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# SOUTHEASTERN ANATOLIA PROJECT (GAP) AS SUSTAINABLE DEVELOPMENT PROJECT

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## **SOUTHEASTERN ANATOLIA PROJECT (GAP) AS A SUSTAINABLE DEVELOPMENT PROJECT**

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**ABSTRACT** The GAP is a sustainable development project based on the philosophy of human development. The GAP aims at creating opportunities for the people materialize fully their preferences and economic potentials through sustainable development. The concept "sustainable development" refers to the creation of an environment, through the optimal utilization of human and natural resources, in which the preferences and potentials of people are translated into life without compromising the opportunities of future generations. GAP as human centered regional development project considered the integration of disadvantaged groups to the development process and participation of the private sector by developing programs. Examples include ÇATOM, GAP-GIDEM, Income Generating Projects for in Non-Irrigated Areas, projects related to the youth and street children. This paper describes, in brief, the size, main features, financial aspects and the status of integrated socio-economic project in its general context. The paper later describes, in more detail, the human based studies, irrigation development with an emphasis on management and conservation of cultural assets in the GAP region together with their main results.

The Republic of Turkey has initiated a comprehensive sosio-economic development project in one of its less developed regions, the southeast region. The southeastern region of Turkey contains the northern end of the Mesopotamian Plain, the land between the Tigris and Euphrates Rivers with mountain ranges along the northern limits of this plain.

The GAP region in the southeast of Turkey faces many of the problems that are typical of underdeveloped regions in the world. Compared with the rest of Turkey, the region has had higher fertility rates, higher infant mortality, and lower literacy rates, due to less access to health care and education. The region also experienced net out migration – both seasonal agricultural migration and permanent rural-to-urban out migration, as a response to high unemployment in the region. The region's economy is based largely on agriculture, but

productivity historically has been low. In 1985, per capita income in the region was half of the national average, and the region, which has 10% of the country's area and population, accounted for only 5 % of the GNP. The GAP region also has several urban centers that are experiencing rapid growth, and that have had problems keeping infrastructure development in pace with rural-urban migration. So the region presents challenges in terms of both rural and urban development.

Given the development challenges of Southeastern Anatolia and opportunities presented by the Region's water and land resources, The Turkish Republic created the Southeastern Anatolia Project, its Turkish acronym as GAP which is geared to improve the living standards of population over 6.5 million of this 75 000 km<sup>2</sup> region by mobilizing the natural resources of this area for a integrated manner.

GAP was initially prepared as a water resources development package including the construction of dams, hydroelectric plants, infrastructure building, within the framework of an integrated program of development in nine provinces in Southeastern Turkey. In 1989, the government took this development a step further by preparing the GAP Master Plan which established the general framework for integrated regional development by creating a separate entity, the GAP-RDA and giving it responsibility for the coordination of development in several sectors including the social, environmental and economic development within the Region.

The South-eastern Anatolia Project, in its historical context, was formulated as a package of water and land resources development projects in the 1970s, which was later transformed in the early 1980s to a multi-sectoral, socio-economic regional development program. In 1995,

the Social Action Plan was a major step toward a greater integration of sustainable development with socio-economic and infrastructure projects.

The water development program of GAP includes 13 main irrigation and energy projects, seven of which are in the lower Euphrates sub-basin and six in the Tigris sub-basin. The program envisages the construction of 22 dams and 19 hydropower plants and introduction of irrigation over an area of 1.7 million hectares.

GAP's unique mandate allows it to integrate various social and economic sectors. This integration is described as three pillars that support sustainable human development. These three pillars are public investments, private sector involvement and people's participation. These three elements work together to bring about sustainable human development and address issues such as gender, economic viability, environmental and spatial sustainability and fairness in development.

Specific targets of the GAP include:

- the improvement of the income level and living standards of people in the region;
- elimination of development disparities existing between this region and other regions of the country and
- contributing to such national goals as social stability and economic growth by enhancing productivity and employment in rural areas.

