

**RIVER BASIN MANAGEMENT APPLICATIONS**  
**YESILIRMAK RIVER BASIN DEVELOPMENT PROJECT MODEL**

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**ABSTRACT**

River basin management is defined as “planning, developing and managing the sustainable use of the natural resources in a catchment basin so as to provide for the society’s social, cultural and economic development by taking into account the basics of ecology.”

Flood, erosion, domestic and industrial wastes that occur in Yesilirmak River Basin, which covers an area of approximately 5% of Turkey and is 519 kilometers long, cause major problems and require rehabilitation. In order to realize regional development within the framework of the principles of sustainable development and to protect and hand on the cultural and natural assets, it has become necessary that a joint project be carried out to solve the problems by coordination of various organizations from one center. On these grounds “**Yesilirmak River Basin Development Project (YHGP)**” has been initiated.

Looking at the development process of YHGP, the point that has been reached today is the outcome of the legal organizations of joint formations of local authority and civil sensitivity through the process of sustainable development. This action plan is realized as a result of a study in which local-civil approaches were discussed and different methods and applications as to the integration of local participation to this process were experimented.

The management of YHGP is executed by Yesilirmak River Basin Development Union (YHKB) which was founded in 1997 with the participation of Amasya, Corum, Samsun and Tokat provinces. It is the first local-regional development model and the first river basin based service union in Turkey.

It has been harmonized with the NUTS II Regional Classification prepared jointly by the European Union (EU) and the State Planning Organization (SPO) and been considered quite appealing by the EU. It has thus been taken by the other NUTS II regions of Turkey as a model especially with respect to management. The application of the Regional Development Program supported by the EU is still continuing within the coordination of the SPO and YHGP. YHGP Region Plan is at the stage of approval by the SPO.

Taking into account factors such as pollution and flowing regime, while flowing regime is about the river basin, pollution is of concern of the whole Black Sea Basin together with the river basin. It is extremely important for our Region and for Turkey that the institutional structures necessary for the significance and application of the River Basin Management are formed in line with the Principles of Sustainable Development and applied with an effective coordination.

**Keywords:** Yesilirmak, Sustainability, Pollution, Regional development, Governance

## 1. INTRODUCTION

River basin management is defined as “planning, developing and managing the sustainable use of the natural resources in a catchment basin so as to provide for the society’s social, cultural and economic development by taking into account the basics of ecology.” This definition also makes the river basin management synonymous with the concepts of development of the river basin society and rural development. Problems arising from the scarcity of appropriate resources in the face of the rising demand for water parallel to the rapid growth of population in recent years, and excessive use and various pollution parameters due to the growing industrial and agricultural activities, have increased the importance of especially river basin based water resources management. Observation of both quantity and quality changes occurring in water resources within the river basin scale will also provide for great advantages so that necessary precautions will be taken in any negative situation. It should be considered that a problem which is of no importance for one part of the river basin may cause severe defects (flood, pollutant discharge, etc.) in another part in time, and it should be provided that the system is examined as a whole for the protection of the resource. Global warming, wrong structuring, damages caused by the floods of the rivers due to the destruction of vegetation are also the issues that need to be seriously considered on a river basin base. Water is not an endless resource, which is contrary to the common belief, and it is one of the essential elements of human life. Therefore it is an obvious requirement that any intervention to the

water resources should include sustainable logical policies in line with the protection-use principles. Increasing demand for the consumption of water resources and these resources' not having the sustainable qualities that offer the users equal opportunities and benefits have made a world-wide water crisis inevitable.

Our country does not have an institution that considers river basins as a whole "from the source to the sea", makes rules for the long-term distribution of the available water resources potential in the river basin, in other words conducts "river basin planning". Since there is no planning on the basis of river basins and no "Water Rights" Law in our country like the ones in developed countries, some difficulties regarding the use of water resources are experienced from time to time.

Yesilirmak River Basin, which covers an area of approximately 5% of Turkey and is 519 kilometers long, is the third in the ranking of the 26 river basins in the country with respect to their areas. The population of the river basin is 3.003.142 according to the 2000 census, and the density of the population is 83. Yesilirmak, which has given its name to the basin, arises from the Köse and Kızıldağ slopes within the borders of Sivas, divides into three main branches called Cekerek, Tersakan and Kelkit Tributaries, and runs into the Black Sea from Carsamba in Samsun.



