The concrete structures, rock fillings, sea bottom dredging and deepening works which are necessary for breakwater construction will be implemented according to the project. The details and the size of the works to be transacted are not known since the breakwater project has not been ready as yet and sufficient studies and investigations have not been implemented in the area. A series of activities are needed in order to realize the full capacity utilization of the shipyard project which is planning to be established. In the scope of the activities:

- An EIA Report for the whole area has to be prepared and applied. Every company which will invest in the area, have their EIA reports made. This condition causes loss of time, many EIA reports have to be prepared for the same area. A single EIA have to be sufficient and the Undersecretariat for Maritime Affairs has to undertake this duty in order to gain time.
- The breakwater and wave breaker project which are taken into 2006 study and project production programme in order to reduce or eliminate the sea action, have to be implemented, drilling, sounding measurements and feasibility studies which are planned to be done in the scope of the project, have to be completed by the end of 2006.
- According to the projections made in the project which will be prepared for construction of the breakwater, concrete works, sea fillings, sea bottom dredging and the deepening works, if necessary, have to be implemented.
- The filing works have to be implemented which are projected in the prepared project in order to provide space from the sea.
- The depth of the land is determined as 900 meters. The utilization plans of this area have to be prepared based on the long term needs. When this work is implemented, the possibility of increasing the capacity by several times has to be taken into consideration regarding the necessities in the future.
- Area allocations have to be implemented and long term rental contracts have to be prepared for the companies who are willing to construct vessels.
- The legal problems which eliminate the annulment reasons of the companies which are abrogated their contracts by propounding the problems arose with the Forest Administration, have to be eliminated by the Undersecretariat for Maritime Affairs. The establishing of the naval architectural facilities will be delayed or will not be possible unless this subject is solved.
- Infrastructure and superstructure projects have to be prepared according to the needs in future and the facilities have to be completed.
- The management plans for solid and liquid wastes have to be prepared and applied in



order to prevent environmental pollution.

- The distribution rates in solid and liquid waste management expenditures of the ship building companies have to be determined.
- The ship building zone must be determined in the status of free trade zone.
- The necessary presentation has to be implemented by DA in order to provide the investments of foreign companies or joint production with Turkish Companies.
- Promotions have to be given for the development of naval architectural industry in the Black Sea region.
- Vocational academy must be opened within the scope of ÖMÜ according to vocational high school and the necessity in the future in order to overcome the necessity of qualified staff.

The naval architectural industry has a need of more than 500 subsectors, industrial prime and intermediate goods. Consequently, the naval architectural industry will make a positive contribution to the development of industrial establishments of Samsun, Çorum, Tokat, Amasya cities and Merzifon district. The machinery production industry which has been settled in the region, will be developed through this and make further contribution to the regional economy.

### **3.3 Definition of the Target Group and Its Estimated Number**

The number of companies which will request for an area for building vessels in Samsun naval architectural industry is four at the moment. The naval architectural industry will activate many subsectors and supplier industries, the direct and indirect employment of approximately 10 000 people can be provided when all the investments are completed. This investment is a belated investment the area for which was selected and allocated in 1999. Implementing a shipyard investment and the utilization of these naval architectural facilities in full capacity will have a great contribution to the development of the region.

### **3.4 Preference for Selection Among Alternative Solutions**

Samsun naval architectural industry requires the activities of many sectors and subsectors so this will make a positive contribution to the city and its neighbour cities. In this field which has not seen any activity till 1999, establishing a naval construction industry has been requested by the public of Samsun province, the management of municipality and public administration managers. The people who are interested in this subject are requesting the area be in operating and overcome the infrastructure insufficiencies. An appropriate area has been selected for Samsun shipyard. The existence of railway and highway connections, seaport opportunities and airway transportation is providing an advantage to the area in question. Samsun has to develop the naval construction and marine transportation proper to its location while sustaining its development as a metropolitan city.

### **3.5 Basic Assumptions**

- The industrialists will show interest in the allocated area for naval architectural industry.
- The infrastructure which will be implemented by public administration and breakwater construction will be completed on time.
- The relations between the industrialists and universities will be strengthened, the accumulation of knowledge will be benefited.
- Public administrations and institutions will provide the necessary supports.
- The necessary controls will be implemented during the naval architecture, the products will be manufactured in international standards.
- The supply industry will be developed and new industrial clusters will develop in the region.

**4 Activities**

**4.1 Main Activities**

In order to activate the project, there is a need for a series of studies which are;

- An EIA Report for the whole area has to be prepared and applied by the Undersecretariat for Maritime Affairs.
- The legal problems with the Forest administration have to be solved.
- Naval architectural industry layout plan and project have to be prepared by an expert company.
- Area allocations have to be done for the companies which are willing to construct vessels.
- Dredging and deepening studies have to be implemented according to the projections done in the prepared project.
- The breakwater and wave breaker facilities have to be constructed as soon as possible (1-2 years in order to reduce or eliminate the wave action).
- Sea filling and deepening works have to be implemented according to the prepared project in order to provide space from the sea.
- The depth of the land is determined as 900 meters. The utilization plans of this area have to be prepared based on the long term needs.
- Area allocations have to be implemented and long term rental contracts have to be prepared for the companies who are willing to construct vessels
- The infrastructure works have to be done according to the design.
- The management plans for solid and liquid wastes have to be prepared and applied in

order to prevent environmental pollution.

- The distribution rates in solid and liquid waste management expenditures of the naval architectural companies have to be determined.
- The naval construction zone must be determined in the status of free trade zone.
- The necessary presentation and promotions have to be implemented in order to provide the investments of foreign companies or joint production with Turkish companies.

**5 Project Duration and Plan of Activities**

The project will be applied between the years 2006-2015. In the project first of all the infrastructure investments and breakwater construction will be completed. The buildings and some of the service roads will be built by the companies which will carry out the naval architectural works.

**6 Institutional Framework and Operating Model**

The project is executed by the Undersecretariat for Maritime Affairs and DLH. Undersecretariat for Maritime Affairs is the owner and the executive party for the work. The undersecretariat is collaborating with the related public administrations and institutions when needed. Preparation of breakwater construction project and application of this project will be executed by DLH.

Necessary activities will be carried out by related private sector company after the area has been allocated to the successful bidder companies. Currently the most important problem for the naval

Activity	Years										Application Unit	
	1	2	3	4	5	6	7	8	9	10		
EIA report		√	√									DM
Allocation of areas	√	√										DM
Preparing breakwater project	√	√										DHL
Construction of breakwater		√	√	√								DHL
Developing supplier industry			√	√	√	√	√	√	√	√	√	Private sector companies

architectural industry is the legal status of the 280 decare forest area which is in the allocated area. This condition has to be solved as soon as possible by holding meetings with Ministry of Environment and Forestry and related institutions.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

The project design works of Samsun Tekkeköy Shipyard can be completed earliest in 2008 with a rapid activity. One of the most preferential subjects is providing the finance. After the completion of breakwater construction project which will be the main structure of the shipyard project the quantity surveys and the estimated costs are determined, measures have to be taken in order to complete the breakwater construction in 1-2 years and necessary resource allocation has to be achieved. When the construction of breakwater is completed and the legal problems with the forest administration are solved, naval industrialists will promptly make the necessary investment.

### **7.2 Concrete Outputs**

The construction works of Samsun Shipyard have to be accelerated. When the shipyard is established, this investment will make a great contribution to the development of the province of Samsun and the region. New employment areas will be created in the region by the shipyard, the regional industries will manufacture most of the necessary equipment.

The construction works of Samsun Shipyard have to be accelerated. Establishing the shipyard and naval architectural industry will make a positive contribution to both the regional and national economy as Samsun is the only port of TR83 Region to the outside world. New employment areas will be created in the region by constructing the shipyard, the regional industries will manufacture most of

the necessary equipment.

The existing industrial establishments in Samsun, Çorum, Tokat and Merzifon have the capacity and knowledge accumulation to manufacture the necessary intermediate products.

### **7.3 Sustainability**

The sustainability of Samsun shipyard project depends on the implementation of the investments by public administrations instantly and taking new vessel orders by the private sector and delivering them in desired standards on time. The conditions of the world shipyards which are not taking new vessel orders in the next five years and the increasing demand on the new vessels have to be considered as signs for the sustainability of the project. Besides it is known that there is a huge demand for constructing yachts in our country in recent years and there are difficulties in taking order because of the insufficient capacity.

## **8 Budget Breakdown and Estimated Costs**

The real cost of the project could not be predicted because the size of the necessary facility to implement the project could not be determined. But according to the expenditures made for similar facilities and the estimations of the experts, an approximate cost projection can be made.

The estimated cost of the project will become clear after the detailed investigation, research and quantity surveys and estimated costs for breakwater construction have been determined. The cost will become clear according to the works which will be implemented by public administration and private sector and the types and capacities of the constructed vessels.

The most of infrastructure and superstructure investments of the naval architectural industry to be established in Samsun Tekkeköy, will be implemented by public administrations according

to the project. The facility which requires the most allowance is the construction of breakwater. The construction costs of the other facilities will be less than that of the breakwater.

The estimated cost of the project will become clear after the detailed investigation and the research have been completed. But the costs will gain plainness according to the works which will be carried out by public administration and private sector and the types and capacities of the vessels constructed. The estimated cost for sea bottom dredging, deepening works, sea filling, infrastructure and superstructure and naval construction dock is 500 million YTL. As an example, the necessary resources for constructing the seaport facilities in İzmir Çandarlı are estimated as 445 million YTL. In this value, the works are estimated as: the breakwater 115 million YTL, the waterfront 35 million YTL, facility and machinery 125 million YTL, superstructure 30 million YTL, logistics 10 million YTL, highway transportation 130 million YTL.

The necessary facilities will be constructed and maintained by naval construction companies in the allocated areas in line with the specification of the works and the types of the vessels.

The investments to be made by public and private sectors and the sources that may provide them are given below:

- Allowances from general budget
- Private sector investments with build-operate model
- Investments made by companies in the areas allocated to private sector
- Partnerships with foreign and Turkish companies
- EU funds
- Financial resources of banks, leasing, factoring etc.

## PROJECT 3.1.1.5: COMPLETE THE WORKS FOR THE SPECIALIZED FOOD OIZ WHOSE LOCATION HAS BEEN CHOSEN IN THE CENTER OF SAMSUN

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.1 Make use of agglomeration economies and externalities at regional and urban scale
Relevant measure	: 3.1.1 Develop OIZ, SIE and specialized industrial zones at the first- and second-degree agglomeration centers

<b>1 General Information about the Project</b>	
1.1 Project heading	: Complete the works for the specialized food OIZ whose location has been chosen in the center of Samsun
1.2 Project location	: Samsun
1.3 Sector	: Industry
1.4 Project objective	: Bringing food producers together, by making use of intensive economies and externalities increasing food production and external sales
1.5 Project Owner	: Ministry of Industry and Commerce
1.6 Estimated duration	: 10 years
1.7 Total Estimated budget	: 120 million YTL

## 2 Objectives

### 2.1 Overall Objective

- Providing food safety and healthy nutrition by processing food,
- Assembling the food producers, being specialized and providing clustering,
- Activating food control and certification services, providing implementation of EU norms,
- Strengthening links between agricultural producers and industrialists, developing contractual farming,
- Reducing unit production costs in food products, increasing competitiveness,
- Developing technology of food products, increasing R&D activities,
- Developing equipment and machinery which will be used in food production.

### 2.2 Relationship with the Plan Decisions of National Scale

Bringing enterprises together will help reducing infrastructure and production costs at the same time will help improving the capacities of companies' learning from each other and cooperation. In the Medium-Term Plan within the framework of sectoral politics, establishing enterprises on specified industrial zones and moving the present ones on those zones is supported (DPT, 2006-1:1).

In the 9<sup>th</sup> Development Plan it is stated that, "In order to increase the competitiveness of economy and to get more share of world export, increasing the production of goods with high added values is the fundamental aim," and the forecast "It is aimed that the production industry becomes a fundamental sector which pulls economical growth within an externally focused view" is given. By improving the food production industry, added value will be put on agricultural products, transportation costs of products will decrease, their shelf-life will increase and becoming a brand will be easier.

### 2.3 Position in the Regional Development Strategy

Food processing facilities are needed to evaluate and to supplement the goods produced in the province of Samsun and the region in general with added value. There are no sufficient facilities in number or capacity for processing food as deep freezing, canning, drying, processing with sugar, preparing pickles, making powder other than fruit juice, flour, feed and a few facilities with small capacities. By increasing the number and capacities of those mentioned facilities and by building new facilities, price stability in agricultural products will be provided, contracted agriculture will improve and quality and standards of products will increase.

### 3 Justification

It is expected that intensification of production and service units in the region at specific centers, by drawing population and capital will create an important improvement acceleration. Such intensive production and service sectors in these settlements are expected to link rural and provincial settlements to each other as well as to those important nodal points as nets and they are similarly expected to increase cooperation based on specialization among those centres.

Gathering industry and specialized services in specific points, is believed to provide the more effective and productive use of present resources, and the balance in distribution of the uses of the settlements on the location. However, it should be considered that this functional distribution would be different from the traditional hierarchical structure; by means of transportation and information technologies which are developed and aimed to be developed in the region, types of relation between different measures will also change. In other words, the obligation of the relation between the local and the region or national and international measures which is set with an upper measure in a

hierarchical structure becomes non-effective; it is considered that there would be an organizational structure where direct relations could be set between different scales.

OIZ, SIE, specialized OIZ areas to be set in these settlements, companies using common infrastructure and services and by sharing loads which they cannot overcome by themselves while giving way to produce in a more competitive structure at the same time provides benefits in protecting the environment. Establishments prefer settling close to cities because of the easy access to specialized mediator service companies and being close to labour pools having different features, easy access to technology and market information and using the infrastructure in common. Establishments benefiting from the externalities provided by this closeness will reduce production costs and increase productivity; therefore, support to gather establishments in OIZ, SIE and specialized OIZ's is among the most strategic precautions.

Food OIZ will create jobs, will provide worth and added value on agricultural products. Increasing the external sales of processed food will contribute to the development of the city and increase in economical dynamics.

#### 3.1 Activities Previously Carried out on this Subject

Food OIZ in Samsun will be set up in the location of Selyeri around Tekkeköy. The location chosen is about 10kms away from Samsun city center. As the place chosen is close to Tekkeköy industry facilities and Food Wholesales Site, this will make it easier to integrate with the present industry facilities and food wholesalers.

Preparation of the environmental effect report and the environmental impact assessment (EIA) report for the chosen area based of Food OIZ is being continued. Settlement plan, projects of the buildings, quantities and measures concerning

the area should be prepared. These studies will be continued when the geological study report is completed and when the parameters showing the ground features are in hand.

### **3.2 Identification of Requirements and Problems**

Samsun is a province which is on the Black Sea coast and provides the connection of the region between the sea-route and the outer world. The province of Samsun and other cities in the region produce an important part in Turkey's agricultural production. The region is third in field products with 5 million tons of production according to the year 2002 data, fourth in vegetable production with 2 million tons of production and thirteenth in fruit production with 312 000 tons of production among Nomenclature of Units for Territorial Statistics (NUTS) Level 2 areas. In the province of Samsun, 1,25 million tons of farming plants (25 percent of regional production), 1,3 million tons of vegetable (65 percent of the region), and 120 000 tons of fruit (38 percent of the region) are produced. Those mentioned values show that the province of Samsun has an important place in agricultural products production in the region.

Processing and storage capacity for agricultural products in the region is not at the desired level. The scale of some products which are appropriate to process and the measure of those products which are processed are given below.

As shown in the table, for different reasons only a small part of agricultural products are processed by Agricultural Based Industry. A lot of facts such as subsistence, standard production not aiming at masses, being unrecorded or the so heavy burden of being recorded that it can't be carried, the standards of processed products being more than many consumers can afford and some products which are not suitable for processing and being seasonal in production affect the level of processing agricultural products.

Milk processing, in the region, is a significant sample for this: although about 10 percent bonus is given to the farmers who sell their products to recorded establishments, only 27 percent of the region's milk production, dairy farms included, is processed by the milk industry. Expected income increases in the region, food safety applications where the EU membership of Turkey will be pressured and as a result of reducing loads on recorded establishments in time, at least for milk and the like products, it can be expected that almost all of the increase can be processed.

Some of the dominant countries in European food market, such as Spain, France, Italy and Israel process almost all of the products they produce, export about 30-40 percent fresh or processed. In order to get to those values, the region should define a strategy and should improve its production on this route.

### **3.3 Definition of the Target Group and Its Estimated Number**

Of those 526 establishments in Samsun, 155 (29,6 percent) are dealing with food and beverage production, in those mentioned establishments, 2 433 people (19,6 percent of the people working for industry) are employed. In each of the mentioned establishments 15 people work in average, medium scaled establishments make up a great amount. Considering the agricultural potential of Samsun city, it is seen that these numbers are insufficient. Red paprika for grilling which is one of the vegetables grown in the plains of Bafra and Çarşamba is processed and sold externally in Gaziantep; artichoke is processed and sold externally in Çanakkale.