The GAP Master Plan of 1989 had identified all development related activities, preliminary projects, development alternatives and scenarios. However, many important developments, some of which were not in line with the visions of the original plan, took place since then and

consequently some projections of this plan became outdated. The region, for example, underwent radical demographic changes and witnessed massive urbanization within the last 10 years. Furthermore, such financing models as build-operate-transfer became common again in the last decade, concerns on the environment came to the fore together with such concepts as participation, sustainability, gender balanced development and private sector involvement. All these pointed out to the need of updating the original Master Plan in view of all these developments.

The vision of the new GAP Regional Development Plan of 2002 has been to empower individuals and institutions in local communities to understand and improve the environment with the objective of mainstreaming and institutionalizing the participatory approach by developing new partnerships between government, civic society and the private sector. The participatory approach has helped to build leadership and to strengthen the capacity of local civil society organizations to make them more effective.

### **SECTORAL ACHIEVEMENTS in THE GAP**

Public investments necessary for the period 1990-2005 to achieve the targets and quantities by the GAP Master Plan amount to around 32 quadrillion at the fixed prices of 2003. Actual investments realized as of the end of 2003 amounts to \$ 16.6 Billion which gives a cash realization rate of 52.1 %.

#### **ENERGY**

As of December 2003, thirteen dams have been completed. Seven of these dams have hydroelectric power plants, which combined produce about one-third of all of Turkey's hydropower. At present, 7 hydraulic power plants are in operation and one HPP is under

construction. Turkey produced about 35.3 billion kWh of hydraulic energy in 2003. In this total, GAP has a share of 43 % with its production of 15.3 billion kWh.

### **AGRICULTURE**

The total area of agricultural land in the GAP Region was estimated to be 3.2 million ha. Of this 85 % was dryland farming, 7 % was irrigated farmland and 11 % was for horticultural and special crops. Approximately 91 % of farmers practice mixed farming and 9 % are engaged in crop production alone.

By considering the target of the irrigation area as 1,7 million ha as well as the traditional farming methods for rainfed lands creating ineffective use of irrigation; the GAP-RDA has initiated some pilot projects related to the irrigation so as to raise the economic and social welfare level of farmers together with its local partners such as State Hydraulic Works, DSI.

Most important, ‘Management, Operation and Maintenance of GAP Irrigation Systems (MOM)’ which requires a well designed management, operation and maintenance arrangement, an efficient system of training and extension and a good system of input provision and marketing.

One of the most important parts of the project at the implementation stage is to improve the organizational structure of existing irrigation districts and preparation of programs for efficient water utilization. Thus, the projects has enabled the local farmers to be trained and to transform their organization into the water user groups with the responsibility for planning among themselves their use of the available water. By this project, important achievements in terms of the water saving have been satisfied.

As of the mid of 2004, 222,580 hectares were under irrigation by the State Hydraulic Works in the GAP Region. This represents *thirteen percent* of all the land that is ultimately planned for irrigation under the project.

Upon the completion of GAP, around **1.4 million hectares of land** will continued to be rain fed. Consequently, the project “Increasing Incomes in Non-irrigated Areas” was started by the GAP Administration in order to assess the socio-economic status and potentials of those people living in areas out of the scope of irrigation and to identify new enhanced ways of income generation for these people.

The project envisages pilot and demonstrative activities to be conducted with selected farmers in the region in cooperation with the Directorates of Agriculture. By the end of 2003 the project has reached 1747 dryland farmers through activities such as establishing demonstrative orchards, grafting, beekeeping, water products, contract animal husbandry and poultry farming.

In addition, the GAP Administration has carried out various projects related to the afforestation and erosion control to maintain the culture of endemic plants remaining under dam lakes, to rehabilitate range lands as a vital factor for the development of stockbreeding and expand the forested areas in the GAP region along with relevant the Ministries together with some NGOs.

The GAP Administration has carried out crucial studies related to the agricultural extension services and training at the farm level. The GAP Administration together with the public institutions responsible for the agricultural activities has provided training from cultivation to harvesting for the farmers at the farm level.

Through the study regarding the identification of crop patterns as well as the products having high value added for the Region; the agricultural products suitable to the eco-systems of the provinces in the GAP region have been identified in order to activate the agricultural potential of these provinces.