"Figure 1. 1 Yesilirmak Catchment Basin"

The maximum volume that has ever been measured of Yesilirmak River is 1914 m<sup>3</sup>/sec, the minimum volume 1,83 m<sup>3</sup>/sec, and the average volume 121 m<sup>3</sup>/sec. Floods occur due to the irregularity of the flowing regime of Yesilirmak River, and when the volume decreases, although the amount of the pollution caused by domestic and industrial wastes does not change, the negative effects of this pollution over the environment (fish deaths, odour, visual pollution, etc.) becomes quicker and more de-

structive because of the increasing ratio. Flood, erosion, domestic and industrial wastes that occur in the river basin where agriculture is an important means of subsistence, cause major problems and require rehabilitation. Getting into operation of Süreyya Bey Dam, whose construction over Çekerek Tributary is currently continuing, is of great significance for stabilizing the flowing regime of Yesilirmak.

In the Eighth Five Year Development Plan Regional Development Pre-Specialization Commission Report prepared by the SPO, it is stated that "various local governments in the river basin should act in coordination by forming unions rather than acting individually, and protect their environmental values before they are polluted". In the same report, "**Yesilirmak River Basin Development Project**" is given as the recent example of organizing within the river basin scale.

Meanwhile, European Union, to which we are in the process of entering, declared in the Water Framework Directive issued in December 2000 that it adopted the management plans based on river basins in the administration and evaluation of water resources.

## **2. YESILIRMAK RIVER BASIN DEVELOPMENT PROJECT**

### **2.1 PROJECT FORMATION PROCESS**

In order to realize in the Yesilirmak River Basin the management of the river basin and regional development within the framework of the principles of sustainable development and to protect and hand on the cultural and natural assets, it has become necessary that a joint project be carried out to solve the problems by coordination of various organizations from one center. On these grounds "Yesilirmak River Basin Development Project" has been initiated.

Through this process, beyond the positive channeling of local authorities by the civil initiative, the point that has been reached in Amasya today is the outcome of the legal organizations of joint formations of local authority and civil sensitivity. This action plan is realized as a result of a study in which local-civil approaches were discussed and different methods and applications as to the integration of local participation to this process were experimented. To order the studies in this context chronologically:

Elimination of the damages resulting from the irregular flowing regime of Yesilirmak River and prevention of erosion and pollution have required river basin planning. As the projects that were to be prepared should have been river basin based and regional, Amasya Governorship found it appropriate as a result of local demand in 13.06.1996 that a local committee would be established with regard to the Yesilirmak River Basin Improvement Project studies which cover 6 provinces includ-

ing Amasya. A meeting was organized in 20.06.1996 with the participation of public entities and non-governmental organizations in Amasya to discuss about the preparations of the inter-provincial meeting that was going to cover the provinces of Amasya, Corum, Samsun, Sivas, Tokat and Yozgat, 19 Mayıs University and related ministries, and was going to be held for the purposes of “investigating what could be done in the flowing regime of Yesilirmak, measures that could be taken to prevent erosion in the river basin and preventing pollution”.

It was decided in this meeting that;

1-Yesilirmak River and its branches did not only concern Amasya, but 6 provinces including Amasya; therefore, to find a solution to the problem, a meeting would be organized in Amasya in which 5 Governors as well as Governor of Amasya, related division heads, scientific organizations, Ministries, Municipalities, industrial organizations and foundation authorities would participate,

2-What could be done in the flowing regime of Yesilirmak would be investigated,

3-What kind of measures could be taken in order to prevent erosion in the river basin would be determined,

4-Issues regarding pollution prevention would be examined,

5-Studies made previously by State Hydraulic Works, Istanbul Technical University, 9 Eylül University, Scientific and Technological Research Council of Turkey and Ministry of Agriculture about prevention of pollution and inner water production potential in Yesilirmak River would be made use of,

6-A committee composed of Assistant Governor, Amasya Branch Office of State Hydraulic Works, Regional Office of Forest Management, Health Board, Environmental Health Branch Office, Provincial Agricultural Directorate and Chief Engineering of General Directorate of Forestation and Erosion Prevention would be established,

7-The local committee to be established would start as soon as possible working on the enhanced meeting that would be held in Amasya, and would prepare and make ready for the meeting the introductory documents about the project.