On the one hand an additional added value will be created in the agricultural products and on the other hand additional employment opportunities will be provided by processing the field crops and greengrocery products in the food OIZ which will be established in Samsun. The Food OIZ

will contribute to the development of contracted agriculture.

It is predicted that the number of industrial establishments dealing with food production will be multiplied 5-6 times; the number of employees will multiply 10-15 times in the next 20 years by constructing the Food OIZ. Although it differs according to the product type, at least 50 percent of the items produced will be processed. It is expected that many products which have not been processed and have not been in the customer's table can be processed and be exported.

### 3.4 Preference for Selection Among Alternative Solutions

Samsun Food OIZ will be a factor in the increase of the exportation from the city and the development of the city. It is not possible that any product which has not been processed and does not have any marks identifying the producer company, can find markets in the world markets. On this account, a Food OIZ has to be constructed in order to process and export the produced agricultural products.

**Table 2.6 Production of Regional Agricultural Products and the Capacity to Process Products, 2003**

Product name and group	Production (tons)	Processed product (tons)	Processed Product (percent)
Feed (corn)	194 831	160 170	82,2
Wheat-flour, pasta	1 307 360	994 891	76,0
Pulses	134 915	60 166	44,5
Meat (cattle, water buffalo, sheep, goat)	26 602	9 333	35,0
Milk (cow, sheep, goat, water buffalo)	448 581	120 615	26,9
Oil plants (soy)	21 978	3 061	13,9
Food storage (vegetable)	740 025	44 235	5,9
Oil seeds (sunflower)	60 883	3 061	5,0
Fruit juice (sour-cherries, peaches, apples, grapes)	218 862	6 090	2,9
Vegetable (okra, beans, cabbage, potato)	695 977	9 963	1,4
Tomato	865 348	11 892	1,3

Source: DİE (2004), Dolsar (2005)

Another advantage of Samsun is, "Samsun City Food Control Laboratory" has been accredited. Since any certificate given from this laboratory will be valid in the whole world, a firm collaboration is needed between the industrialists and the management of the laboratory.

Tuber vegetables (carrot, radish, root celeriac, turnip etc.) are not frozen and can easily be pulled out from the ground due to the fact that there are not extreme frost formations occurred in Bafra and Çarşamba plains which are in the Black Sea seashore of Samsun. These tuber vegetables and cabbage-like vegetables can be exported to northern countries which are under heavy climatic conditions and their lands are frozen in winter times. When the utilization of Danube river way and transportation by seaway are implemented, the advantage in transportation costs will provide an important superiority to Samsun and the region.

### 3.5 Basic Assumptions

- The industrialists will show interest and invest in processed food production,
- The contracted agriculture will be developed, the price stabilization in the agricultural products will be provided,
- The certification works will be implemented in Samsun, the costs will be reduced,
- The necessary trainings of the industrialist, farmers and the staff working in the food production will be given theoretically and practically,
- The relations between the industrialist and universities will be strengthened, more resources will be provided in R&D researches, and new products will be produced.
- The necessary controls will be implemented during the agricultural productions; the products will be produced in producible standards.
- The exportation of the processed food products will be possible by developing the cargo transportation.



## 4 Activities

### 4.1 Main Activities

The most important of the main activities are:

- Constructing Food OIZ,
- Allocation of areas,
- Organization of the producers, strengthening the relations between the producers and private sector companies, wide-spreading the contracted agriculture,
- Implementing the quality controls of the products and certification,
- Increasing the exportation.

## 5 Project Duration and Plan of Activities

The project will be applied between the years 2006-2023. The preparation of EIA report and investigations of ground conditions in the Tekkeköy area are in progress. The preparation of the projects which belong to the area and the construction works will be commenced in 2007 at earliest. The completion of the construction works, area allocations and work performance of the companies will be realized between the years 2008-2010.

## 6 Institutional Framework and Operating Model

In the establishment of Food OIZ, Special Provincial Administration of Samsun, Municipality of Samsun, related public administrations and institutions and

non-governmental organizations have to be in collaboration. The food producer companies of Samsun and the region have to be promoted to be in the established food OIZ. The OIZ which will be established according to existing laws and regulations will have its own management. The management will be in operation in the frame of the authorities given, implement the necessary activities and provide the coordination.

## 7 Expected Results

### 7.1 Impact Expected on the Target Groups

Samsun Food OIZ will cover an important necessity in the future. The establishing of food OIZ will provide the price permanency in the agricultural products and will make a contribution in the development of contracted agriculture. The accredited food control laboratories in Samsun and the established food OIZ have to be worked in collaboration. Implementing a close collaboration between these institutions will increase the efficiency in food control and auditing services. The food OIZ will create an employment opportunity and provide the development of regional agriculture and product types and classes.

### 7.2 Concrete Outputs

When 30-60 percent of the agricultural products of the total of 2,5 million tons which are produced

Activity	Years										Application Unit	
	1	2	3	4	5	6	7	8	9	10		
Preparation of OIZ project	√	√										Ministry of Industry and Trade, Management of OIZ
Construction of working places		√	√									Ministry of Industry and Trade, Management of OIZ
Allocation of areas		√	√									Management of OIZ
Trainings of industrialists, farmers and staff		√	√									Management of OIZ, Directorate of the Ministry of Agriculture
Implementing researches			√	√								Management of OIZ, OMÜ
Organization of farmers			√	√	√	√	√	√	√	√		Directorate of the Ministry of Agriculture, Management of OIZ
Production and certification			√	√	√	√	√	√	√	√		Private sector companies, Directorate of the Ministry of Agriculture
Processing, packaging and marketing			√	√	√	√	√	√	√	√		Private sector companies

in Samsun are processed, every year 1,0-1,5 million tons of products have to be processed. It is expected that the daily processing capacity has to vary between 2 500-4 000 tons in order to create this capacity.

### 7.3 Sustainability

The food processing will take shape according to the demand as long as the processed products are marketed at home and abroad market will reach the saturation point when the demand and supply are balanced. But in the future, the demand for processed products will be increased by the growth in population, the increase in the life standards, more emphasis given on the advertisement, the development in branding and the increase in exportation. The supply and demand have to be well balanced and the contracted production has to be directed according to the demand. Implementing collaboration among the management of Food OIZ, private sector companies and other related institutions will have an effect on the sustainability of the system.

## 8 Budget Breakdown and Estimated Costs

The size of the proposed area for Samsun Food OIZ is 45 hectares. After the studies on 1/1 000 scale map of the area, the utilization rates of the area are determined as follows. These values in question are in the outline of the draft plan which is prepared for Samsun Food OIZ. These values can be changed according to the necessities and demands during the project designing and application steps.

Existing water courses	: 46 500 m <sup>2</sup>
Roads	: 60 000 m <sup>2</sup>
Treatment facilities	: 8 000 m <sup>2</sup>
Social structure areas	: 10 000 m <sup>2</sup>
Environmental protection area	: 102 500 m <sup>2</sup>
Industrial plots	: 223 000 m <sup>2</sup>
Total	: 450 000 m <sup>2</sup>

In Samsun Food OIZ the agricultural products will

be processed. A study have been implemented for distributing the industrial plots of proposed 223 000 m<sup>2</sup> area in order to process the main products inside the food OIZ which will be established. Since the values in question are not yet concrete they are determined according to the first evaluations of the local administrators and there will be changes in the preparation and application steps of the project

Meat and meat products	: 45 000 m <sup>2</sup>
Milk and milk products	: 50 000 m <sup>2</sup>
Greengrocery processing	: 45 000 m <sup>2</sup>
Other	: 93 000 m <sup>2</sup>
Total	: 223 000 m <sup>2</sup>

It will be beneficial to evaluate the survey studies which are implemented with food producers and to determine the areas in question in the broadly attended meetings. With a study like this, actual requirements, size of the establishments and demands will be clarified and errors will be minimized.

The estimated resource needs for infrastructure investments in Samsun food OIZ are given below based on 2005 construction unit prices. These values show the estimated cost for each square meter which will be implemented. There may be changes in these values in the application step.

Transportation roads	: 2,67 YTL / m <sup>2</sup>
Road paving	: 1,62 YTL / m <sup>2</sup>
Electricity	: 1,38 YTL / m <sup>2</sup>
Potable and utilization water	: 1,22 YTL / m <sup>2</sup>
Sewerage	: 0,65 YTL / m <sup>2</sup>
Rainwater drainage	: 0,57 YTL / m <sup>2</sup>
Total	: 8,11 YTL / m <sup>2</sup>

The calculated infrastructure investment cost for an area of 45 hectares is estimated as 3 649 500 YTL. The land cost and wastewater price is not included to this value.

In the implemented calculation, the electricity need of whole area is:

45 hectares x 350 KVA/ha = 15 750 KVA in other words, 16 MVA

The potable water necessity is calculated as:

$$45 \text{ hectares} \times 0,40 \text{ lt/sec} = 18 \text{ lt/sec}$$

When the food processing facilities, administration buildings, social facilities and other facilities are thought as a whole in addition to the infrastructure, it is estimated that the public administration will invest 50 million YTL and the private sector will invest 70 million YTL in total of 120 million YTL. These facilities in question are expected to be completed in 10 years.



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TOKAT

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PREFEASIBILITIES

## PROJECT 1.1.1.9: DEVELOP CRS-HIGHER CENTER TRANSPORT NETWORK

Relevant strategic objective	: 1 Build an effective spatial organization
Relevant priority	: 1.1 Develop the regional infrastructure in line with the philosophy of an effective spatial organization
Relevant measure	: 1.1.1 Develop transportation infrastructure

### 1 General Information about the Project

1.1 Project heading	: Develop CRS-higher center transport network
1.2 Project location	: The project will be implemented between 28 central rural settlements and the closest 3 <sup>rd</sup> level centers (district center to central rural settlement roads which are in the status of village roads (Figure 4.1))
1.3 Sector	: The project is directly related to transportation-service-sector.
1.4 Project objective	: The project aims at improving the highway transportation net between central rural settlements and their upper centers to the 3 <sup>rd</sup> level road standards.
1.5 Project Owner	: Highway roads which will be provided for the use between CRSs and their upper regions are in the responsibility of village roads, Services Aiming at villages at Tokat Directorate of Province
1.6 Estimated duration	: Estimated time for realizing the project is 4 years.
1.7 Total Estimated budget	: Estimated budget for realizing the project is 34 million YTL.

## 2 Objectives

### 2.1 Overall Objective

The project aims at;

- Improving the highway transportation net between Central Rural settlements (CRS) and upper centers to 3<sup>rd</sup> level road standards,
- Providing improvements in CRS and upper center transportation by means of capital, time and travel safety,
- Making CRSs as centers of attraction for rural dwellers,
- Increasing economical relations between CRSs and provincial centers,
- Increasing life quality in rural areas.

### 2.2 Relationship to the Plan Decisions of a National Scale

Using public resources effectively, rationalization, increasing quality of life in rural areas are cohere with national plan decisions. Within the frame of public investments on improving infrastructure

services and protecting the environment in the mid-term development fundamental aims and the preference of activating these it is stated that significant rationalism work will be continued, in providing infrastructure services, public benefit and effectiveness ideals will be held as fundamental (DPT, 2003).

In the National Rural Development Strategy (NRDS), within the scope of rural area physical infrastructure services improvement and increasing quality of life strategic aim, with the aim of improving rural economy and increasing the quality of life in rural areas; aiming at,

- Improving infrastructure aiming at integrating rural economy with the market,
- Making the availability of services for establishments and rural population,
- Strengthening rural areas and settlements as healthy, liveable and sustainable environments,

the necessity to improve physical infrastructure and the effectiveness of the services to be provided, and the investments and services on these

areas should be considering individual and public health, sensitive for the rural environment and having high supply safety, through models seeing beneficiaries' participation, contribution and owning as fundamental, it is stated that realization will be provided (Yüksek Planlama Kurulu, 2006).

In the scope of priority for improving rural infrastructure aiming at this strategy, as of their status by giving priority to central settlements which have a potential to develop and to give services to settlement units around, it is stated that improving of these settlements' infrastructures be provided (Yüksek Planlama Kurulu, 2006)..

### 2.3 Position in the Regional Development Strategy

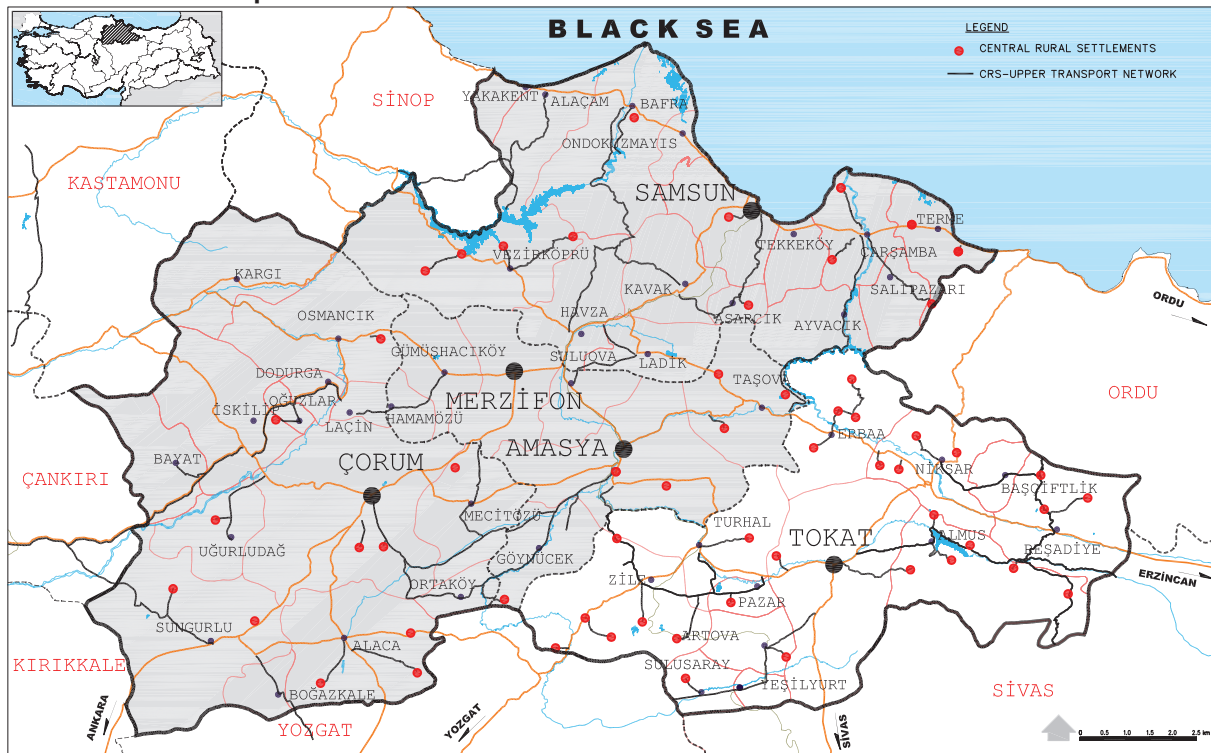
Rural settlements being multi-segmented, makes economical activities, fundamental social and technical infrastructure organization more difficult. This settlement design cannot provide enough

space for economical activities to emerge, create cost increasing and effectiveness reducing effect in providing basic infrastructure and bringing service. For this reason, the quality of life in rural settlements is quite low.

Increasing the quality of rural life by creating capacities which are not idle and making use of public resources effectively which requires bigger settlements of rural population ecologically by turning rural patterns into more rational structures. So, service of better quality will be provided to rural population in a more economical way.

In the pattern of settlement, the decrease in small settlements and gathering the population in seemingly bigger rural centers, it will be possible to provide services to rural population in better quality and uninterrupted, and in accordance with the population intensity, it will provide economical activities, which are not agricultural (but might be connected to agriculture).

Figure 2.4 Tokat Province Central Rural Settlements and Upper Central Transportation Network to be Improved



In changing settlements into coherent structures in the process of production-marketing benefiting from the mass and intensive economies of the region, and additionally, in providing access of the region to outer region markets, the regional transportation infrastructure should be improved to gain a role which supports and makes these relations easier.

### 3 Justification

57 Central Rural Settlements (CRS) are identified in order to encourage the transformation of rural settlement pattern into a rational structure. With this aim, rural settlements are evaluated regarding population measure, rate of increase in population, its geographic location, social and technical opportunities that it harbours (elementary school, village clinic, post-office, potable water and sewer infrastructure). Within this scope, in the analyze settlements which had more than 1 000 population in 2000 and which have a positive population increase during the last 20 years (settlements which have managed to develop within their own ecological balance and with no outside intervention) have been identified. By mapping these settlements, spatial allocations of these settlements are examined, settlements which have higher population – of the ones which are close to each other-, and socially and technically having more infrastructural facilities and which are easier to reach are identified as Central Rural Settlements (CRS). The list of CRS is given in Table 2.7.