### **INDUSTRY**

GAP RDA launched its Sustainable Development program in 1997, with the technical support of UNDP, to reinforce the human centered and integrated approach, in partnership with the United Nations Development Program, Chambers of Commerce and Industry (TOBB), and the Turkish Development Bank, has established '***Entrepreneurship Support and Guidance Centers (GAP-GIDEMs)***' to meet the need for information and support services for economic development in the GAP Region. KOSGEB (Small and Medium Size Enterprise Development Administration) later joined this partnership. GAP-GIDEM offices were established in five major cities in the Region : Gaziantep, Diyarbakır, Mardin, Adıyaman and Şanlıurfa in 1997 to provide local entrepreneurs with help in market research, finding investors and partners, and to select suitable technologies, as well as to provide information and consulting services to potential investors from other regions in Turkey and from abroad.

The first phase of the project funded by UNDP was finished in 2002. Since 2002, the EU provided funds for the project in all centers except for Gaziantep, replaced as EU Business Development Centre.

In the second stage, GİDEMs have focused more on business development through helping local authorities and NGO's by way of coordinating projects, stricter monitoring and focus on a smaller number of projects. GİDEMs conduct market research, feasibility studies, SME analysis and project profiles for their clients. Between May-October 2003, 1851 businessmen, 362 NGO members and 252 civil servants benefited from GİDEM's information services and 207 businessmen and 14 NGO members benefited from GİDEM'S consultancy and advisory services.

Provincial governments in other cities of the GAP region, such as Siirt and Batman have also started to establish business advisory centers with their own resources, modeled on the GİDEM approach.

'Textile Training Center' has been established by the GAP Administration along with other institutions so as to meet the demand for the qualified labor force especially in textile sector. The Administration have initiated 'Cluster Studies' geared to increase the competitiveness of the sectors constituting a good potential as well as the prioritized areas in the GAP Region.

Therefore, the GAP Administration has developed cooperation with various public institutions such as KOSGEB in order to enhance the manufacturing industry in the Region.

In the GAP Region, the meetings focused on ensuring necessary information for the industrialists and organizing visits for them in abroad geared to increase export facilities have been initiated in recent.

The Administration has organized 'Investment Forums' either in the GAP region or abroad through bringing together the investors dealing with similar trade activities in Turkey and abroad in order to create an environment enabling them to develop investment opportunities or joint ventures among them.

Seven Organized Industrial Districts (OIDs) in the region are presently active. There are 22 small industrial sites (SIS) completed in the GAP region. There are two free trade zones in the region, one in Mardin and the other in Gaziantep.

### **SOCIAL PROGRAMS**

The ratios of literacy level, especially for women and infant mortality in the GAP Region considerably lag behind the national averages. The medical facilities and personnel in the region were inadequate.

One of the aims of the GAP is to develop human resources, ensure fairness in development and create a participatory and democratic culture by the Social Action Plan which was constituted a framework for social development in the Region. The GAP Administration has developed implementation projects in line with this plan and executes in a participatory manner.

Recognizing that women and girls, especially living rural areas are a distinctly disadvantaged group in the GAP Region, a grassroots program by creating community-based women's Centers called ÇATOMs as Multi Purpose Community Centers have been launched by the GAP-RDA, UNICEF, and the Governors in the Region since 1995.

There are currently 28 ÇATOMs in operation in nine provinces of the GAP region. ÇATOMs are community-based centers established in urban poor neighborhoods, district centers and some central villages.

At these centers women and girls can receive health care services and gain skills in areas such as maternal and child health, hygiene, nutrition, home economics and income generation (such as handicrafts, computer operation, greenhouses, etc.). Literacy instruction and mobile health care services are also provided. These centers provide a place for women to get together, discuss their common problems, and develop a collective initiative to solve these problems. The participants themselves share in running the center and in deciding on the programs that will be offered.