The issue was communicated to Corum, Samsun, Sivas, Tokat and Yozgat provinces by Amasya Yesilirmak River and its important branches called Cekerek, Tersakan and Corum Tributaries shorten the lifespan of the dams in the river basin due to the sediments that they are carrying,

Floods and high water levels, which occur every year, cause losses of lives, property and agricultural products,

Increasing pollution in the river and its branches threatens human health, agriculture in the region and welfare of the settlements,

These problems have reached to such an extent that can neither be prevented by the measures taken by 6 individual provinces nor be solved by the projects implemented by the related institutions separately,

The river basin should be taken into account as a whole, and the 6 provinces in the river basin and related institutions including local governments should act together,

A meeting is going to be held in Amasya to handle this as the joint project of 6 provinces in coordination of the SPO; it is considered to initiate in this meeting a joint study called "**Yesilirmak River Basin Development Project**", which covers the issues of adjustment of the flowing regime of Yesilirmak and its branches, possible measures that can be taken to prevent erosion in the river basin, and identifying and getting under control the sources of pollution" and a draft regarding the issues to be dwelled upon was presented.

On the positive opinion of Corum, Samsun, Tokat and Yozgat Provincial Private Administrations and Governorships, a meeting was held in September 27<sup>th</sup>, 1996 in coordination of the SPO with the participation of Governors of Amasya, Corum, Samsun, Tokat and Yozgat, and joint decisions were made. It was decided in this meeting that;

Yesilirmak River Basin Development Project was to be prepared and initiated in order to adjust the flowing regime of Yesilirmak and its branches, prevent erosion, cleanse the river from the sources of pollution, use the water efficiently and provide for the economic and social welfare of the region.

Within this framework, by granting an allowance to the 1997 Investment Program with the characteristic of preliminary project, studies of the public entities related with the project could be realized, and the issue was adopted by the central government as well.

After that, Undersecretariat of the SPO initiated the studies regarding Yesilirmak River Basin Geographical Information System infrastructure, which is the main work of YHGP. With the provision of the necessary coordination by Amasya Governorship, **Yesilirmak River Basin Development Project (YHGP)** was improved, and by attending the meeting, Governors of Amasya, Corum, Samsun, Tokat and Yozgat formed in 1997 "Yesilirmak River Basin Special Provincial Administrations Union", which is today called **Yesilirmak River Basin Development Union (YHKB)**. Management of YHGP is carried out by "Yesilirmak River Basin Special Provincial Administrations Union", which had permission for foundation with the decision of the Council of Ministers dated September 23<sup>rd</sup>, 1997 and numbered 97/9992 and became active after the decision was published in the Official Gazette dated October 7<sup>th</sup>, 1997 and numbered 23133. The regulation was modified in 2004 and the name of the Un-

ion was changed as “Yesilirmak River Basin Development Union”. (In line with the Statistical Region Units Classification, Yozgat left our region and ceased its membership of the Service Union in January 2004, and set up the Kayseri-Sivas-Yozgat Region.) The centre of the union is Amasya, and the president of the union is Governor of Amasya. The union held meetings according to its regulation, formed its organs, and established “Project Monitoring Council”, “Provincial Project Offices” and “Work Stations”. For the project, Head of the Branch Office of State Hydraulic Works, Head of the Provincial Department of Village Services and Head of Forest Management were designated as the “working group leaders” from Amasya.

After “Yesilirmak River Basin Development Project Work Definition” which was prepared with the contribution of the SPO was discussed by the Union Council, studies to determine the basic strategies to be followed in solving the principal problems of the basin and to draw up a “Yesilirmak River Basin Development Plan”, or in other words a “Region Plan”, which will cover all the sector targets, were initiated.

A meeting was held about YHGP in Ankara on July 17<sup>th</sup>, 1998 under the chairmanship of the Undersecretary of the State Planning Organization with the participation of the governors of 5 member provinces, representatives of TUBITAK-MAM and of the related public institutions and related sector specialists of the SPO. The following issues were discussed in the meeting:

a-)As emphasized in the Seventh Five Year Development Plan, Yesilirmak River Basin Development Project is of great significance as it will make contributions to the reduction of interregional differences; apart from the physical issues such as the adjustment of the flowing regime, prevention of water and environment pollution and control of erosion, which were defined as the goal of the project, social, cultural and historical dimensions are also taken into account; projects based on this principal will create value added even for the people who live at the extreme in the region,

b-) Coming into being of the project with civil initiative constitutes an example of decentralization and requires local support,

c-) As it provides for the formation of a union, it will also constitute an ideal example for the local cooperation,

d-) Project leaders are governors,

e-) Support from municipalities, private sector and universities has to be obtained in order for the project to be successful,

f-) Management of the project needs good coordination, and

Progress in the Geographical Information System (GIS) Infrastructure Project was also summarized. Other than these, the following issues were emphasized: accelerating some of the present investment projects, starting scheduled flights for Merzifon airport, drawing up sewerage and treatment projects in the rural areas,

encouraging the forest villagers to stay in their native regions as they make great contributions to the works of forestation and erosion control, presenting the project in the international arena regarding the issues like prevention of erosion and environmental pollution and economical usage of water, working in cooperation with specialists of the Undersecretariat of the SPO within the process of preparing the project preparation and application by way of visiting the place under consideration in every stage:

It was believed that the realization of YHGP, which could be said to be the GAP of the Black Sea Region, would not be possible by the limited local resources and opportunities. Therefore, in order to initiate and carry out the project without interruption, it seemed inevitable to have the support of the State, and in this context, projects within the framework of YGHP were prioritized in the investment programs by the SPO.

The union has held 19 council meetings and 26 committee meetings since 1997. It has made decisions regarding the river basin and conducted studies.

In the Conference for the Solution to the Problems of Turkey organized for the fifth time in December 19<sup>th</sup>-22<sup>nd</sup>, 2003, Yesilirmak River Basin Development Project was presented by the President of the Union, Governor of Amasya. In the final report announced by the Ministry of Labour and Social Security, YHGP was listed among the first 10 projects within the context of the Regional Projects, and a recommendation was made so as to take it as an example in the formation of Local Development Agencies.

President of the Union and YHKB staff participated in the sessions of Regional Development Strategies, Role of the Private Sector and Non-Governmental Organizations in Relations with the European Union Working Group and Tourism Working Group in the Economic Congress of Turkey organized in Izmir in May 5<sup>th</sup>-10<sup>th</sup>, 2004, and President of the Union presented "Yesilirmak River Basin Development Project within the Framework of Regional Development Strategies."

The union provides institutions and NGOs with training about project preparation and strategic planning. It has also successfully undertaken the task of coordination in those studies that facilitate cooperation among the public sector, private sector, NGOs and universities, guarantee the proper and efficient use of resources, accelerate regional development in harmony with the principles and policies envisaged in national development plan and programs by activating the local potential, and provide sustainability. Technical assistance is given to NGOs and related institutions in all projects that can be prepared in the region for the national and international programs, primarily for EU supported grant programs.

**YHKB, which was formed by five special provincial administrations for the purpose of regional development, is the first river basin based service union and the first local-regional development model in Turkey.**

## **2.2. YESILIRMAK RIVER BASIN DEVELOPMENT PROJECT SUBPROJECTS**

### **2.2.1 Geographical Information System Infrastructure Project (GIS)**

It is of great importance that the most appropriate and economical use of land without disturbing the ecological balance in Yesilirmak River Basin should be planned, up-to-date monitoring and management of natural resources should be provided, and a database that will be used jointly by the related institutions in solving the problems about the river basin management plan, i.e. "Yesilirmak River Basin Geographical Information System Infrastructure" should be constructed.