According to the 2000 census Tokat province is the lowest rated city in terms of urbanization. 51, 5 percent of the city's population resides in rural settlements. Since settlements harbour small populations and since 28, 4 percent of the settlements in the city have more than one settlement a scattered structure of settlements arise. This structure creates and uneconomical condition. In the present condition, the increase in the rate of urbanization in Tokat where the rural characteristic is dominating is foreseen. According to the results

of population projections in 2023 31, 1 percent of the population of Tokat will continue living in the rural area. Of those 57 central rural settlements identified in order to encourage the transformation of rural settlement pattern into a rational structure 28 (49,1 percent) are in the province of Tokat. Therefore, preparing the pre-feasibility of “developing central rural settlements upper central transportation net project” for Tokat province is found appropriate.

CRS's becoming centers of attraction for the rural population is aimed. One of the conditions for that is to have a high standard road net, transportation infrastructure and system with which those CRSs are connected to upper centers. Within this scope, it is necessary to improve the access net between CRSs and upper centers as city roads with high standards.

#### 3.1 Activities Previously Carried out on This Subject

During the planned period in Turkey (after the 1960s), search for models to increase the quality of life in rural areas have varied, this problem has been tried to be solved by development models like central village, village-city. However, improvements related to development, planning and implementation have been limited (Yüksek Planlama Kurulu, 2006). In the province of Tokat there has been no study on this frame.

#### 3.2 Identification of Requirements and Problems

Besides basic technical and social infrastructural deficiencies in Tokat, economical activities are limited as well. In order to increase the quality of life in rural areas, shortage in infrastructure should be completed economically and in regards of economical activities should be joined to provincial centers. Therefore, gathering of rural population to specific centers should be encouraged and



the access relation of those centers with upper centers should be strengthened. Although in low standards, there are roads already, therefore, the present routes should be improved and the standards of the roads should be increased.

**3.3 Definition of the Target Group and Its Estimated Number**

The target group of the project is the rural population of Tokat. The measure of the target group is, 426 000 people by 2000 (51,5 percent of Tokat city population), 260 520 people by 2023 (31,1 percent of Tokat city population).

**3.4 Preference for Selection Among Alternative Solutions**

As stated above, due to the settlement pattern, there are uneconomical conditions in bringing service to rural areas. Throughout the period of the plan decrease in population is foreseen. Therefore, to increase the quality of life in the rural area, instead of improving the access infrastructure of and bringing service to all rural settlements, encouraging rural population to gather in specific centers and improving access net of those centers with higher centers is preferred.

**3.5 Basic Assumptions**

Housing should be provided to plan improvement aiming at making the CRSs as centers of attraction for rural population, completing insufficient social and technical infrastructure and for the ones who will immigrate to these CRSs. Centers becoming centers of attraction and strengthening the infrastructure of access which will strengthen the relations with upper centers are supporting actions.

**4 Activities**

**4.1 Main Activities**

- In order to revise the highway net between CRSs and upper centers and increasing the standards geometrically
  - o identifying platform and line widths,
  - o identifying lengthwise slopes,
  - o identifying horizontal road bend radiuses
- Revising present structures of art on the roads (bridge, aqueducts, tunnels etc.),
- Designing necessary improvements as superstructure,
- Implementing necessary improvements as superstructure.

**5 Project Duration and Plan of Activities**

**6 Institutional Framework and Operating Model**

The roads which will provide highway connection between CRSs and their upper regions are already under the control of provincial directorate of services aiming at villages. With laws of regulations to be issued these roads should be put under the scope of government and city roads net which are under the control of “General Directorate of Highways” or with the precondition that the administration stays the same, the roads on the identified parts gain a special status. Thus, necessary revisions and increasing road standards will be possible.

**7 Expected Results**

**7.1 Impact Expected on the Target**

The strengthening of the access net between CRSs and upper center; will provide joining of the centers to the city centers economically and socially, it will provide variety in economical activities

and presented services in CRSs and as a center of attraction it provide burst in population there. So, it will contribute to the increase in quality of life in the rural area.

**7.2 Concrete Outputs**

The concrete output of the project is the improvement which will be provided by means of capital, time and travel safety in transportation relations between CRSs and upper centers. However, changing the rural settlements pattern which consists of scattered and small settlements into a rational structure, increasing quality of life in CRSs are among the outputs of the project.

**7.3 Sustainability**

On the roads whose standards are increased into city roads standards, in order to sustain standards and capital, time and travel safety, repair and maintenance activities based on monitoring and evaluation, are quite important. Besides, in the scope of sustaining of the project outputs, sustainability of other projects related to this project are also quite important.

would cost approximately 175 000 YTL/km with the prices of the year 2006. In order to bring the village roads between CRSs and upper centers in Tokat province into city roads standards which have high standards, with the prices of 2006 approximately 34 million YTL resources are required.

Budget needed for building and repair-maintenance will be provided by the administrations to which the roads are attached. When the total length of government and city roads which are under the control of General Directorate of Highways, it can be said that the length of the mentioned roads are not too long rationally. In addition to this, although in low standards there are roads already that are instead of designing and constructing new roads the work will be improving and increasing the standards of present routes. Especially after the first investment, repair-maintenance costs will be realized with lower expenditures.

**8 Budget Breakdown and Estimated Costs**

The approximate length of to be provided high standard city highway access between CRSs and upper centers is 193,79 km. The cost of a typical road segment in these standards and conditions

YEŞİLİRMAK BASIN DEVELOPMENT PROJECT

Activity	Years				Application Unit
	1	2	3	4	
Defining needs to revise the highway net between CRSs and upper centers and increasing standards geometrically	√				Provincial Directorate for Rural Affairs of Tokat and KGM
Revising present structures of art (bridge, aquaduct, tunnel etc.) on present roads	√				Provincial Directorate for Rural Affairs of Tokat and KGM
Designing necessary improvements as superstructure	√				Provincial Directorate for Rural Affairs of Tokat and KGM
Applying necessary improvements as superstructure		√	√	√	Provincial Directorate for Rural Affairs of Tokat and KGM

Table 2.7 Central Rural Settlements

Province	District	Central Rural Settlement	Status	Population			Growth Rate of Population		
				1980	1990	2000	1980-1990	1990-2000	1980-2000
1 Amasya	Göynücek	Alan	Village	1 109	1 180	2 039	0,62	5,47	3,05
2 Amasya	Merkez	İpekköy	Village	693	1 199	2 268	5,48	6,37	5,93
3 Amasya	Merkez	Uygur	Subdistrict	2 020	2 017	2 069	-0,01	0,25	0,12
4 Amasya	Taşova	Akinoğlu	Subdistrict	2 745	2 758	3 350	0,05	1,94	1,00
5 Amasya	Taşova	Destek	Subdistrict	1 843	1 325	1 907	-3,30	3,64	0,17
6 Amasya	Taşova	Uluköy	Subdistrict	2 493	3 038	3 320	1,98	0,89	1,43
7 Çorum	Alaca	Büyükhırka	Subdistrict	1 676	1 765	2 479	0,52	3,40	1,96
8 Çorum	Alaca	Çopraşık	Subdistrict	1 009	945	1 770	-0,66	6,28	2,81
9 Çorum	Alaca	Gazipaşa	Village	999	1 041	1 700	0,41	4,90	2,66
10 Çorum	Alaca	Sarıçevre	Village	1 317	1 359	2 511	0,31	6,14	3,23
11 Çorum	Merkez	Abdalata	Village	952	910	932	-0,45	0,24	-0,11
12 Çorum	Merkez	Konaklı	Subdistrict	1 433	1 707	1 774	1,75	0,38	1,07
13 Çorum	Merkez	Sarayköy	Village	1 046	907	1 398	-1,43	4,33	1,45
14 Çorum	Oğuzlar	Cevizli	Village	-	496	838	-	5,24	-
15 Çorum	Osmancık	Çampınar	Village	1 664	1 525	2 257	-0,87	3,92	1,52
16 Çorum	Sungurlu	Arifegazili	Subdistrict	2 364	2 958	3 357	2,24	1,27	1,75
17 Çorum	Sungurlu	Yörüklü	Subdistrict	2 070	2 500	2 988	1,89	1,78	1,84
18 Çorum	Uğurludağ	Yeni yapar	Village	703	1 206	1 692	5,40	3,39	4,39
19 Samsun	Asarcık	Kılavuzlu	Village	1 001	1 183	1 420	1,67	1,83	1,75
20 Samsun	Çarşamba	Ağcagüney	Subdistrict	1 511	2 318	2 552	4,28	0,96	2,62
21 Samsun	Çarşamba	Hürriyet	Subdistrict	-	1 768	2 765	-	4,47	-
22 Samsun	Havza	Çiftlikköy	Subdistrict	998	1 122	1 286	1,17	1,36	1,27
23 Samsun	Merkez	Çatkaya	Subdistrict	865	908	959	0,49	0,55	0,52
24 Samsun	Terme	Ambartepe	Subdistrict	2 286	-	3 075	-	-	1,48
25 Samsun	Terme	Evcî	Subdistrict	3 576	3 810	4 906	0,63	2,53	1,58
26 Samsun	Terme	Söğütü	Subdistrict	1 475	2 022	2 036	3,15	0,07	1,61
27 Samsun	Vezirköprü	Göl	Subdistrict	1 659	2 801	3 627	5,24	2,58	3,91
28 Samsun	Vezirköprü	Narlısaray	Subdistrict	1 932	2 137	3 252	1,01	4,20	2,60
29 Samsun	Vezirköprü	Oymaağaç	Village	997	1 314	1 470	2,76	1,12	1,94
30 Tokat	Almus	Akarçay	Subdistrict	2 105	1 571	3 195	-2,93	7,10	2,09
31 Tokat	Almus	Ataköy	Subdistrict	-	1 512	2 581	-	5,35	-
32 Tokat	Almus	Bağtaş	Subdistrict	590	493	1 872	-1,80	13,34	5,77
33 Tokat	Almus	Cihet	Subdistrict	1 453	2 169	3 078	4,01	3,50	3,75
34 Tokat	Almus	Görümlü	Subdistrict	1 430	1 669	2 133	1,55	2,45	2,00
35 Tokat	Almus	Ormandibi	Subdistrict	1 978	2 564	3 693	2,59	3,65	3,12
36 Tokat	Artova	Çelikli	Subdistrict	1 685	2 004	2 751	1,73	3,17	2,45
37 Tokat	Erbaa	Gökcal	Subdistrict	3 287	3 494	4 910	0,61	3,40	2,01
38 Tokat	Erbaa	Karayaka	Subdistrict	4 035	4 191	4 484	0,38	0,68	0,53
39 Tokat	Erbaa	Koçak	Subdistrict	2 705	2 257	2 888	-1,81	2,47	0,33
40 Tokat	Erbaa	Üzümlü	Subdistrict	2 051	2 136	2 665	0,41	2,21	1,31
41 Tokat	Merkez	Güryıldız	Subdistrict	2 323	2 488	2 964	0,69	1,75	1,22
42 Tokat	Niksar	Ardıçlı	Subdistrict	493	395	1 172	-2,22	10,88	4,33
43 Tokat	Niksar	Gökçeli	Subdistrict	1 680	2 367	2 554	3,43	0,76	2,09
44 Tokat	Niksar	Gürçeşme	Subdistrict	1 809	1 978	3 026	0,89	4,25	2,57
45 Tokat	Niksar	Serenli	Subdistrict	1 307	897	2 540	-3,76	10,41	3,32
46 Tokat	Pazar	Üzümlen	Subdistrict	5 034	6 774	6 800	2,97	0,04	1,50
47 Tokat	Reşadiye	Bozçalı	Subdistrict	2 282	5 060	7 402	7,96	3,80	5,88
48 Tokat	Reşadiye	Hasanşeyh	Subdistrict	1 046	4 126	6 573	13,72	4,66	9,19
49 Tokat	Reşadiye	Yolüstü	Subdistrict	1 308	958	3 644	-3,11	13,36	5,12
50 Tokat	Sulusaray	Dutluca	Subdistrict	2 014	2 324	2 508	1,43	0,76	1,10
51 Tokat	Turhal	Yazıtepe	Subdistrict	2 003	2 217	2 563	1,02	1,45	1,23
52 Tokat	Zile	Acıpınar	Village	1 287	1 467	1 511	1,31	0,30	0,80
53 Tokat	Zile	Güzelbeyli	Subdistrict	1 813	3 487	3 891	6,54	1,10	3,82
54 Tokat	Zile	Kervansaray	Village	1 390	1 183	2 133	-1,61	5,89	2,14
55 Tokat	Zile	Reşadiye	Village	569	655	1 337	1,41	7,14	4,27
56 Tokat	Zile	Yalinyazı	Subdistrict	2 464	2 752	5 275	1,11	6,51	3,81
57 Tokat	Zile	Yıldıztepe	Subdistrict	1 830	3 597	4 114	6,76	1,34	4,05

**PROJECT 2.2.2.8: DEVELOP NEW PRODUCTS AND TECHNIQUES IN THE SUBJECTS OF TRADITIONAL WEARING AND PRINTING EXISTING IN THE REGION**

- **Local Producer Groups Establish Relationship with the Industrial Design Departments of (off-Region) Universities to Develop Wearing and Printing Products in Tokat**

Relevant strategic objective	: 2 Development of human resources and social structure
Relevant priority	: 2.2 Develop institutional mechanisms against poverty, unemployment and lack of security
Relevant measure	: 2.2.2 Increase employment and reduce unemployment ratio

**1 General Information about the Project**

1.1 Project heading	: Develop new products and techniques in the subjects of traditional wearing and printing existing in the region
1.2 Project location	: Tokat
1.3 Sector	: Small production, social service
1.4 Project objective	: To keep traditional products of Tokat alive, turning them into products which will be able to be marketed in the country and around the world, increasing employment and income
1.5 Project Owner	: Ministry of National Education, Ministry of Culture and Tourism, Tokat Chamber of Tradesmen and Craftsmen (TESOB), Governorship of Tokat, Municipality of Tokat, industrial design departments of universities, related NGOs
1.6 Estimated duration	: 17 years (2006-2023)
1.7 Total Estimated budget	: 6 million YTL

**2 Objectives**

**2.1 Overall Objective**

- Keeping alive local art and handicrafts,
- Research and improving of traditional art and handicrafts,
- Providing education in order to keep alive traditional art and handicrafts and to improve them,
- Improving the products functionally by making it possible for present use,
- Creating possibilities of sales within and outside the region,
- Supporting production aiming at export,
- Creating a brand in the world with successful designs and marketing techniques,

- Creating jobs by creating intense-labour areas of work,
- Increasing the level of income and reducing poverty,
- Contributing to the provincial tourism.

**2.2 Relationship to the Plan Decisions of a National Scale**

On the line of development related to improving economical strength of regions in PNDP, one of the precautions of preferences of supporting and strengthening SMEs is defined as: "in order to create and put into practice the idea of entrepreneurship, education included institutional support will be given". Another preference is to support local initiatives. One of the precautions related to

this is foreseen as: “Local initiatives will be supported in building new businesses or in improving present businesses. To reduce the risk of failure, education and guidance services will be given to entrepreneurs.” (DPT, 2003: 131-132).

Besides, in order to realize the preference of strengthening the relation between knowledge and production, support for the cooperation of universities with the regional institutions and industrial establishments and improving institutional capacities for R&D is required. This measure is focused on in the first development line of Preliminary National Development Plan (DPT, 2003: 102-103). In addition to that, within the sectoral politics regarding science and technology of the Medium Term Programme, universities cooperating with industrial institutions and other establishments and leading R&D activities according to the demand of the market is supported (DPT, 2005: 34)

The foresights of Preliminary National Development Plan and the Medium Term Programme about the tourism of Turkey are listed as; sustainable, increasing sectoral income with more tourists and increasing quality, in order to realize this condition training human resources required by the sector and facilities, research for product variations in tourism, support for preserving and certification activities and providing availability of those activities to potential masses through various channels (DPT, 2003 and DPT, 2005).

### **2.3 Position in the Regional Development Strategy**

When the high rate of poverty, unemployment and hidden unemployment rates in the region which are put forth in the present analysis of the condition then again within the light of the foresight of fundamental plan, when the population which will be separated from farming is considered, it becomes inevitable that the sectors to be improved should be sectors which provide employment as well. So, it is necessary to encourage and enliven

labour-intensive sectors besides industry requiring high technology. In this context, accelerating traditional art and handicrafts can be aimed. However, it is important that this kind of traditional art and handicraft be improved in such a way that they become functional for today's use. These kinds of products have the chance of becoming world brands by successful designs and marketing techniques. Therefore, local manufacturers making a connection with departments of industrial designs of universities out of the region and improving cooperation would increase the chance of these products to be improved, promoted in the world market and to find buyers. It is beneficial to consider this kind of effort in combination with the tourism sector in the region which is thought to be improved as well. Presenting traditional products as souvenirs to the local and foreign tourists, will contribute to present the features of the region and to improve tourism at the same time will create a lot of jobs for people in the region. From the regional development strategies point of view, especially in short and medium radius, in order to create employment to the population emigrating from rural areas to urban ones, labour-intensive production types are important. Besides keeping traditional products alive and transferring those to the future generations, the contribution of this project to the people of the region will be diverse.