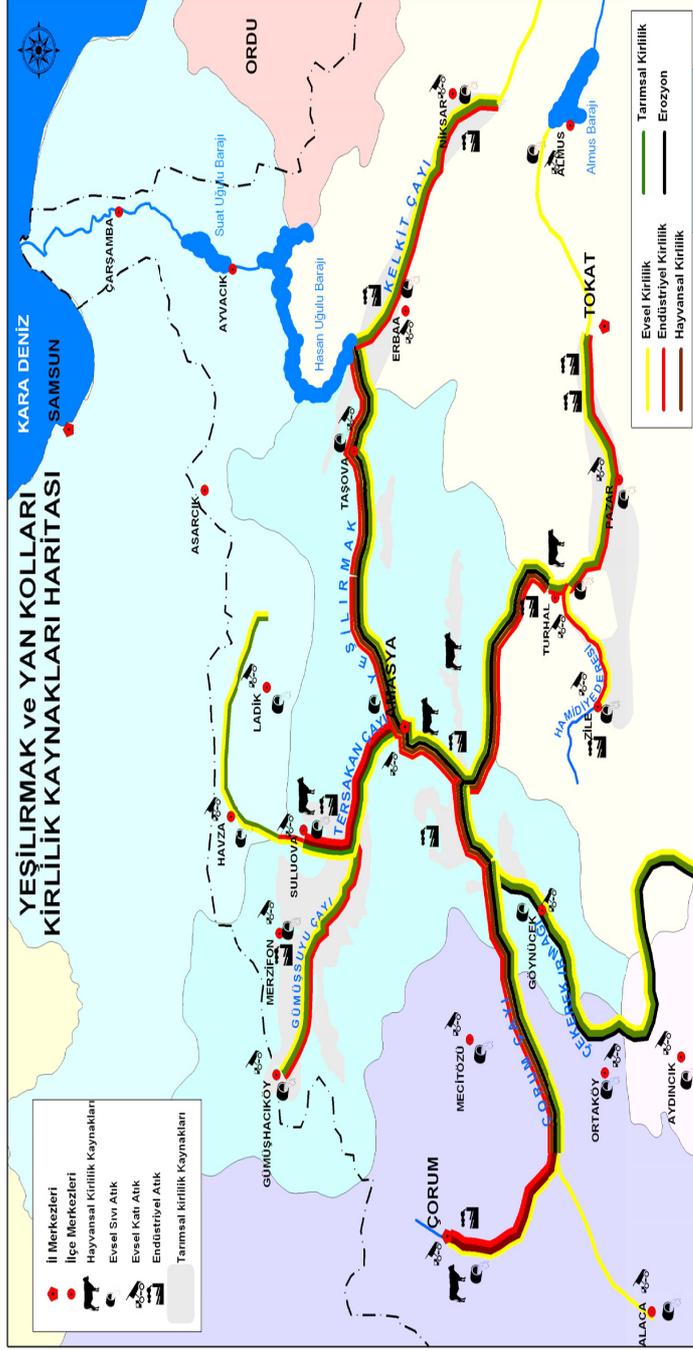
With the protocol made between the Development Union and TUBITAK-MAM, GIS was established and GIS infrastructure project studies were completed. Since the establishment of GIS, a database has been constructed in central project office and provincial project offices, and being the first on the Internet in Turkey, the GIS database has been presented on the web site [www.yesilirmak.org.tr](http://www.yesilirmak.org.tr) with other related documents of the Development Union.

GIS database contains composite satellite images, roads and settlement areas, administrative borders, population, vegetation data, rivers and lakes, numerical height, slope, exposure and illumination data, land data (land usage capability classes, large land groups, state of erosion, other land characteristics, etc.), meteorological data belonging to each basin province. New data layer information can be formed out of these layers when necessary.

Within this context, Pollution of Yesilirmak River Basin, Sources of Pollution of Yesilirmak and its Branches, Pollution Classes and Pollution Degrees, Development Plan of Amasya Province, Samsun Province Proposal Land Usage, Identification of Potential Areas in Samsun, Amasya and Tokat for the Production of Canola, and other maps of the similar kind have been constructed.

Amasya, Corum, Samsun and Tokat have the GIS Centre infrastructure. Each province has one server and one computer.

Studies conducted in the provinces are publicized after being transferred to the servers in the GIS centres, then to the main server in Amasya GIS Centre through the Internet, and finally to the web page ( [www.yesilirmak.org.tr](http://www.yesilirmak.org.tr) ). Each province can see the studies conducted in other provinces and make amendments. Thus a standard template is formed for the data, and it becomes faster and healthier to process data, to enter information and to publicize them. Studies regarding the updating of the database are continuing.



“Figure 2. 1 Pollution Map of Yeşilirmak and its Branches, YHKB (GIS)”

### **2.2.2 Studies Conducted Within the Framework of the EU Pre-Accession Financial Support Programme for Turkey**

Yesilirmak River Basin Development Project overlaps with the NUTS II Regional Classification prepared jointly by the EU and the SPO. One of the most significant characteristics of the project is its regional nature, its management being a local administration union. With this characteristic, it has been considered quite appealing by the EU, and taken by the other NUTS II regions as a model especially with respect to management. These structures have also been established in other regions under the name of Regional Development so as to use the EU supported regional development funds.

Due to the fact that an important amount of the grants that will be given to our country from the EU Structural Funds will be allocated to those projects with local and regional characteristics, since April 2002, a joint SWOT analysis has been carried out by the representatives of the SPO and the EU with the participation of local actors, and a regional vision has been formed by identifying the priorities of the provinces and the measures related with them. Regional Development Program in Samsun, Kastamonu and Erzurum NUTS II Regions ( RD-SKE NUTS II Regions) , of which the SPO is the beneficiary, has been initiated first in our region as a pilot program and Yesilirmak River Basin Development Union, whose centre is in Amasya, has taken the role of the coordinating agency in the implementation of the program in the region.