## **3 Justification**

### **3.1 Activities Previously Carried out on This Subject**

Tokat is the province where agriculture and the population which deals with the sector of agriculture are at its most. When it is thought the population which will separate from farming in the city, it will be possible to keep migration within the region by creating some labour-intensive areas. In addition to that, it is still visible that hand-knitting, madder production and fabric-printing are arts and handicrafts exercised in Tokat. However, research should be done to turn those into more marketable

products with new designs and about the possibilities of sales both within the country and abroad as home textile, clothing and souvenirs.

It seems important to research traditional knitting and fabric-printing techniques, to bring the lost ones into daylight in Tokat. There is a possibility that this kind of effort provides employment and income to the inhabitants of the region. However, in order to reach this goal, these products should be turned into products which have high added values and by accelerating tourism they should be turned into products which can be sold to the tourists visiting the region and abroad. Practices on the subject are being made in lots of places in Turkey; for instance in Denizli-Buldan, by the contact of a foundation, as a result of working with various fashion designers, hand looms were produced and modernized and traditional knittery were produced by adapting them into today's taste, buyers could be found for the products inside the country and abroad.

Present universities in the region, in order to get the lecturers to provide creative solutions to the problems within their fields, support them in cooperating with local sectors (industry/agriculture/service) for implementing research/experiments and analyze and discuss the results and sharing them. In addition to that, it would also be beneficial to counsel and get service from economy and management departments of universities by getting into touch with them about devices for marketing, e-trade etc. Improving this cooperation will extend the capacities of universities to do experiments and get local knowledge, at the same time will provide bringing up the innovations and guidance needed for the production in the region. Additionally, about the subject of industrial design which is not sufficiently improved in the region, it seems appropriate to cooperate with universities outside the region in the short term. It is obvious that cooperation among industry, university-public is of crucially importance for this project. It is important to use the knowledge and experience

of public institutions like Ministry of National Education, Ministry of Culture and Tourism and Sümer Halı A.Ş. Besides there are foundations and organizations implementing research on and trying to keep alive traditional production; it will increase the success of the project to cooperate with those civic public organizations about research and education topics.

### **3.2 Identification of Requirements and Problems**

- Research on types of traditional natural madder, cloth-printing and knitting in Tokat,
- In cooperation with universities and NGOs detailed study of traditional production and defining problems in production,
- Developing new techniques in production,
- Study on market demands and determining products which will be produced with traditional techniques,
- Implementing studies on developing products with new designs,
- Implementing pilot applications with producing companies,
- Training and informing producing companies about marketing,
- Giving support for the marketing of products,
- Establishing cooperation between big companies and local manufacturers,
- Giving support to cooperatives founded by manufacturers,
- Giving education about entrepreneurship/ setting up businesses,
- Research on institutions providing micro-credit and other credits.

### **3.3 Definition of the Target Group and Its Estimated Number**

This project will be implemented by the cooperation of manufacturers of traditional madder, cloth-

printing and knitting in Tokat, research institutions in the region and the departments of industrial design of universities from outside the region. A significant rate of women knitting manufacturers will be within the target group. With the mediator-ship of TESOB manufacturers in Tokat will be con-tacted and a pilot application will be started with interested manufacturers.

### **3.4 Preference for Selection Among Alternative Solutions**

This project is aiming at enlivening and already present potential and by adapting into today's needs turning it into a source bringing income. Thus, it becomes prominent as being easy to achieve in the short term and an important project for its results. Other than its contribution to the tour-ism sector which is expected to accelerate, with its labour-intensive feature it provides possibilities of employment and income. It is expected that the good sample outputs by the implementation of this project will be a model for the society and interest for this area will increase.

### **3.5 Basic Assumptions**

- Tokat will be one of the intense migration city centers because of the population separating from agriculture,
- New comers will have problems in adapt-ing to the city, developing appropriate skills for the job possibilities in the city and in finding jobs,
- If the products manufactured tradition-ally in Tokat are supported with suitable designs, they will find buyers within the country and abroad.
- Cooperation will be made with public in-stitutions implementing research on the subject and NGOs.
- This improvement will be beneficial for the promotion of city and regional tourism potential.
- This project will be supported by services like long term and micro-credits
- Education about entrepreneurship and

setting up businesses will be provided.

- Manufacturers will be educated about marketing.
- Cooperatives and unions established by the manufacturers will be supported.
- It is thought that big companies in the country will cooperate in buying products and using them in their creations with lo-cal manufacturers.
- Variations of products will be possible ac-cording to demand.

## **4 Activities**

### **4.1 Main Activities**

- Implementing research on types of tradi-tional natural madder, cloth-printing and knitting in Tokat in cooperation with uni-versities and related NGOs.
- Examining traditional production and de-fining problems,
- Developing new techniques in production,
- Study on market demand and determin-ing of products to be manufactured with traditional techniques,
- Product improvements to be done with new designs,
- Implementing pilot applications with pro-duction companies and giving education,
- Training educators about production and marketing,
- Giving support for marketing products and preparing areas to sell products in the city,
- Using materials like brochures and CDs for promotion,
- Supporting unions and cooperatives es-tablished by manufacturers,
- Giving entrepreneurship/setting up busi-ness education,
- Implementing research about institutions providing micro-credit and other credits and cooperation,
- Monitoring results and implementing their presentations.

**5 Project Duration and Plan of Activities**

The project will be implemented in Tokat city center in the short term, according to experience gained in the first three years it will be spread on to towns and villages in the mid and long terms. In the short term, research on this subject will be gathered in Tokat, local sources of knowledge will be reached; then by getting in contact with industrial design departments of universities the project will be initiated. The results of the short term initiated pilot application should be awaited in the long term. However, since product improvement will be done according to the new demands, this project will be continued until 2023 by improving and renewing.

improvement activities on the subject will work together and with cooperation with the manufacturers they will contribute to varying the products and techniques of the products and to increase their qualities. A protocol is going to be signed among these actors and a pilot application will be done with interested manufacturers. In order to implement the project it is necessary to provide educational activities both in production and marketing and grant and credit support should be provided to manufacturers. Providing this support during the phase of developing products and techniques requires the corresponding arrangement in the field of education.

**6 Institutional Framework and the Operating model**

In the implementation of the project, Ministry of National Education and Ministry of Culture and Tourism, TESOB, industrial design departments of universities and NGOs implementing research and

It is possible to benefit from EU funds in order to reduce unemployment and increasing income providing activities by varying them; for this aim preparing the project and presenting it to related institutions, cooperation is required among TESOB, related departments of universities, NGOs and the private sector. As a result of this cooperation, besides providing cheap input, development in

YEŞİLİRMAK BASIN DEVELOPMENT PROJECT

Activity	Years												Application Unit	
	1	2	3	4	5	6	7	8	9	10	11	12		
Contact with universities and preparing a protocol	√	√	√	√	√									Related ministries, TESOB, departments of industrial design, local research institutions, NGOs
Research on traditional products	√	√	√	√	√									Experts from ministries, TESOB, departments of industrial design, local research institutions, NGOs
Developing new techniques	√	√	√	√	√	√	√	√	√					Experts from ministries, manufacturers, NGOs, researchers, personnel from university attending the project
Developing products	√	√	√	√	√	√	√	√	√					Experts from ministries, manufacturers, NGOs, researchers, personnel from university attending the project
Implementing pilot application and training manufacturers	√	√	√	√	√									Experts from ministries, manufacturers, NGOs, researchers, personnel from university attending the project
Training educators	√	√	√	√	√	√	√	√	√	√	√	√	√	Experts from ministries, manufacturers, NGOs, researchers, personnel from university attending the project
Arranging promotion and sales areas	√	√	√	√	√	√	√	√	√	√	√	√	√	Municipality, governorship
Preparing brochures and CDs	√	√	√	√	√									TESOB, university, municipality, NGOs
Giving education on marketing	√	√	√	√	√									TESOB ,experts from ministries, university, municipality, NGOs
Providing financial support	√	√	√	√	√	√	√	√	√					TESOB ,Ministry of Economy, private finance institutions
Monitoring results and transfer	√	√	√	√	√	√	√	√	√	√	√	√	√	TESOB , manufacturers, researchers, attendants from universities



promoting and marketing the products can be maintained. It will be important for the success of the project that big companies make use of the products manufactured in the region in their designs and support local manufacturers about new designs. Public institutions (governorship and municipality) will contribute by promoting and promoting places for sales in the city. Additionally, it seems important that in the view point of sustainability, the education of educators who will give education about the developed techniques and products is provided and the implementation of appropriate curriculum in vocational high schools is applied. NGOs aimed at employment will be the most important actors in exercising and monitoring this project.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

In this project manufacturers in the city center of Tokat are aimed. It is expected that the manufacturers will expand their markets and income by new techniques and designs as a result of the experience gained through this project. In the city center and locations in relation with centralism the group implementing work in their houses can be expected to join this production process. It is thought that the good examples coming out of the project will encourage investment on this area and new establishments in or outside of the project will act according to the samples that come out.

### **7.2 Concrete Outputs**

In Tokat there are still the techniques of traditional knitting, cloth-print and colouring in use. However, some of those techniques have been lost and in today's conditions some which cannot comply also cannot compete with factory production and lose their market. Thus, by turning these traditional productions, with new techniques and designs into having high added value products, the added value feature of handicrafts is used with this project.

The difference of these products from fabricated ones will be their authenticity and them being not easy to imitate; the developed products which will be developed with new techniques are expected to be used in areas like clothing, home furnishing and as souvenirs. With promoting these products, they are expected to find buyers in the country and the markets abroad. With the development of tourism it will also be an option for the tourists coming to the region.

### **7.3 Sustainability**

In order to sustain this project good examples and concrete results should come out. Therefore, with the application of this project support mechanisms for manufacturers should also be considered. This support can be financial support to the already established companies or the newly establishing ones and trainings on marketing and support which are important criterias of success.

Arranging and setting locations to market these products, is important both regarding the tourism potential and improving the service sector. Public institutions (governorship and municipality) will be giving help on promotion and arranging places for sales in the city. Besides, big companies working on these areas should be encouraged to cooperate with local manufacturers about designing and marketing these products and providing support by using these products in their own designs. It is important that export possibilities are sought and promotions abroad are made for foreign markets. It is important that the ones working on these areas organize as cooperatives, unions for uniting their strengths and this should be supported. NGOs aimed at employment will be the most important actors in exercising and monitoring this project.

Additionally, it seems important that in the view point of sustainability, the education of instructors who will give education about the developed techniques and products is provided and the implementation of appropriate curriculum in vo-

cational high schools is applied; thus, developing educational programmes in accordance with these targets is important.

### **8 Budget Breakdown and Estimated Costs**

The finance of this project will be provided from public sources. At the same time it will be possible to benefit from EU grant funds and getting support and resources from related NGOs (foundation, organization etc.) for presentation, consulting and educational services. The total cost of this project is thought to be 6 million YTL of which 5 million will belong to the public.

## PROJECT 3.2.2.7: CONSTRUCT VEGETABLE AND FRUIT DRYING AND STORAGE FACILITIES

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.2 Strengthen the bond between knowledge and production in order for researches to be effective in decision-making processes and guide policy
Relevant measure	: 3.2.2 Ensure integration of agriculture and industry in the region

<b>1 General Information about the Project:</b>	
1.1 Project heading	: Construct vegetable and fruit drying and storage facilities
1.2 Project location	: Tokat
1.3 Sector	: Agriculture
1.4 Project objective	: Setting up curing and packaging facilities of vegetables, fruits, corn and rice which provide an added value to production and integrating agriculture and industry
1.5 Project Owner	: SPA, Agricultural Directorate of Tokat Province and private sector companies
1.6 Estimated duration	: 10 years
1.7 Total Estimated budget	: 5 million YTL

## 2 Objectives

### 2.1 Overall Objective

Main aims can be summarized as;

- Marketing vegetables and fruits fresh or dried, balancing supply and demand,
- Reducing loss of product during the process from the field to the table, reducing cost of transport and storage,
- Increasing export by packaging and wrapping products,
- Having quality control and certification procedures in world standards, certifying with accredited laboratory certificates,
- Expanding shelf life of processed products.

### 2.2 Relationship to the Plan Decisions of a National Scale

In MTP, it is stated that: "With the aim of increasing the strength of competitiveness in exporting agricultural products, concentration will be focused on products whose added values are high in export

supports, which are branded and aiming at end consumers. "In the 9<sup>th</sup> development plan, it is stated that; "Also by benefiting from EU pre-accession financial assistance, besides expanding the ratio of agricultural establishments, most importantly improving conditions of production and production techniques, the efforts for the modernizing of agricultural and nutrition establishments will be supported within the framework of preferences determined and thus the integration of agricultural industry will be encouraged."

In order to realize this aim, necessary care should be given in world standards to classifying, storing and packaging of nutrition goods, and the integration between agriculture and industry should be provided. Therefore the chosen Project is in accordance with the decisions of national scale plans.

### 2.3 Position in the Regional Development Strategy

The region comes 5th regarding farming products with an amount of 5 million tons, comes 4th re-

garding vegetable production with the amount of 2 million tons yearly among 26 regions, and 13th with 312 000 tons of fruit among NUTS Level 2 regions.

The province of Tokat is one of the leading cities regarding greengrocery production. In 2002 vegetable production was 419 996 tons and fruit production was 78 571 tons in the province of Tokat. Among the fruits grown in the city, 18 656 tons were soft seeded, 17 320 were stony seeded, 3 838 tons were crust peeled, 38 757 tons were grapelike fruits.

Among the vegetables, the leading vegetables are: tomatoes with 313 123 tons, watermelon with 30 930 tons, fresh beans with 18 464 tons, cucumber with 28 522 tons, cabbage with 8 620 tons, leek with 6 222 tons, melon with 5 714 tons, spinach with 3 779 tons. Other vegetables of summer, lettuce, red beans, zucchini, green pepper and onions follow those. Corn and rice production has an important part and problems are faced in drying these products.

As one of the most important productions, tomato production has increased in recent years, with the " One Village One Product Project" exercised in the city and the support given within this Project and with technical help 2005 production has been realized around 400 000 tons. 2006 production is estimated as 600 000 tons.

There almost no facilities for drying and packaging vegetables and fruits and they are not sufficient in Tokat. Tomato produced in grown in Tokat is sent to Hatay, after its classified and packaged, export is realized. Generally around the region and in the province of Tokat, the crops produced are supplied to the market fresh and since there are no drying and packaging facilities, losses happen among products which go bad quickly. When there is over supply during the harvest and when there isn't enough demand greengrocery prices decrease and the farmer cannot get sufficient income.

One fundamental reason for this condition is the inefficiency of the curing/drying and packaging facilities of products. Regionally, 1,3 percent of the tomatoes, 5,9 percent of the vegetables, 2,9 percent of the fruit are processed. (Table 2.6) In recent years, although there is demand for processed products, especially dried tomatoes taking the lead, those demands cannot be answered sufficiently. Since products are being marketed without classification but in bulk, their quality controllers are not done and the company of production is unknown. To prevent this, products should be classified and packaged with the appropriate packaging material.

### 3 Justification

#### 3.1 Activities Previously Carried out on This Subject

Although there are a few product processing (fruit juice and tomato paste) facilities in Tokat, the number and capacities of processing and packaging are not enough. 2-3 percent of the products grown in the city are processed and packed. Those present facilities in the town of which capacities and numbers are insufficient process fresh products into processed products.

The drying and packaging facilities should be built as to serve multi-purposely, with unit costs for longer periods and various products should be processed and packaged.

The number of facilities which classify, dry, pack and make it easier to present to the consumer should be increased. Since it won't be possible for an unpacked product to take its place in the market, the need for products packaging facilities is increasing day by day. The trend in recent years is to keep food dried or by deep freezing. Picked, washed, sliced and deep freezeed or dried food can be kept longer, they take up less space. Since the composition of vegetables consist of a changeable amount of 60-85 percent water, and because there

is 8-15 percent of water in dried goods, economy is provided in transportation, their size get smaller, the shelf-life gets longer.

### **3.2 Identification of Requirements and Problems**

- Increasing the number and capacities of greengrocery drying and packaging facilities,
- Providing cooperation among producers, encouraging the setting up of product drying and packaging facilities,
- Creating institutional structures required to market the dried and packaged products,
- Reducing transport and storage losses, putting added value on goods by processing,
- Implementing research, strengthening the connection between universities and implementation institutions in order to follow and apply improvements in product processing techniques and,
- Producing equipment and machines in developed industrial facilities within the region aimed at product packaging and drying.