The fundamental goals of RD-SKE NUTS II Regions are: Decreasing interregional differences in terms of development, activating regional potential, establishment, coordination and management of the application oriented structures and provision of efficiency in implementation (local + central), increasing the capacity to prepare and execute projects, improving the culture of producing and implementing joint projects, and preparing for the EU structural funds. The components of this program are;

1. Local Development Initiatives (LDI) (Local Initiatives) (culture, tourism, publicity, employment, education, health, capacity improvement, etc.),
2. Small and Medium-Sized Enterprises (SME),
3. Small Scale Infrastructure (SSI) (environmental infrastructure, rural infrastructure, regional access infrastructure, industrial infrastructure, tourism infrastructure, etc.).

Within the context of the program which was initiated with the cooperation of the SPO and the EU, and which had the Central Finance and Contracts Unit (CFCU) as the contracting authority, SPO as the beneficiary and the coordinator, and YHKB as the coordinating agency in TR 83 NUTS II region, studies have been carried out

regarding the structuring of the Development Union. The union ensured that the YHKB Program Implementation Unit (PUB) staff had the necessary training and participated in all trainings and seminars organized by the EU and the SPO for capacity building.

After the Program Call for Proposal about the EU Supported Regional Development Grant Program whose total budget is 49.33 million EUR was made in Ankara in May 4<sup>th</sup>, 2005, information and training have been given by YHKB and the Technical Assistance Team (TYE) in our region, and technical support has been given to the projects of possible applicants.

Within the context of the program being implemented in 10 provinces in Turkey, 396 projects have been qualified for contract and grants amounting to a total of 48.274.199 EUR have been contracted. As a result of these supports, within the context of the Preliminary National Development Plan and YHGP, 476 projects from our region were presented to the CFCU, and implementation of 196 projects has been initiated as of May 31<sup>st</sup>, 2006.

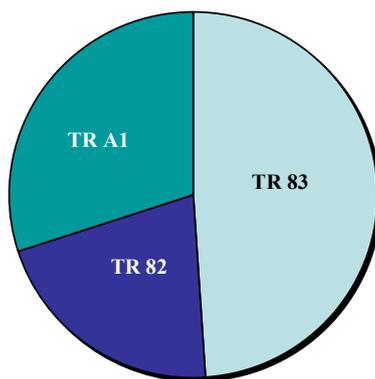
PUB within the YHKB structure is also actively involved in the Monitoring and Evaluation Process. Within the context of the EU Supported Regional Development Program in Samsun, Kastamonu and Erzurum NUTS II Regions, outcomes according to the number of projects in the regions are as follows:

**RD-SKE NUTS II Regions:**

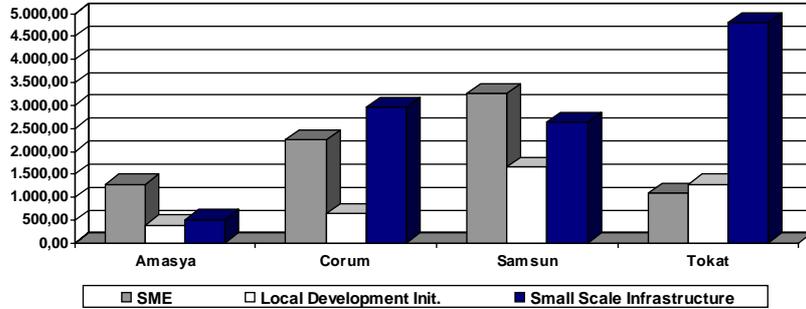
**TR 83:** 194 Projects -TR 83 ( Amasya, Corum, Samsun, Tokat)

**TR 82:** 83 Projects -TR 82 (Cankırı, Sinop, Kastamonu)

**TR A1:** 119 Projects -TR A1 (Erzincan, Bayburt, Erzurum)



“Graph 2. 1. Outcomes According to the Number of RD-SKE NUTS II Regions Program Projects”



“Graph 2. 2. Graph of the distribution of project budgets in the provinces of the region on the basis of components”

When our region and all programs are examined;

“Table 2.1. RD-SKE NUTS II Regions Program Data for TR83”

	Number of Projects	Numerical Ratio Within the Region(%)	Amount of Grant Received	Monetary Ratio Within the Region(%)	Total Project Budgets	Population	Population Ratio Within the Region
<b>Amasya (GP-39)</b>	26	13,40	2.197.623 €	9,50	3.689.088 €	365.231	12,18
<b>Corum (GP-46)</b>	45	23,20	5.964.806 €	25,79	9.400.404 €	597.065	19,91
<b>Samsun (GP-32)</b>	81	41,75	7.721.390 €	33,38	12.327.497 €	1.209.137	40,31
<b>Tokat (GP-61)</b>	42	21,65	7.245.120 €	31,32	9.294.298 €	828.027	27,61
<b>Region Gross Total</b>	194	100,00	23.128.939 €	100,00	34.714.988 €	2.999.460	100,00
<b>Gross Total</b>	396	48,99	48.274.199 €	47,91	69.514.232 €	5.222.453	57,43

GP: Development Performance Ranking

When we make a general evaluation of the projects offered and implemented by the beneficiaries from our region;

In accordance with Preliminary National Development Plan and the results of YHGP SWOT analysis, in SSI of the EU Supported Regional Development Program, it is seen that important projects so as to solve the environmental problems of Ye-

silirmak River Basin are at the implementation stage." Some give examples of these projects are;

Tokat Erbaa Wastewater Treatment Facility Project that aims to decrease the pollution of Kelkit Tributary, which is one of the branches of Yesilirmak, Old Garbage Pit and Yesilirmak Left Flow Direction Rehabilitation Project in Tokat City Centre, Prevention of Pollution of Derincay Polluting Yesilirmak Project in Corum province, Kardelen Medical Wastes Management System Project again in Corum province, Mahmatlar-Kecili-Yesildere Villages Sewerage Facility and Septic Tanks Production Project in Amasya province, Amasya Saz Village Compressed Irrigation Facility Project, Clean Basin for Clean Yesilirmak Project with three stages in Samsun Havza, Clean Tersakan Tributary Project in Ladik. In the rivermouth of Yesilirmak, Protection of Samsun Fresh Water (Cakmak Dam) Basin from Domestic Wastes Project can also be mentioned. For the implementation of all projects in the Small Scale Infrastructure Component, a total of 12.615.835 EUR (approximately 24.096.244 TRY) of which 10.908.484 EUR is grant has been allocated.

In the LDI component, adult training (a total of 59) projects are being implemented so as to provide for sustainable development, to direct the social consciousness towards this, and to increase the capacity of the people of the region. Some examples of these projects are Increasing the Quality of Milk Production by Training the Milk Producers in Amasya under the Leadership of Amasya Beast Breeders Union and A Good Legacy in Samsun Clean Ladik Lake Project.

In the SME component, an innovative approach and capacity increasing (a total of 116) projects are being implemented.

Contract amount of all projects is 34.714.988 EUR. The 10% additional us required by the projects that are undertaken by the Special Provincial Administrations in our region and will prevent the pollution of Yesilirmak is supplied by transferring from the Development Union Budget to the Special Provincial Administrations.

### **2.2.3. Yeşilirmak River Basin Region Plan**

In the Preliminary National Development Plan and the Ninth Development Plan, regional development was identified as one of the main axis for Turkey. State Planning Organization (SPO) had YHGP prepared for the NUTS II Statistical Region Unit (İBB) called TR 83 composed of Amasya, Corum, Samsun and Tokat provinces. Studies conducted within this context aim at "planning the most appropriate use of land without disturbing the ecological balance, managing the natural resources in a sustainable way, reducing the differences between YHGP and other regions in terms of socio-economic development, and increasing the welfare level and contribution to the economy of the region by improving the current level of productivity."

The bid for Yesilirmak River Basin Development Project Master Plan, which comprises Amasya, Corum, Samsun and Tokat provinces, was concluded by the Undersecretariat of the SPO in 2003. Regional Development Master Plan has now been completed, and the Project will come the final admission stage once the Executive Summary and Preliminary Feasibility parts are accepted.

Necessary assistance regarding the Master Plan was provided by our union to the SPO and the Consultancy Firm that prepared the Plan.

Within the context of data collection and analysis according to the completion of various stages of YHGP Master Plan, in preparation of the scenarios and realization of the foresights, participatory planning techniques were used, regional vision was formed, and these studies were carried out with the participation in the meetings of around 1000 shareholders from the city centres and rural settlements of the region.

**Vision of YHGP has been designated as "a region that has been the gate of Turkey to the Black Sea, has raised its quality of living, is sensitive to the environment, competitive and rapidly developing.**

The fundamental strategical goal is securing the sustainable development and social and economic structure evolution which overlaps with the renewed spatial structure of the region.