### **3.3 Definition of the Target Group and Its Estimated Number**

Of 60 789 agricultural establishments 23 278 (38,2 percent) use irrigation. A significant part of the agricultural establishments that can irrigate, are dealing with greengrocery farming. The number of commercially producing vegetables are 6 877, and the number of establishment implementing fruit farming is 1 784 (DİE, 2004). The mentioned greengrocery producers should be taken as the target group. With the use of new irrigation projects, irrigated areas in the region will increase, and greengrocery production will also increase in a parallel way. Corresponding to the increase in greengrocery production, the numbers and capacities of product storage, packaging facilities should be increased.

### **3.4 Preference for Selection Among Alternative Solutions**

Since there is possibility for irrigation in the province of Tokat for long years, and because of irrigating 90 292 ha of area (37,5 percent of the 240 655 ha of irrigated area) greengrocery farming is exercised commonly. Within the irrigated area, it is possible to grow lots of types of vegetables such as tomato, fresh beans, aubergine, melon, watermelon, green pepper, cabbage, spinach and lots of fruits such as, apples, cherry, peach, plum, pear. Therefore, within the industry of greengrocery classification, drying, deep freezing and packaging facilities the producers will be able to market their products with better prices.

A lot of products, grown in the province of Tokat, tomato and green pepper taking the lead, are transported out of the city (Hatay, Gaziantep, Trabzon); they are processed in already set modern facilities, marketed and exported. By implementing these activities within the province of Tokat, economical contribution will be made, added value will be put on products and employment will be provided.

67 percent of the population of Tokat city is working in the sector of agriculture. With the setting up of greengrocery processing facilities, it will be possible to employ some of the hidden unemployed people who are unproductive.

### **3.5 Basic Assumptions**

- Demand for greengrocery consumption will continue increasingly in our country and the outer world.
- Export of all kinds of greengrocery will increase; the producer will gain more income.
- Greengrocery processing industry will improve; dried, frozen, packed products will be preferred by the consumers,
- The connections between the producer and the industrialist will improve; green-

- grocery will be assessed in different ways,
- Greengrocery farming areas will increase in new irrigation areas, production and productivity in unit area will rise, it will be shaped according to demand,
  - Producers will get organized and they will set up greengrocery processing facilities.

**4 Activities**

**4.1 Main Activities**

The most significant of main activities are:

- Industrialists will be encouraged to set greengrocery processing facilities.
- Setting up of greengrocery drying, deep freezing and packaging facilities will be provided considering the last developments in the world.
- Producers will be organized, connections between producers and industrialists will be strengthened, export activities will be promoted.
- Necessary technical support will be given to producers and industrialists during production and processing.
- Connections between university, producer and industrialist will be strengthened.
- Improving the organization of marketing and finding new markets will be provided.

**5 Project Duration and Plan of Activities**

The project will continue between the years 2006-2015. Facilities which will facilitate greengrocery classification, drying, deep freezing and packaging, should be built as to be used in a multi-purposed way regarding technical improvements. It is necessary to get technical support from universities, expert companies and institutions related to

the subject, the preparing and application of the projects should be made by well educated experts on the subject and companies.

**6 Institutional Framework and the Operating model**

The project will be possible to be implemented with the cooperation of Directorate of Agriculture of City of Tokat as leading, Special Provincial Administration of Tokat, Chamber of Agriculture, related NGO, private sector companies and producers.

It is necessary to employ at least 10 technical staff who have completed masters or doctorate programmes on greengrocery processing, who have practical experience within Directorate of Agriculture of City of Tokat and its towns. The new to be recruited technical staff (nutrition and agriculture engineers) should be provided to get master’s or doctorate studies in greengrocery processing topics in selected universities and to get appointed to jobs in the Directorate of Agriculture of the province of Tokat. Private sector companies and producer organizations should employ nutrition and agricultural engineers and technical and assistant technical staff who have had education and experience on greengrocery processing.

Public institutions should help private sector companies and producer organizations, in the beginning by providing a changeable 30-50 percent of grant contribution they should encourage the setting up of the mentioned facilities. Public, should get greengrocery producers to organize as unions and should play an active role in setting higher

Activity	Years										Application Unit
	1	2	3	4	5	6	7	8	9	10	
Promoting industrialists	√	√	√	√	√	√	√	√	√	√	TKİB/SPA, provincial directorate of industry and trade
Implementing researches			√	√	√	√	√	√	√	√	Agricultural research institute/university
Constructing facilities		√	√	√	√	√	√	√	√	√	Private sector companies
Organization of farmers			√	√	√	√	√	√	√	√	Directorate of the Ministry of Agriculture
Developing marketing			√	√	√	√	√	√	√	√	Private sector companies

unions, it shouldn't own or have partnership in the property of the facilities and shouldn't be involved in management. Those subjects should be carried on by private sector companies or individual entrepreneurs. Public, should attend the meetings of the set unions as observer, should provide technical and administrative aid, should define bottlenecks and provide solutions to problems.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

Facilities of classifying, drying, deep freezing and packaging of greengrocery will contribute to the balancing of supply and demand in agricultural products. In periods when products can't be grown, greengrocery supplied to the market will find buyers with high prices; the farmer will earn more income. During harvest, transportation, classification, drying, deep freezing, packaging and supplying to the market extra work power will be needed; product processing facilities will create jobs.

It is not possible for products which are not packaged; do not have the information of the producing company and about quality control, to be supplied to the world markets.

Therefore the producers and industrialists should prepare themselves for this condition.

In order to do quality controls and certification in world standards, the number of accredited laboratories should be increased. Samsun Provincial Food Control Laboratory is the only accredited laboratory in the region. Necessary initiatives should be taken to accredit Tokat Provincial Food Control Laboratory.

### **7.2 Concrete Outputs**

1,3 to 5,9 percent of the greengrocery produced in the region are processed. In Tokat province the

condition is no different. In order to process at least 50 percent of the produced crops in the city necessary facilities should be constructed. When the mentioned processing facilities are set export of the greengrocery grown in the city will increase. Because transportation is easy, export to northern countries will increase, producer and industrialist will earn more, employment will increase.

After processing the products a lot of materials such as glass, cardboard boxes, aluminium folio, tin, wood, plastic and products of petroleum will be needed as packaging materials. Subsidiary industry will improve which will provide the production of such materials. Besides, companies setting these mentioned facilities and producing machines and equipment for those will improve.

### **7.3 Sustainability**

In constructing and operating the greengrocery processing facilities private sector companies and farmer organizations will be active. Those private sector companies and farmer organizations will try to use the product processing facilities in their full capacities and will get high income as long as they earn a high income. Since this condition will create balance in supply and demand, stabilization will be provided in prices, product processing and packaging facilities will continually serve.

## **8 Budget Breakdown and Estimated Costs**

5 million YTL of resource for a period of 10 years from public would be enough. Some of this amount should be spent on education and research. 30-50 percent of the resource should be given to producer organizations in building the mentioned facilities as support. Public should not set such facilities on its own, should provide the area, should guide in choosing technology, should strengthen the connections between the producers and the industrialists.

## **PROJECT 3.4.1.10: DEVELOP ECO-TOURISM AND AGRICULTURAL TOURISM INFRASTRUCTURE AND RURAL BOARDINGHOUSE BUSINESS**

<b>Relevant strategic objective</b>	: 3 Increase competitive power and open out
<b>Relevant priority</b>	: 3.4. Develop by diversifying and promote regional tourism
<b>Relevant measure</b>	: 3.4.1. Open the region to tourism within the principle of sustainability of nature and cultural heritage

### **1 General Information about the Project**

<b>1.1 Project heading</b>	: Develop eco-tourism and agricultural tourism infrastructure and rural boardinghouse business
<b>1.2 Project location</b>	: Tokat
<b>1.3 Sector</b>	: Tourism
<b>1.4 Project objective</b>	: By improving the infrastructure of ecotourism and agricultural tourism in Tokat city, encouraging rural lodging, increasing the income of rural section, disseminating the implemented pilot project to other appropriate places in the region
<b>1.5 Project Owner</b>	: Ministry of Culture and Tourism, TKİB and SPA
<b>1.6 Estimated duration</b>	: 10 years
<b>1.7 Total Estimated budget</b>	: 10 million YTL

### **2 Objectives**

#### **2.1 Overall Objective**

- Improving ecotourism and agricultural tourism,
- In addition to agricultural income, diversifying the income of rural section and by spreading it throughout the year providing flow of hot money,
- Improving rural lodging, developing rural life possibilities,
- Providing cultural and social fusion, increasing intercultural dialogue,
- Improving connections between rural section and urban dwellers, decreasing migration from villages to cities,
- Decreasing unproductive hidden unemployment in agriculture, creating additional job opportunities, increasing employment productivity,
- Create a highly knowledgeable and educated farmer mass.

#### **2.2 Relationship with the Plan Decisions at National Scale**

In the 9<sup>th</sup> Development Plan it is stated that: "In order to develop seasonal and geographical range of tourism and by considering changing consumer preferences in outer markets aiming at creating new potential areas, giving importance on arrival point management activities will be carried out related to golf, winter, mountain, thermal, yacht, conference tourism and ecotourism".

Ecotourism is quite a new matter to deal with for our country and it is still at the level of beginning. There are 32 agricultural institutions in 18 cities in our country which have started and been continuing ecotourism (Buğday, 2005). The mentioned institutions have started ecotourism activities in a more restricted way compared to their samples in the world and they are trying to serve by using local values to the best.

Since ecotourism requires special education, appropriate place and planned work, experience



of the mentioned agricultural institutions needs to be shared in order to spread them to most of the country. Successful samples in our country and in the world should be studied, appropriate agricultural institutions for ecotourism should be selected, necessary education should be given and activities should be widespread.

### **2.3 Position in the regional development strategy**

Ecotourism is a developing subject in the world and the subject is new and doesn't receive enough attention from the region and our country. In societies which are not quite open to innovation but rather accept learning by imitating others' development can be achieved by presenting the idea of ecotourism. When the region is evaluated, with its dry and irrigated farming areas, forests, animals of the forest, endemic plants, rivers and streams, natural lakes and dam reservoirs, plateaus, irrigation areas, bird sanctuaries, it includes a lot of opportunities within. In order to benefit from these mentioned values within the principles of sustainability, promoting and developing of ecotourism activities are necessary.

Although some of the agricultural enterprises and village houses carry appropriate conditions for ecotourism, owners of the agricultural enterprises do not have sufficient knowledge and experience about the subject. When the community living on the rural area of the region are given adequate information and if sufficient possibilities are created, the owners of the agricultural enterprises will be interested in the subject. Therefore, ecotourism which would be a factor for diversifying the income of the rural community and increasing the income would become an important activity for the region.

## **3 Justification**

### **3.1 Activities Previously Carried out on This Subject**

Niksar district of the province of Tokat is a passage region which has no direct link to the sea, located between Central Anatolia and the Blacksea Region. Therefore it has the climatic characteristics of Central-East Anatolia and the Blacksea Region partially. According to average temperatures the annual average varies between 4,3°C in February and 23,2°C in July. Summers are dry and winters are rainy. Average rainfall is more than 400 mm. Since the region doesn't receive enough rain during plant growing season, without irrigation vegetable and fruit farming is not possible for most of the time.

Because the altitude of Niksar is 350 m, winters are mild. In the district, on most of the 93 162 ha of area, polycultural farming is done. The economy of the district is dependent on agriculture. Wheat, barley, sunflower, sugar beet and corn farming are done mostly in the district. Of vegetables, tomatoes, green peppers, fresh beans, aubergines, potatoes, cabbages, melons, watermelon, of fruits, apple, sour cherries, walnuts, cherries, peaches, plums, and grapes are the mostly produced ones. Niksar walnut is one of the products which have become acquainted with the name of the city. There are 9 districts and 87 villages connected to the district; transport communication is available to the villages in all seasons.

There are two agricultural enterprises carrying out ecotourism activities. In the mentioned agricultural enterprises activities like planting of vegetable saplings, handling vegetables, grubbing and irrigation, nut harvest, peeling and drying nuts, handling fruit trees are done together with the visitors.

With the mediatorship of Wheat Association, one being in Samsun Terme Çamlıca and the other in Amasya Gümüşhacıköy, there are two more agri-

cultural enterprises providing ecotourism services the number of, agricultural enterprises providing ecotourism services is 4 (12,5 percent of the 32 agricultural enterprises serving ecotourism).

On the mentioned farms ecological farming is done, animal fertilizers are used in agricultural production. There are animals like cows, bulls, chickens, geese, ducks and dogs on the farms. While implementing agricultural activities, visitors also contribute to housework by helping cooking local dishes. Both of the agricultural enterprises have started this business recently and have been of good examples to the neighbourhood.

### 3.2 Identification of Requirements and Problems

Since ecotourism includes a lot of activities and is a new idea for the region, all activities should be planned beforehand, some should be done according to the demands of the participants. The mentioned activity of tourism, is a kind of activity which doesn't depend on harsh rules, giving importance on customer satisfaction by means of putting an understanding of participation and sharing into practice. In order to implement this activity on a pilot area, a series of work need to be done.

- Ensuring the training of instructors of ecotourism within the country and abroad,
- In order to introduce the idea of ecotourism to farmers organizing awareness meetings, training agricultural enterprise owners,
- Identifying the conditions by questionnaires, finding volunteer enterprises,
- Selecting appropriate farms where ecotourism can be done, according to the criteria defined,
- Providing lodging possibilities and improving them to necessary standards of the time,
- Preparing programs, which bring forth the participation of the visitors and sharing,
- Implementing farm work actively,
- Preparing environmental trips, introducing

the natural environment (flora and fauna), making life colourful with various trips, sightseeings and activities,

- Preparing web pages, CDs, brochures etc., in order to disseminate ecotourism activities,
- Having questionnaires among visitors, in order to get their points of view and ideas, to determine the defective points and to take measures to improve them,
- Eliminating the problems in the system and setting up a steering-evaluation system to disseminate the system.

### 3.3 Definition of the Target Group and Its Estimated Number

There are 56 266 agricultural enterprises in Tokat province. 53 940 (95,9 percent) of those mentioned enterprises' lands are between 0-100 decares, 2 068 (3,6 percent) are 101-200 decares, 258 (0,5 percent) are larger than 201 decares. The activity of ecotourism should be started by selecting the appropriate ones of the middle size agricultural enterprises.

The district of Niksar is located 90 kms away from Tokat provincial center and the transportation is provided by a good quality tarmac road. It seems appropriate to apply the pilot implementation on the agricultural enterprises in Niksar district. There are 4 496 agricultural enterprises in Niksar (8 percent of the enterprises in Tokat). Of the agricultural enterprises, the ones which are closer to the center and have better transportation possibilities, are located on rural settlements, and are closer to each other and are appropriate and volunteering for this job should be aimed. The main reason to select agricultural enterprises which are close to each other is aimed at focusing the services on the same area and improving social relations among groups.

By implementing a questionnaire from a group chosen from the agricultural enterprises in Niksar district, around 30-50 agricultural enterprises which may be suitable for ecotourism, should be

chosen for the first five years. Of those enterprises, 5-10 should be made to attend the programme for the first two years. By experiences in hand and considering demand, this number should be increased every year until 100 are reached.

In the beginning, agricultural enterprises which are managed by better educated farmers, which have adequate living conditions, which will be able to provide visitors with various excitements should be chosen. Therefore a great benefit is seen upon making the selections according to the defined criteria. Experiences of other agricultural enterprises which have implemented similar applications within the country and abroad on this subject should be studied, when necessary aid should be received from experts who have a good background as well as from universities.

Since mistakes and failures experienced in the beginning will negatively affect activities in the future, at the outset it is necessary to be very careful and plan the activities correctly. For the success and sustainability of the project, the preparation step should be kept long; each topic should be planned and applied by considering every little detail. On this subject, besides agricultural enterprise owners and civic institutions related to the subject, necessary effort should be given to get NGOs to have an active role.

### **3.4 Preference for Selection Among Alternative Solutions**

Niksar district of the Tokat province has the appropriate conditions for ecotourism with its natural location, placement. There is connection to and from Niksar to the city center and other towns in every season. In the town, where the winters are mild, there are forests as one of the most important elements of natural beauties, rivers, fresh water springs. Agricultural activities continue all year long. Almost all species of plants can be grown except citrus types and tropical ones. On enterprises where field crops, vegetable and fruit

farming are done, it is possible to grow and consume ecological products.

The valley of the Kelkit creek, Almus and Ataköy dams, Köklüce HEPP facilities give dominance to the town. The existence of the trout breeding farm in the Almus Dam estuary, the transportation potentials and with its natural beauties the Niksar district and its environment combine a lot of possibilities for ecotourism. With the daily-excursions to the neighbouring towns Almus, Erbaa ad Reşadiye and the Tokat city center, participants will be given the opportunity for different possibilities of having a rest, entertainment, trips and observation. Niksar town has a lot of possibilities to carry out about 50-60 kms around.

Plants, growing in their natural environment on the mountains and hill sides, like mahaleb cherry, wild pear, linden, rosehip, blackberry, and thyme and the flora and fauna within the ecosystem of the forest carry a lot of attractive features. Since ecotourism is available generally in the months of summer, it seems possible to come across lots of different plants and animals during the mentioned period. Taking photographs of those living beings, picking up and collecting plants with the idea of continuity would excite the visitors.

Ecological agriculture is being made in Niksar district; the products collected from the nature are sold abroad. The district is an important producer of mahaleb cherry which grows naturally and is exported. It seems to be beneficial to improve the mentioned ecological agricultural activity and to integrate it with ecotourism activities.

“Niksar Kelkit Research Center” of Tokat Gaziosmanpaşa University is in the district of Niksar. During the activities of ecotourism, cooperation with the research center in Niksar and the related faculties in Tokat and getting technical and social help from the university would increase the success chance of the implementation. Because the existence of this center and other consid-

erations give the town distinction, Niksar district seems appropriate for the piloting application area.

**3.5 Basic Assumptions**

- Farmers will be interested in ecotourism and they will invest on the subject matter.
- Home lodging/hostels will improve lodging and life conditions will get better.
- Public institutions and establishments will provide necessary technical and administrative aid.
- Relations between the university, NGO and enterprises giving agricultural service will be strengthened.
- Promotional activities are going to be made; visitors will be attracted domestically and from abroad.
- Various activities and alternatives will be provided to the visitors, customer satisfaction will be maintained.
- The Project will be widespread in Tokat and the region, expected success will be achieved.
- In order to maintain continuity, necessary precautions will be taken and sustainability will be provided.

**4 Activities**

**4.1 Components of Fundamental Activities**

- Organizing informative meetings with owners of the agricultural establishments and introducing ecotourism activities,
- Conducting a survey in order to select the agricultural establishments,
- Selecting agricultural establishments and defining activities for each establishment,
- Providing owners of agricultural establishments who will attend the Project with required education, training qualified employees,
- Improving lodging potential and precautions for providing necessary transformation of the farm houses should be taken.

**4.1.1 Subactivities**

- Preparing promotional material, promoting ecotourism activities,
- Receiving visitors and managing their participation in ecotourism activities,
- Finding out drawbacks and fulfilling the requirements to improve,
- Monitoring the results, evaluating them and the promotion of the project should be considered as a whole.

Activity	1	2	3	4	5	6	7	8	9	10	Application Unit
Informative meetings	√	√	√	√	√	√	√	√	√	√	Ministry of Culture and Tourism, Directorate of the Ministry of Agriculture, SPA, NGO
Selecting of establishments	√	√	√	√	√	√	√	√	√	√	Ministry of Culture and Tourism, Directorate of the Ministry of Agriculture, SPA, NGO
Creating potential lodging	√	√	√	√	√	√	√	√	√	√	Ministry of Culture and Tourism, Directorate of the Ministry of Agriculture, SPA, NGO
Providing ecotourism education	√	√	√	√	√	√	√	√	√	√	Ministry of Culture and Tourism, Directorate of the Ministry of Agriculture, SPA, NGO
Promotional activities	√	√	√	√	√	√	√	√	√	√	Ministry of Culture and Tourism, Directorate of the Ministry of Agriculture, SPA, NGO
Receiving visitors	√	√	√	√	√	√	√	√	√	√	Establishment owners
Monitoring and evaluation	√	√	√	√	√	√	√	√	√	√	Ministry of Culture and Tourism, Directorate of the Ministry of Agriculture, SPA, NGO
Disseminating the project	√	√	√	√	√	√	√	√	√	√	Ministry of Culture and Tourism, Directorate of the Ministry of Agriculture, SPA, NGO

## **5 Project Duration and Plan of Activities**

The project will be implemented between the years 2006-2015. It should be decided on whether the project should be spread to other cities in the region according to the monitoring and evaluation results every year. 10 years would be enough for the project to be successful and to get the expected results. Within this period, monitoring and evaluation results should be guiding the next year's work and defects and drawbacks should be eliminated.

## **6 Institutional Framework and Operating Model**

The pilot ecotourism project which will be started in Niksar district will be a model for the region. Therefore the institutional frame and the operating model should be constituted with the participation of agricultural establishments, public institutions and NGO. Public institutions should provide necessary education, and should provide technical financial support to improve lodging utilities. NGOs should support agricultural establishments who are interested on the subject, should play an active role in promotional activities and in improving social relations to have children and wives participate in the programme.

Owners of agricultural establishments which are interested in and started ecotourism, should provide a reasonable and acceptable priced service by organizing among themselves, by sharing their knowledge and experience, by creating a competition and not dropping the prices. In order to improve the culture of managing cooperative work, required conditions should be provided and "union of ecotourism" should be founded. The mentioned union should be organized in such a way that they can contain other agricultural establishments from other city and town centers in the future.

This kind of an organizational structure will be effective in increasing the quality of service and in

promotion, organizing social activities, decreasing the expenditures and in providing cooperation. The target group interested in ecotourism should be well defined; precautions to attract customers should be taken. Broadcasts on local and national media institutions, preparing promotional brochures and CDs, souvenirs and the like promotional materials will be effective in disseminating the service. By getting in touch with the administrations of the universities and youth organizations, possibilities of student exchange and internships (faculties of agriculture) in ecotourism should be investigated.

## **7 Sustainability**

In order to maintain sustainability of the ecotourism project which will be implemented as piloting project, education, promotion and customer satisfaction should be provided. Increasing the quality of ecotourism and the satisfaction of the customers will be possible by embracing the philosophy of ecotourism. In order to create this condition and for the sustainability of service and to widely spread around the region, quality should be maintained at a certain level, prices should be kept at a level which visitors will be able to afford.

To expand abroad, experience should be gained. To do this, at least one of the owners of agricultural establishments should learn at least one foreign language or they should employ someone with knowledge of foreign languages.

In the beginning, benefiting from families who had worked abroad for long years and then returned and their children should be tried. People who have experienced western culture at some degree, who have lived in that culture investing on ecotourism would provide benefit from present potentials and opportunities. Owners of agricultural establishments or their young ones, having especially practical spoken foreign language courses at city or town public education center full day language courses for 3-6 months is necessary for the success and sustainability of the system. It would be

appropriate to open the first mentioned language course in the district center of Niksar and then spreading it to other centers that are interested, according to the improvement.

### **8 Budget Breakdown and Estimated Costs**

It is estimated that, for the “improving the infrastructure of ecotourism and agricultural tourism and rural lodging” project which is thought to be implemented as a piloting and then promoted project, for a period of 10 years 10 million YTL would be needed. At the end of the 10<sup>th</sup> year when the project will be exercised, necessary precautions should be taken for 100 agricultural establishments in order to implement activities of ecotourism. Providing a changeable amount of 5 000-10 000 YTL of credit or fund for the agricultural establishments who will serve ecotourism would increase success of the project. This support is a must for the arrangements in village houses and buildings suitable for this work, to create additional bed capacities and to improve lodging conditions.

The mentioned source would be enough for the education to be given, preparing educational and promotional material and promotional activities in order to start the activity of ecotourism. In addition to public institution payments, with the equity of the agricultural establishments participating in the programme, it is estimated that the amount to be spent for the project would double up. Providing service at a certain level and customer satisfaction will increase demand and the system would finance itself.

## PROJECT 3.5.1.5: RAISE IRRIGATION RATE IN TOKAT IRRIGATION

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.5 Develop irrigation in agriculture and increase vegetable production generating high income and carry out agricultural researches
Relevant measure	: 3.5.1 Open planned areas to irrigation and develop suitable irrigation technologies

### 1 General Information about the Project

1.1 Project heading	: Raise irrigation rate in Tokat irrigation
1.2 Project location	: Irrigation in Tokat
1.3 Sector	: Agriculture
1.4 Project objective	: Taking necessary measures in order to irrigate the non-irrigated areas in Tokat's irrigation and increasing the rate of irrigation
1.5 Project Owner	: DSI and Irrigation Unions
1.6 Estimated duration	: 4 years
1.7 Total Estimated budget	: 6 million YTL

## 2 Objectives

### 2.1 Overall Objective

- In the irrigation area, irrigating the 9 666 ha of area which is not irrigated,
- Increasing the rate of irrigation,
- Lowering the level of water table and eliminating the problem of drainage,
- Improving operational and maintenance services,
- Strengthening the links between irrigation unions and DSI,
- Providing continuity of the irrigation system in a long term period,

### 2.2 Relationship to the Plan Decisions of a National Scale

In the 9<sup>th</sup> Development Plan it is said that "In the works regarding developing water resources, priority and importance will firstly be attached to

making it possible to plan flexibility in covering changeable consuming demands and approaching to integrate wholly in the basin fundamentally, around a detailed mechanism which is designed to provide a strong and structural coordination among related institutions and by using the water economically, effective use of water resources.

In order to use water resources effectively and productively, as in many countries in the world, in our country the responsibility of management of irrigation facilities have been handed over to irrigation unions or cooperatives (the ones who make use of water). For the irrigation facilities to serve better and to sustain, operational and maintenance services should be done in time and completely. Therefore, because the operational and maintenance services which are not or can not be done by the irrigation unions are postponed the farmer can not get irrigation water, non-irrigated areas increase and irrigation rate decreases. In order to have continuity in irrigation systems precautions should be taken and put into practice to increase irrigation rate in the irrigation of Tokat.

As it is stated in the Medium-Term Programme, the necessity of the public to take at first hand the infrastructure investments which will support productive activities, "irrigation investments" have been given priority among productive infrastructure investments. (DPT 2006-1:12).

**2.3 Position in the Regional Development Strategy**

When moved from dry farming to irrigated farming the plant pattern changes, significant increase takes place in the input that the farmers use and agricultural mechanization, productive added value and employment increases. On the other hand, farmers should be educated on irrigated farming and irrigation technologies, irrigation unions should pay necessary attention to operating and maintenance of irrigation facilities.

Irrigation, affects a lot of sectors and sub sectors to develop directly or indirectly, increases employment and helps obtaining more products per unit

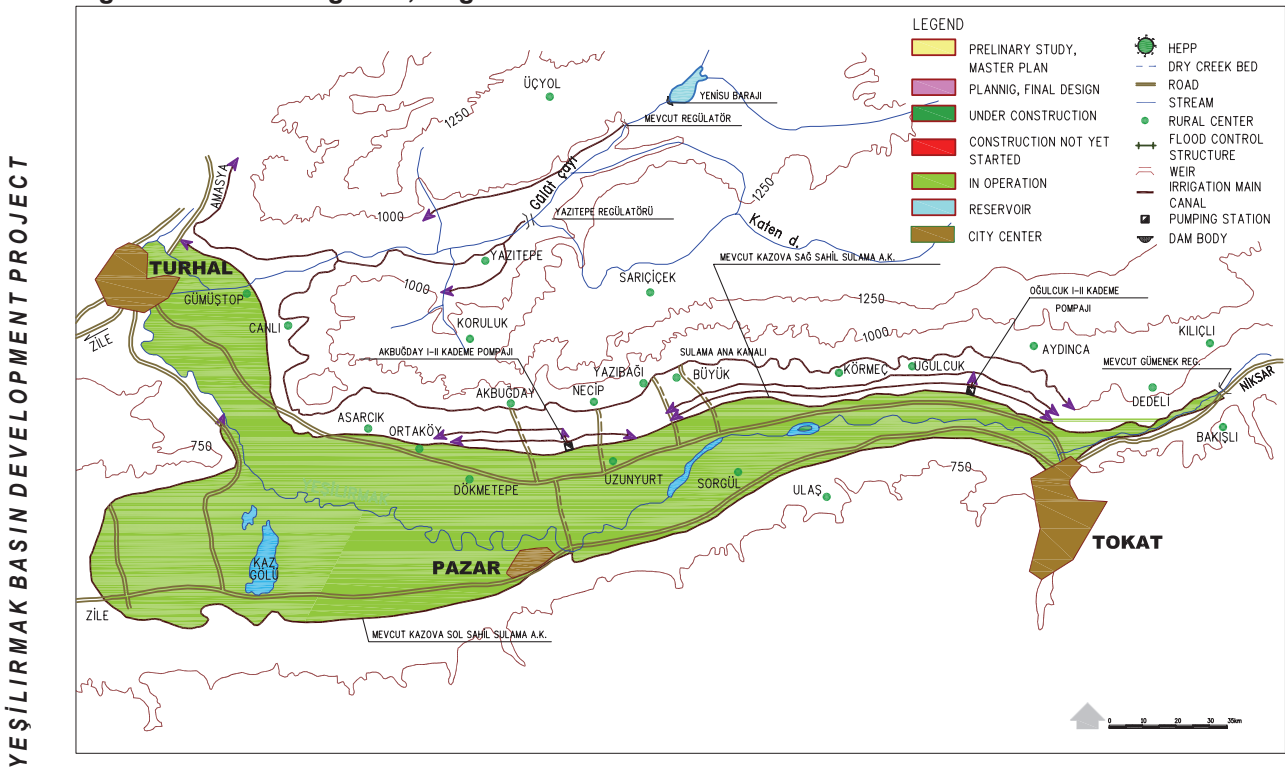
area. In order to have production continued without depending on rain, necessary irrigation water should be provided to farmers in time and enough quantity. Therefore, not only irrigation of Tokat but also all irrigation facilities of the region should be studied with this point of view and increasing the rate of irrigation should be aimed. In addition to building new facilities, benefiting more from present facilities should be one of the fundamental aims. As a pilot project according to the experience having had after the implementation of this project similar studies should be made on other irrigation areas, generally in the region precautions should be taken to irrigate the non-irrigated 34 187 ha of land.

**3 Justification**

**3.1 Activities Previously Carried out on This Subject**

The province of Tokat is a passage region which has no direct link to the sea, located between Central Anatolia and the BlackSea Region.

**Figure 2.5 Tokat Irrigation, Irrigation Area**





Therefore it has the climate characteristics of Central-East Anatolia and the BlackSea Region partially. According to long years of average the temperatures change as the lowest temperature 8,1°C, the highest temperature 14,2 °C, February average temperature -1,8 °C and -6.0 °C, July average temperature 18,0 °C and 23,0 °C.

Summers are dry, winters are rainy. The average annual rain fall is between 381, 8 mm and 586,2 mm, relative humidity rate changes between 56-73 percent. Since it does not get enough rain during vegetable growth season, most of the time it becomes impossible to do vegetable and fruit farming without irrigation. Because winters are soft in winter farming of a lot of plants is possible. Polyculture farming is done in the city. The economy of the city is depended on farming, 67 percent of the active population work in agriculture. Wheat, barley, sunflower, sugar beet, rice and corn farming are done mostly in the city. Tomato and fresh beans of vegetables and apple, sour cherry, walnut, cherry, peach and plum are among the most produced fruits. Niksar walnut is one of the products which have become acquainted with the name of the city.

Tokat irrigation is one the first constructed irrigation facilities during the Republic period. With the construction of Gümenek Regulator in 1939, Kazova, which lies on the right bank, is aimed to irrigate, in those years 4 000 ha of land has been opened for irrigation. Later, in 1959 the left bank irrigation construction was started and by completed constructions until 1968 irrigation areas has been increased. Presently with the right and left bank areas the pumped irrigation areas have increased to 20 275 hectare (Figure 2.5).

Irrigation area is located on the north and north-west of the city center, provides water to lands of Pazar and Turhal towns, the altitude of the irrigation area from the sea changes between 700-750 m. Access is provided to villages and irrigation channels within the irrigation area all seasons.

There are 151,5 kms of main channel, 125,9 kms of spare channel and 416,8 kms of tertiary irrigation channels in the irrigation area. Irrigation channels are concrete coated. There is 306,2 kms of drainage channel in the irrigation area. The capacity of the right main channel which takes irrigation water from Gümenek Regulator is 7 m³/sec, the capacity of the left main channel is 9 m³/sec. The right main channel which gets water from Tokmakkaya Regulator has a capacity of 3 m³/sec. The Omala Pump station which gives water to higher elevations has a capacity of 2 016 m³/sec and the Pınarlı Pump Station has a capacity of 1 920 m³/sec.

The irrigation rate in Tokat irrigation which consists of I. and II. class farming lands of most of the irrigation area, has changed between the years 1986-1989 around 83-92 percent. After 1995 when DSİ has handed the irrigation facilities to irrigation unions, the irrigation rate has started to fall down.

Before DSİ handed the irrigation facilities over to the irrigation unions the irrigation rate used to change between 83-97 percent, after the handover because maintenance and repairs have not been made sufficiently the irrigation rate has decreased and changed between 52-67 percent. In 2005 of 20 275 ha of land only 10 609 hectare was irrigated, 9 666 hectare of land (% 47,6) could not

**Table 2.8 Irrigation Rates Before and After the Handover to Irrigation Unions**

Years	Area of Irrigation	Irrigated Area (ha)	Irrigation Rate (ha)	Explanation (percent)
1986	18 000	16 663	92	Before handover to irrigation unions
1987	18 000	15 815	88	
1988	18 000	14 970	83	
1989	18 000	17 517	97	
2000	19 600	12 415	64	After handover to irrigation unions
2001	19 600	12 897	67	
2002	19 600	12 119	62	
2003	19 600	12 126	61	
2004	20 075	12 031	60	
2005	20 275	10 609	52	

Source: DSİ (2006).

be irrigated. In Tokat irrigation, before and after the handover to the irrigation unions, the irrigation rates are given in Table 2.8.