Economic and social developments of the region and the effects of these developments over the region appear not only in the socio-economic relations but also in the physical space of the region. In order to provide for this realization, priorities are determined under the title of 5 strategic objectives stipulated in the region plan. These are:

**1.To secure the Strategical Objective of forming of an effective spatial organization;**

- a.)Improving the regional infrastructure in accordance with an effective spatial organization understanding
- b.)Preparing the cities for the future in a safe and planned way
- c.)Turning rural settlements into a rational structure,

**2.To secure the Strategical Objective of improving of human resources and social structure;**

- 1.Organizing education at all levels in line with the production and service requirements of the region
- 2.Developing institutional mechanisms against poverty and insecurity
- 3.Improving the quality of urban social life in the region
- 4.Providing service for the poor and disadvantaged groups in rural areas

**3.To secure the Strategical Objective of increasing the competitiveness of the enterprises and opening to foreign markets;**

- 1.Making use of agglomeration economies and externalities within the regional and urban scale
- 2.Strengthening the ties between information and production in order for them to become effective in the decision processes of the researches and to guide the policies
- 3.Opening to foreign markets
- 4.Diversifying, improving and advertising the region's tourism
- 5.Improving irrigation in agriculture, increasing vegetable production that brings high income, carrying out agricultural researches
- 6.Increasing competitiveness in cattle-breeding sector
- 7.Strengthening the financial structures of the SMEs that are in agriculture, industry and service sectors in the region
- 8.Improving and diversifying construction and transportation services

**4.To secure the Strategical Objective of protecting the ecological balance and the environment, and improving the state of the environment;**

- 1.Protection and control of air, land, water and forest ecosystems, reducing the effects of urban-agricultural pollutants
- 2.Protection of biological diversity and provision of sustainability

**5.To secure the Strategical Objective of strengthening the institutional structure;**

- 1.Strengthening local governments and development agencies
- 2.Structural strengthening of civil society and private sector
- 3.Development of the central public administration bodies in the region.

68 measures, 393 project titles and 1200 project names have been proposed for the realization of these priorities.

### **3. CONCLUSION**

When Yesilirmak River Basin Development Project was first designed, studies were conducted by taking into account the basin from where Yesilirmak appears to the Black Sea, but Kelkit River Basin, which is the main branch, was left out of the project. In the following stage, Yozgat was taken out of the project in line with the NUTS II classification and Region Plan studies continued in this direction. Considering such factors as pollution and flowing regime, while flowing regime concerns the river basin, pollution appears to be of importance for the whole of the Black Sea Basin together with the river basin as Yesilirmak flows into the Black Sea. Today in the international treaties signed by the countries on the Black Sea coast, ways of

solving the problem of pollution are sought. Within this framework, as we take into consideration a wide spectrum with agriculture and tourism, increasing the quality and the standard of living, and the problem of environmental pollution, it is important for Turkey and for our Region that necessary institutional structures are built up and an effective coordination is provided for the implementation of **YEŞİLIRMAK RIVER BASIN DEVELOPMENT PROJECT**.

In the light of the experiences gathered up to now, sharing the following suggestions has been considered a necessity:

1. Our country does not have an institution that considers river basins as a whole “from the source to the sea”. The borders of the river basins and the provinces do not overlap. Due to the lack of water usage planning on the basis of river basins, the current that comes to the dams and ground water reserves decrease, and pollution appears as a big problem. Therefore;
  - a-)River basin unions should be established in all 26 river basins in Turkey, as in the examples of Yesilirmak River Basin and Kelkit River Basin Development Unions,
  - b-)Effective participation of the Universities and the State Hydraulic Works (DSİ) should be secured in the unions formed for the management of the river basins, and legal arrangements should be made as to the coordination among the institutions and to the limits of authority,
  - c-) In the above mentioned river basins, a long term river basin management plan for water management should be constructed and implemented through the unions,
  - d-)A Higher River Basin Management Union should be established and placed in the legal framework. In this way, it will be guaranteed that the opinions of the shareholders in the river basin about the management of water are transmitted to the central government through the higher union.
2. It is seen that the institutions that have taken over the irrigation facilities in recent years (Village Administrations, Municipalities, Cooperatives and Irrigation Unions) do not deal with the maintenance of the irrigation facilities adequately. These facilities without adequate attention require renewal. Unless the institutions that have taken over the irrigation facilities provide adequate maintenance, renewal will be necessary in the future and this will be a heavy load for the public sector. Thus after the take-overs, legal arrangements should be made so that the transferring authority (the SHW, Special Provincial Administration) can oversee the maintenance expenditures and apply sanctions.
3. River Basin Unions should have a share from the general budget so that they can realize the objectives of the unions.

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