As it is seen from the study of the table, because irrigation unions did not do maintenance and repair services sufficiently, in recent years there has been a serious fall in irrigation rates, and it has decreased from 90 percent to 52 percent.

For the continuity of the irrigation facilities, the works about maintenance and repair should be realized according to the directions at present. The precautions taken before a malfunction happens in the irrigation facilities are called "maintenance work". After a malfunction or damage occurs in the facility, the re-building or repairing of it according to its project is called "repair". For the continuity of the irrigation facilities, maintenance and repair services should be done completely.

Although a part of land has been identified as not being irrigated due to overexceeding rainfall, not irrigating the cereals, social and economical reasons these are not significant in dimension. Presidents of irrigation unions await some services to be done by DSİ. On the other hand DSİ states that the unions collect the irrigation fees and that according to the handover contract that the irrigation unions are not fulfilling the assignments they have been given. In the end, because work which is needed to be done in the field is not provided, farmers are harmed.

During the meeting with the irrigation union directors in DSİ and after the study on the field, it is seen that, in Tokat irrigation, maintenance and repairs have not been done in time and sufficiently, corrosion has occurred on concrete coated channels, increase in the level of water table has occurred because of not cleaning the drainage channels and the blockage of the drains, and that the problem of drainage has reached a level of threat for plant growth.

In Tokat irrigation area the drainage channels are cleaned, in areas where the water table is high closed drains are installed by the credit taken from the World Bank in 1984. Periodic maintenance of the irrigation facilities has been carried out by DSİ regularly until 1995 when they were handed over. After that year, the irrigation of Tokat has been divided into parts and handed over to irrigation unions. Initially as a rational act the handing over of the facilities and after that because the irrigation unions did not provide sufficient resources for the maintenance and repairs of the irrigation facilities, parts of the facilities could not fulfil their duties and fields have become unavailable for farming. Because the concrete in the concrete coated channels which become worn out and ruined have not been renewed, irrigation water can not be transferred to the desired place in a sufficient amount and measures. No sewing and planting can be done in some areas where the water table is high.

### 3.2 Identification of Requirements and Problems

The irrigation area of Tokat should be examined by an expert team on the field consisting of DSİ and Tokat Village Oriented Services City Directorate and irrigation union presidents and the secretary general. According to this examination, work to be done by DSİ and the irrigation union should be defined considering "DSİ Maintenance Repair Direction", quantities and estimation should be prepared.

Within the frame of this work;

- Fully filled open drainage channels should be cleaned immediately.
- Outlets of closed drains (farm drains) which are buried in the mud on open drainage channels should be brought to the open, drainage waters should be provided to pour in free flow conditions.
- In spite of open channel cleaning, the closed drains which do not work should be cleaned by atomizing water with the pressured drain cleaning equipment by Village Oriented Services City Directorate.

- Concrete channel coatings should be renewed, channel leaks should be decreased, and irrigation water should be transferred to channel ends.
- Broken or non-operating valve and plug caps should be repaired or renewed.
- Caps needing painting should be painted.
- Detour roads should be made available for use.
- Water measurement facilities should be completed.

Work to be done on the irrigation area should be implemented by DSI and irrigation unions. The mentioned institutions have the capacity to fulfil the work needed in the irrigation area of Tokat. However, by deciding on the priorities of work and with a good planning, starting with the most immediate ones it should be completed in a two year programme.

On the condition that the irrigation unions spend 50 percent of the irrigation fees that they collect on maintenance and repair, they will gain the capacity to do the work mentioned. However, generally since 8-14 percent of the money they collect is being spared for maintenance and repairs, only urgent work is done, regular work which should be done every year is being postponed.

Because DSI does not have enough enforcement power on irrigation unions, because the budgets of irrigation unions and funds transferred during the year are confirmed by provincial offices without consulting DSI, irrigation unions do not pay required attention to maintenance and repair work, and do not transfer a sufficient amount of resource. A lot of topics are pending between the two institutions, irrigation unions wish that the government offices do more work. The civil (governmental) office, by stating that they transferred the facilities and that maintenance and repair work is the main job of the irrigation unions states that the irrigation unions are not fulfilling the assignments that they should do according to the "transfer contract".

### **3.3 Definition of the Target Group and Its Estimated Number**

On the irrigation area of Tokat 11 150 tax-payers (farmers) are using the irrigation. By improving the irrigation facilities, most of the mentioned farmers will benefit from this service. By improving water transfer and distribution, decreasing the level of water table production increase will be provided. For the continuity of the facilities, by doing periodical maintenance and repair of the facilities they should be kept running during the irrigation season.

### **3.4 Preference for Selection Among Alternative Solutions**

Irrigation project of Tokat is the biggest irrigation of the region. DSI, Tokat Village Oriented Services City Directorate and irrigation unions responsible for the operation and the maintenance of the irrigation area should interfere to the situation in order to increase the irrigation rate and irrigating the non-irrigated areas which consists of I. and II. class farming lands that are of high quality and have a high productivity. If problems on the irrigation area are not removed and the problem of drainage is not solved, salinization and alkalization in soil will start and the productivity of the soil will decrease, in the long term recovery of the soil would be required. In this case, unrecoverable harm will occur.

Due to not cleaning the drainage channels, drains have been buried under argil. If they are not cleaned, they will totally be blocked, will become uncleanable and will need to be installed again.

If concrete repairs are not done loss of water will increase, water will not be transferred to the channel ends and the complaints of the farmers will rise. Because concrete coating repairs have not been done in the last 10 years, lots of spare and tertiary channels have turned into soil channels. Since the project of the irrigation facilities have not

been done according to soil channels and since soil channels are rougher, the irrigation water can not be conducted in the desired flow rate, farmers can not get enough irrigation water. The problem of wild weed in irrigation and drainage channels has also been noticed as an important problem during the field investigations. This subject should also be considered and wild weeds should be eliminated.

If the maintenance and repairs of iron components are not done in time breakdowns in distributing water will occur. Considering all these subjects, Tokat irrigation area should be investigated in detail, requirements should be defined, measures and estimation of work to be done should be prepared, and by taking necessary technical and administrative precautions implementation should be done.

**3.5 Basic Assumptions**

- Cooperation between irrigation unions and DSI will improve.
- Irrigation unions will transfer more resources for the maintenance and repairs of the facilities and will spend at least 40 percent of their income on maintenance and repair.
- Maintenance and repair services which are detected by examination committees, will be realized according to a programme.
- Irrigation unions will collect the assessed fee for irrigation and they will realize the rate of collection as 100 percent.
- The farmer will be able to farm the land which they could not as a result of increase in irrigation rate and their satisfaction will

increase, they will pay the irrigation fees in time and completely.

**4 Activities**

**4.1 Components of Fundamental Activities**

- Field research, preparation of measures and estimates from the project or cross sections,
- Cleansing of the irrigation and drainage channels,
- Repairs of concrete,
- Cleansing of closed drains,
- Completion of measure facilities,
- Repair and painting of broken valves and plug caps,

**4.1.1 Sub Activities**

- Eliminating the insufficiency of maintenance and stabilization of detour roads,
- Arranging of storage soil,
- Improving water distribution

**5 Project Duration and Plan of Activities**

The project should be implemented between the years 2006-2010, in a 4 year period.

**6 Institutional Framework and Operating Model**

In the irrigation area of Tokat 4 irrigation unions have been found in 1995. The mentioned irrigation unions serve to 11 150 tax-payers (irrigators). Irrigation unions are institutions which are legal entities, and their president and the council get to

Activity	Years				Application Unit
	1	2	3	4	
Field research	√				DSİ, KYHM, irrigation unions
Preparation of estimation and measures	√				DSİ, KYHM, irrigation unions
Implementation		√	√	√	DSİ, KYHM, irrigation unions
Steering and evaluation		√	√	√	DSİ
Dissemination to other irrigation areas			√	√	DSİ, KYHM

office by election. The general secretary and the workers are appointed by the administration of the irrigation union.

The budgets of irrigation unions are approved by provincial offices according to the law. Transfers among budget items during the year are also approved by the same offices with no intervention of DSI, and implemented by the irrigation unions. DSI has no effect on the budget of irrigation union. This causes the fund which is spared for the maintenance and repair of the irrigation facilities, to be spent in an uncontrolled way for the staff and other expenditures during the year.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

With the farmers producing on the irrigation area getting the irrigation water in time and in the sufficient level agricultural production will increase. Receiving irrigational water regularly will increase farmer satisfaction, collection rates of fees of irrigation unions will increase.

All farmers (irrigators) will benefit directly from the improvement, maintenance and repair services done regularly. By keeping detour roads which are near the irrigation and drainage channels and which provide transportation well, input and harvested products will be easier to transport, expenses for repair and maintenance for tractors and trailers will decrease.

### **7.2 Concrete Outputs**

When drainage channels are cleaned the level of water table will decrease, processing the soil, farming seeds and other agricultural activities will be done with no delay and in time. Because the level of water table is high, the land does not dry in time, since the soil is tempered processing the soil and farming seeds is delayed. This causes production losses, no farming can be done on

many fields. If maintenance and repair is done in time, this situation will be eliminated, all of the land will be possible to farm, and irrigation rate will get close to 100 percent. Continuity of the irrigation system will be provided, irrigation water will be conducted to the farthest part of the irrigation mains in time and as required. In addition to the increase in production this will provide happiness to the farmer who makes use of the system.

### **7.3 Sustainability**

Farmers, by getting sufficient water in time from the irrigation facilities, will water their crops, production increase will be provided. By irrigating 9 666 ha of land which is not irrigated within the 20 275 ha of irrigation area, farmer satisfaction will increase and more contribution to the economy will be made.

In order to keep irrigation rate at a high level in the irrigation area of Tokat, maintenance and repair work should be done completely according to the "DSI Maintenance and Repair Direction". At least 40 percent of the money collected as operation and maintenance fee should be spent on maintenance and repair expenses. Every year "examinations" of the facilities should be done by the "examination committees" together with the officials of DSI and the irrigation unions, work to be done should take place in the "examination reports". Work which is planned to be done by cash payment should be done without delay in the year of implementation. Especially the maintenance and repair of concrete channels and the cleaning of drainage channels should not be ignored.

## **8 Budget Breakdown and Estimated Costs**

The estimation costs of work to be done by the irrigation unions consisting of maintenance and repair in the area of irrigation of Tokat is estimated as according to the prepared "Examination Reports" 453 520 YTL for the year 2005 (as unit cost, the average unit construction prices are taken from DSI). These expenses which are prepared

by the irrigation unions and approved by DSİ are expected to be spent within their year. Irrigation unions have planned to make expenses of 23,43 YTL per hectare.

When the mentioned funds are evaluated in USD and when expenses for similar facilities in the world are considered, these are quite insufficient. Before the handover of the facilities, approximately 86 USD are spent per hectare as operational and maintenance expenses, 50 percent of this money was spent as operational and 50 percent was spent as maintenance and repair costs. When 2005 exchange rate average is taken as 1,35 YTL/USD, the expense of the irrigation unions per hectare is 17,3 USD. In order to have a good maintenance and repair for the irrigation facility this amount should be at least 40 USD per hectare (0,5 percent of the project budget). The mentioned maintenance and repair costs are about 120-130 USD in the USA per hectare, 70-80 USD per hectare in South African countries and 80-100 USD per hectare in EU countries. About half of this amount is spent for operating and the other half is spent for maintenance and repair (Bekişođlu, 1992).

6 million YTL of resource is required for DSİ and the irrigation unions to accomplish the planned work. 50 percent of this money should be taken over by DSİ and 50 percent by the irrigation union, planned activities should be completed between the years 2006-2010.

## PROJECT 3.5.3.7: USE THERMAL RESOURCES IN GREENHOUSE FARMING AND CONSTRUCT GLASS GREENHOUSES

Relevant strategic objective	: 3 Increase competitive power and open out
Relevant priority	: 3.5 Develop irrigation in agriculture and increase vegetable production generating high income and carry out agricultural researches
Relevant measure	: 3.5.3 Develop cover vegetable agriculture

### 1 General Information about the Project

1.1 Project heading	: Use thermal resources in greenhouse farming and construct glass greenhouses
1.2 Project location	: Tokat
1.3 Sector	: Agriculture
1.4 Project objective	: Using the thermal water resource in the district of Reşadiye of Tokat province in greenhousing and the building of a glass greenhouse.
1.5 Project Owner	: SPA, Municipality of Reşadiye, private sector companies
1.6 Estimated duration	: 10 years
1.7 Total Estimated budget	: 4 million YTL

## 2 Objectives

### 2.1 Overall Objective

To use the available hot water spring resource in heating of the greenhouses and producing vegetable products which have international quality and standards in Reşadiye. Thus providing new recruitment and a source of income for the people of the area, realize constant development by eliminating poverty, pull the disadvantaged mass into production with the concept of participation, maintain nutrition quality and safety of the goods to be produced are among the aims of the Project.

- During winter months, using the thermal spring waters, which stream off, in the heating of greenhouses,
- Building 30 000 m<sup>2</sup> glass greenhouse, increasing vegetable production which have high added value,
- Maintain continuity in production by growing fresh vegetables in winter months,
- Grow vegetable seedlings needed for

early production in the area,

- Grow rooted American grape fern in order to improve viniculture,
- Grow fresh vegetables and provide nutrition warranty,
- Increase income of the farmer by unit area,
- Create areas of work for women and young ones; contribute to the increase of employment.

### 2.2 Relationship to the Plan Decisions of a National Scale

In MTP, it is stated that "In order to increase competitiveness in export of agricultural products, more attention will be given to products which have more added value, which are brand name products and aimed at end consumers regarding export aids". It is stated in the 9<sup>th</sup> Development Plan, by utilizing aids from the EU Pre-accession, besides increasing the range of agricultural enterprises, most importantly improving production techniques and conditions, the efforts to modernize agricultural

and nutrition enterprises will be supported within the frame of pre-designed preferences and agricultural industry integration will be encouraged. In order to achieve this aim, off-season vegetable production, paying necessary attention to accord with the world standards in assortment, storing and packaging, the integration between agriculture and industry should be achieved. Therefore the selected project is in accordance with the national plan decisions.

### 2.3 Position in the Regional Development Strategy

The province of Tokat is one of the leading cities in the area in terms of fruit and vegetable production. However, being on the transition climate belt regarding the high amount of decrease in temperature, it becomes impossible to grow vegetables in field conditions. In greenhouses to be built, it will be possible to cultivate tomatoes, green pepper, melon, decorative plants, cut flowers and grape ferns.

Since greenhouse investment generally is an investment which brings interest once a year or a maximum of two production terms, it is important for the economies of the town and the area. Rooted grape ferns are needed in order to improve viticulture. It will be easy to grow these grape ferns within the greenhouses.

### 3 Justification

The thermal spring which is in Reşadiye district of the province of Tokat pours into and mixes with the river Kelkit in winter when it is not utilized in thermal tourism. By building the glass greenhouse and making use of the thermal spring contribution to the economies of the town and the area will be provided.

The province of Tokat takes place in the Middle Blacksea Region. The area that the province covers is 9 982,4 km<sup>2</sup>. There are 12 districts/counties,

65 towns and 609 villages in the city and the population is 828 027. According to the 2000 census the population growth rate of the province is 14, 26 out of a thousand, and in Turkey 5,20 out of a thousand. The province of Tokat has the highest rate of population growth among the provinces in the area. It is estimated that this rate of growth of population will slow down and that the population of Tokat in 2023 will be 838 580. (According to the definition of DİE), the urbanization rate in Tokat is 48,5 percent and the population employed in agriculture is 67 percent. The income level of the province of Tokat is quite below the average of Turkey, according to the 2001 evaluation 1 370 USD, and in Turkey it is 2 146 USD. The province of Tokat is the 61st in rank among 81 cities regarding the level of development.

The district town of Reşadiye is 90kms away from the province of Tokat. The central population of the district according to the year 2000 census is 16 389, villages added it is 101 900. There are 14 towns and 81 villages in the district. The population of the district for 2023 is estimated to be 21 610 central and 45 050 together with the villages. Since Reşadiye gives out a lot of migration in the future it is estimated that the rural population will decrease by two out of three and the central population will increase. The district is in the 4th group in "The Socio-Economical Development Ranking" and takes its place as 622 among 872 districts (DPT, 2004-2). The greenhouse project is necessary in order to keep the people moving out of the area within the area or close to centers.

Conditions of the district Reşadiye are favourable for greenhousing. According to a 22 year study the average rain fall a year is 441,8mm, maximum rainfall 630, 1mm and the minimum rainfall is 334,1mm. The average annual heat is 12,6°C, the maximum average is 22,3°C and the minimum average is 2,8°C. In January which is the coldest time of the year the minimum average heat is calculated as -1,5°C. Relative humidity rate has been calculated as 60,4 in average, a maximum of 66,



0 and a minimum of 57,1 percent. Wind speed is calculated as 22,1m/s average, 25,0m/s maximum and 20,7m/s minimum. The altitude (from the sea) of the district is 450 m.

The hot spring source is found within the municipal borders of the district Reşadiye. The heat of the water is 46,5-48,0°C and its discharge is Q= 30 l/s. Since theoretically it is possible to heat 1 000 m<sup>2</sup> of greenhouse by every liter/second discharge of water whose heat is over 30°C, it is likely to heat 30 000 m<sup>2</sup> (30 decares) with the available water source.

It has been stated that if thermal spring waters are taken from deeper ground its heat would be around 80°C. When its flow and heat is increased, thermal water has the possibility of being made use in many areas such as heating the city and drying food, producing of chemical materials. This is a subject to be explored by MTA in detail.

The above mentioned values do not bring any limitations to set a greenhouse. However, in order to reduce loss of heat and in order not to let the internal heat of the greenhouse decrease below 15°C in winter months it is necessary to build a glass greenhouse. Although single or double layered plastic greenhouses are cheaper glass greenhouses should be preferred in cold climates.

There have been built a thermal hotel and single-storey residences around the Reşadiye thermal water spring. There are 52 rooms and 102 beds in the hotel. Together with the visitors at other units approximately 200 people are served a day, the thermal spring season lasts 4 months (June, July, August, September). The present thermal water capacity is used at a 3-4 percent rate, and most of the time of the year and in winter months thermal water pours into the Kelkit River. With the present discharge and 600liter/day calculation every year with a 70 percent of full capacity everyday 3 000 people could be given thermal tourism service in average. Because there isn't enough beds and

because there isn't sufficient promotion the establishment can serve only a period of time of year.

There are no establishments in the region such as greenhouses, establishments for pasteurized milk, food drying and the production of fishery products which are heated by thermal spring. Thermal water is not utilized in city heating.

Although it is useable for greenhouse heating, there are about 4gram/liter of melted chemical substances in thermal water. In order to prevent the melted chemical substances to precipitate inside the heating pipes and cause blocking, necessary technical precautions should be taken and applied. To prevent the free carbon dioxide gas (CO<sub>2</sub>) which appears where the thermal water is taken, to enter into the pipe, necessary precautions should be taken. Technical precautions should be taken to prevent CO<sub>2</sub> in the air and calcium oxide (CaO) in the water to combine and change into calcium carbonate (CaCO<sub>3</sub>) limestone and then blocking carriage and heating pipes. A specialist team, taking into consideration the incrustation feature of the water should choose exchanger system and while taking the thermal water from the adits, to prevent free oxygen in the air to enter the conducting pipes technical precautions should be taken.

### **3.1 Activities Previously Carried out on This Subject**

Tokat Province Agriculture Directorate encourages farmers on early vegetable production by providing plastic greenhouses (low tunnels). There is no heating system in those low tunnels each of which is of 200 m<sup>2</sup>. Vegetable production in the mentioned low tunnels is shifted to a month earlier. In recent years greenhouse vegetable production is developing around the area. By building greenhouses heated by thermal waters it will be possible to cultivate and improve the cultivation of different plants in the greenhouses, by integrating the cultivation with vegetable farming, it will be

possible to cultivate vegetables around the year.

### 3.2 Identification of Requirements and Problems

Greenhouses should be built in the vacant areas which are adjacent to the fields where the sports premises are presently being built on the riverbank of Kelkit River. Reasons to prefer the mentioned area;

- Since thermal springs are situated at higher elevations on higher ground, around 50-60m from the field where greenhouses will be built, water will flow with gravity and pumping will not be necessary.
- Irrigation water will be able to be brought by gravity from the higher grounds to the greenhouses to be built near the Kelkit creek or irrigation water can be provided from the caisson well which will be opened on the river bank.
- Excessive financial resources will not be necessary for expropriation of the area where greenhouses will be built.
- Since the northern side of the area where the greenhouses will be built is surrounded by high mountains and since it is not affected by North winds it is highly adequate for building greenhouses.
- Because the land is level or nearly level there will be no need for excavation or fill during the infrastructure works or construction of the greenhouse.
- Water used in the greenhouses and then discharged, will be possible to be used for breeding hot water fish in the appropriate areas of the river bank, then can be poured into the river.

New hot springs should be explored by a specialist team through a study around the thermal spring. Local authorities have stated that if thermal water is taken from deeper ground the heat of the water is likely to be around 80°C. According to the study which will be done in the area, if potential is determined, the area should be expanded by opening new wells. The Municipality of Reşadiye should have the related institutions to make the mentioned studies and researches by taking necessary initiatives.

Since hot springs are of renewable energy resources they are environment friendly and do not harm the environment. In the present situation, in natural circumstances thermal water pours into the Kelkit River and does not cause pollution. Because the average flow of the Kelkit Creek is more than 25 m<sup>3</sup>/s, efflux thermal water would not create any risks for fish or other living beings.

Greenhouse supplies are produced and installed by various companies in the country or abroad, greenhouses are built according to the requests either partially or on B.O.T basis. The decision whether the greenhouse should be manually controlled or semi or full automated should be given according to the local conditions and costs during the final preparation of the project and its implementation. While building the greenhouse highly concentrated chemical substances within the thermal water should be taken into consideration, selecting the exchanger system and technical precautions against crustal thickening while the water is taken from the adits and transmitted should be put in application. Because thermal waters are corrosive, pipe and heating systems should be chosen of durable materials against corrosion.

In order to utilize alternative technologies regarding greenhouse building similar applications within the country and the world should be considered, the most suitable and economical solution for the region should be put into practice. Therefore field search and the preparation of the greenhouse project should be done by a specialist team; possible mistakes which might occur should be eliminated in the beginning. The reason for suggesting a glass greenhouse is that because heat loss with double layered plastic is too much, the greenhouse productivity falls behind the expectations. Since a glass greenhouse keeps heat more than plastic greenhouse productivity becomes 20-40 percent higher.

Nearly all of the materials which will be used in the greenhouses are produced domestically in the

country. However, some special equipment such as the sensor, tensiometer which measures humidity in the soil and the hygrometer which measures humidity in the air are exported from abroad.

Attention should be paid for the technology to be chosen for the greenhouse should specially be of feature which will harm the environment in a minimum amount. Necessary precautions should be taken by considering the regional conditions, while getting the thermal water from the source, conducting it to the greenhouse, pouring it to Kelkit creek after use. Before discharging the thermal water used for heating the greenhouse to the Kelkit creek, its use for aquacultural products (catfish) in semi soiled pools heated from the bottom should be studied.

Since the municipality of Reşadiye owns the property rights of the thermal spring it might not hand over the rights of use to private sector. Because it will not be economical for the public institutions to invest in building the greenhouse currently, it seems unlikely for the municipality to do this job on its own.

**3.3 Definition of the Target Group and Its Estimated Number**

Private sector companies, who will build greenhouses, will put their products on the market in near surroundings or abroad. 100-120 people will work in the greenhouse, while changeable according to the type of product, approximately 1 200 – 1 500 tons of production will take place. Necessary input for production of the crops will be

obtained domestically in the region or from outside the region, transportation possibilities will be developed.

**3.4 Preference for Selection Among Alternative Solutions**

**3.5 Basic Assumptions**

- Demand for vegetables which are grown off season, will continue increasingly domestically and in foreign countries.
- Off season vegetable export sales will raise, the grower will earn more,
- Rooted grape ferns which are needed in the region will be grown, regional viniculture will develop,
- Ornamental plants, cut flowers and other products will be possible to produce according to the need in the greenhouse.

**4 Activities**

**4.1 Main Activities**

- Detailed study of the thermal springs for building the greenhouse,
- Preparing the greenhouse facility project and completing the building by considering the last developments in technology around the world
- Developing activities regarding export sales,
- Growing of rooted grape ferns and the developing of viniculture.

Activity	Years										Application Unit	
	1	2	3	4	5	6	7	8	9	10		
Investigation and study in the field	√	√										TKİB, SPA, Municipality of Reşadiye , MTA
Source development by MTA		√	√									MTA
Renting of the field to private sector		√										Municipality of Reşadiye
Construction of the facilities		√	√	√	√	√	√					Private sector companies
Developing marketing			√	√	√	√	√	√	√	√		Private sector companies

### 5 Project Duration and Plan of Activities

The project will continue between the years 2006-2015. Greenhouses should be built in such a way that they can be used multipurpose considering the latest technological developments in the world. Technical aid should be taken from universities and related institutions, the project and the application should be done by efficient experts and companies. One of the choices of management fully automated, semi-automatic or manually, of the greenhouse should be chosen according to the conditions of the region and the cost of the greenhouse. Semi-automatic system could be preferred regarding its cost effectiveness.

### 6 Institutional Framework and Operating Model

The project should be carried out according to an agreement concluded between the municipality of Reşadiye who owns the rights of use of the thermal springs, and the private sector. The Municipality of Reşadiye will be the owner of the project in the beginning. After completion of the construction or at the beginning of the work the facilities should be handed over to private sector by way of tender according to the current laws and regulations. For this subject, the model used in Karaali, a village of Şanlıurfa, should be taken as a sample (Bekişoğlu and Özel, 2002).

In order to realize the project, as the 1<sup>st</sup> Alternative, the right of use of the thermal spring is hired to private sector according to long term contract which will be prepared. All services will be provided by the entrepreneur who owns the right of use of the source. After the expiry of the period stated in the contract, the facilities can be returned to the municipality according to the "build-operate-transfer" model or the time of the contract can be extended with the same conditions.

According to another model, the Municipality of Reşadiye gets the greenhouse project prepared

and does or cause executed the implementation done. The project should be executed by the Municipality in the guidance of "Technical Team (TT) or Project Implementation Unit (PIU)". PIU or TT should be set of at least two persons who are experienced in building greenhouses and construction, if necessary service should be hired from experts by a special contract. The Municipality of Reşadiye assumes all responsibility for implementation of the project. As an institution the Municipality of Reşadiye should be responsible for the technical direction and management, preparing job descriptions, preparing documents for tender, determining evaluation criteria, evaluating the tender, signing the contract, making payments, paying the commissions, works related to take the project implemented according to current laws, regulations and rules. After completing the construction of the greenhouse, the municipality should hand over the facilities to private sector by way of tender.

Nearly seventy percent of the workers who will work in the project will be women. Women are more successful and productive than men in preparing the soil, insemination, grubbing up, pruning, harvesting, sorting and packaging. Therefore a big amount of the workers who will work in the greenhouse will be women and these paid workers will contribute to the family income as well as to the economy of the town.

In order to create a job for a person approximately 15 000-20 000 YTL of investment would be sufficient in greenhousing. In each stage of the project women and men will contribute to, the project at the same rate. Men in the construction stage and women in the management stage (70-75 percent) will participate more in the labour force.

It is necessary that the project manager and the technical staff be educated in viniculture and growing garden plants and having worked at similar jobs at least for a year or more. It is seen beneficial that all of the technical staff be selected

from the ones who have worked in similar conditions. Theoretical and practical education on work should be given to all staff who will work in the greenhouse. Since greenhousing is a job requiring experience, results can be achieved easier with educated staff.

## **7 Expected Results**

### **7.1 Impact Expected on the Target Groups**

The district of Reşadiye is economically an underdeveloped district. Building a greenhouse heated by thermal spring in the town will be beneficial for the economy of the town by producing various products and developing thermal tourism. Employment will rise in the district, by using input trade will develop, the sorting, packaging, transportation of nearby produced to close and far markets and marketing them will directly or indirectly create job possibilities to a lot of sectors.

- Off season vegetables, ornamental plants and rooted grape ferns will be produced in the greenhouses.
- Construction of the greenhouse will make it possible to create jobs for men and women.
- By growing vegetable seedlings early vegetable production will be possible and the growing of vegetable seedlings which are brought to the region from outside of the region will be done within the region.
- Rooted American grape fern production which is necessary in order to develop viniculture in the region will be possible, viniculture and accordingly grape processing industry will develop.
- By the optimized use of the hot water spring, production of aquacultural products will be possible and consistency in production will be provided without giving any harm to the environment.
- By getting the water from deeper ground and having its heat higher, various kinds of utilization possibilities such as urban warming, drying food, having chemical substances will be developed.

People of Reşadiye town will benefit from the

project either directly or indirectly. Marketing the products produced in the greenhouses will add to the economy of the town, transportation possibilities will develop; accounts of companies investing for the greenhouses will increase. Payments done to the ones working at various activities in the greenhouse in winter and summer months will be beneficial for the increase in living standards of many families.

### **7.2 Concrete Outputs**

In the greenhouses heated by thermal water, growing plants which are not possible to grow outside off season, such as tomato, green pepper, cucumber, lettuce, cabbage, parsley and melon will be possible to grow. Because it is not possible to grow summer vegetables in the region on open land during winter, the demand for summer vegetables is covered from greenhouses from the Mediterranean Region. Because of high transportation fees, and because the vegetable changes a few hands while it is brought from the field to the consumer's table, vegetable prices increase in the region in winter months. Since northern countries are under snow and ice during winter months, a good potential of market is created for the vegetables which will be grown in the greenhouses in the region.

It is expected to get approximately 1 000-1 500 tons of product according to the type of product yearly in the greenhouses (approximately 30 decars) heated by thermal springs. Vegetable seedlings needed by the region are brought from outside the region (Bursa and Antalya). By growing the mentioned vegetable seedlings within the region economy will be provided, since the mentioned seedlings will be grown in a near center there will be no adaptation problems.

In addition with the production of 2,0-2,5 million rooted American grape ferns, every year approximately on 1 000 hectares of field vineyards will be possible to be built. There are no institutions grow-

ing rooted grape ferns in the region. Productions outside the region are away from answering the demand of the country. There is always demand for cut flowers, ornamental plants and house plants which will be grown in the greenhouse.

The greenhouse to be built will be a good model for other thermal springs in the region to be made use of, in the region approximately on 360 decares of land greenhouses will be possible to be built in the future; additional job possibilities will be created.

### **7.3 Sustainability**

Vegetable is the most grown and consumed product in our country. In the near future, a serious problem in marketing vegetables seems to be unlikely other than seasonal changes. No restrictions in marketing is foreseen since there will be enough demand for vegetables which will be grown off season from within the region and outside the region. If organic vegetable production takes place in the greenhouses, it is assumed that marketing would be easier. After production begins in the greenhouse, planning production according to the demand would be the most rational way.

Markets in and outside the country exists for the vegetables, cut flowers and ornamental plants which will be produced in the greenhouse. Northern countries, neighbouring the Black Sea are the leading most important markets. However, since production will not be too much, products will be possible to be consumed in the near areas.

In the greenhouse during production unprocessed fertilisers of animals especially fertilisers of sheep and goat as raw materials are required. Since bovine breeding is wide in the region, the mentioned natural fertilisers can be obtained domestically.

Processed products which will be used in the greenhouse during production are chemical fertilisers and agricultural strife pharmaceuticals. There will be no problems in obtaining chemical

fertilisers and agricultural strife pharmaceuticals because they are always possible to obtain from domestic markets and close centers.

Materials such as seeds, seedlings, peats, pots, viols and basic hand equipments for soil processing, pruning and others needed in harvest can be obtained from domestic sellers or from outside the region. No possible problems are expected in obtaining all inputs which will be needed in operating the greenhouse.

### **8 Budget Breakdown and Estimated Costs**

The total sum of the resource required by the project is calculated by taking the unit cost of the glass greenhouse as 50 YTL/sqm (30 USD/sqm). Implementation unit cost might vary according to whether the irrigation, fogging, air conditioning and lighting systems would be chosen as manual or automated. Although manual systems are cheaper, labour costs are excessive and the possibility of mistakes during operation is high. In semi automated or fully automated systems mistakes by people are decreased to a minimum level, but, costs increase.

Although greenhouses constructed by plastic materials are 15-20 percent cheaper, they are not as profitable as glass greenhouses. For Reşadiye district where winters are cold, glass greenhouse should be preferred without question. Therefore calculations based glass greenhouses.

While preparing the final project of the greenhouse, the system to be chosen should be decided on by experts. Preparation of the project, connection roads, territorial coordination, control work of the construction, education of the staff, developing the thermal spring and with other costs the total sum of financial resource for 30 000 sqm of greenhouse is estimated as 4 million YTL.

It seems possible to make use of EU funds in constructing greenhouses by making use of ther-

mal springs. The institutional structure which will be realized by the Municipality of Reşadiye and the public will be able to carry on these activities. In an institutional structure which will be realized by participation of the public, at least 75 percent and a maximum of 90 percent of the required financial resource can be obtained from EU grant funds. In normal circumstances 25 percent of the project is expected to be compensated by the the Municipality of Reşadiye.





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