With the support of ILO, ÇATOM field managers were given 'Start Your Own Business' training to support potential entrepreneurs. Income generating programs first starting with rug weaving, handicrafts, etc were later diversified upon the suggestions of participants. The Anatolian Artisans Foundation active in US ordered felt Christmas socks and rugs worth and also gave business training to ÇATOM participants.

Other important social projects under the GAP umbrella have targeted the introduction of school busing in rural areas to allow children to stay in school longer, the rehabilitation of

working children in urban centers of the region to improve the living standards of the street children and their families and gradually eliminating child labor, and the establishment of youth centers in the region's major cities to stimulate the formation of the Region's youth as open minded, productive and enterprising citizens.

The KASAKOM (Voluntary Organizations National Female Health Commission) accorded its 'Millennium Award' for the year 2001 to the '*Mardin Youth and Culture Center*' which is aimed at supporting youth participation in the process of sustainable social and human development in the GAP Region, creating environments of social and cultural interaction for youth, developing training programs and capacity building among young people through social and cultural interaction.

The GAP Administration developed special project to help the people whose settlements were inundated by the Birecik Dam and facilitate their social, economic and cultural adaptation to their new lives in 1997 which was completed in 2000. Within the context of the project, around 33.003 people in 44 settlements were affected by the dam construction and resettled through considering their preferences by applying questionnaire to depict the tendencies of the people living there.

Under the economic development dimension of the project; demonstrative experiments in such fields as integrated stock breeding, pasture improvement, mushroom culture, beekeeping and greenhouse farming supported as well by FAO, TEMA Foundation and the Development Foundation of Turkey (TKV) were carried out.

In the resettlement area, 220 housing; one school, one hospital and 30 shopping units were constructed in order to ensure their adaptation into the new physical and social environment.

### **CULTURAL HERITAGE**

The GAP Region, as it is located in Upper Mesopotamia, has been the home to many different civilizations since the earliest times, which have left behind both material and intangible cultural heritage that today creates a varied mosaic in the Region. The GAP Administration assigns specific importance to both environmental and cultural assets of the Region in line with the principle of the sustainable development.

GAP RDA signed an agreement with the Packard Humanities Institute as a US based foundation on 8 June 2000; to support Zeugma related activities of the Ministry of Culture by securing funds for rescue and excavation work at Zeugma.

Under the organization of the GAP RDA, a multi-national excavation and rescue operation as managed by the professional team of the Oxford Archeology Unit which was composed of Turks, British, French and Italians was carried out in 10 different points at site. The General Directorate of Museums and Monuments of the Ministry of Culture granted the necessary official permission and authorization for the operation; the Governorship of Gaziantep and Birecik Company made their specific contributions.

The main activities undertaken through rescue operation include conservation and analysis of artifacts removed from the site, scholarly study and publication of findings from the site, and also planning for an open air archaeological park for public viewing of the site. As a

result, mosaics and frescoes as well as smaller objects made of bone, pottery and metal excavated in Zeugma has been exhibited in the Gaziantep museum.

The overall aim of the work at Zeugma is to better understand the evolution of the city and to ensure that its archeological significance is recorded for future generations.

Currently the GAP Administration is a partner in a European Commission-funded program to provide grants to support cultural heritage development projects proposed by local organizations in the Region. This grant scheme is expected to help restore and promote local cultural assets, but also develop a regional plan for cultural heritage development and strengthen local institutions working in this field.

### **ENVIRONMENT**

The GAP Administration clearly accords priority to projects related to the environment to balance the possible effects of the dams, promote water recycling, and to avoid environmental problems such as salinity and waterlogging and to practice eco-city approaches.

One significant project related to the GAP Region's natural environment has been the cataloging of diverse plant and animal species in the region and the identification of biodiversity "hotspots", which will serve as indicators of the environmental impact of development in the Region.

## **GAP AND INTERNATIONAL COOPERATION**

At present, the project has gained international recognition especially for its commitment to the philosophy of sustainable development.

In addition to loans secured for GAP from external sources via some international organizations, the Administration also uses grants by some governments and international organizations given by special projects such as ‘GAP International Airport’; ‘Diyarbakır Street Children Project’; ‘ÇATOMS’; ‘Wastewater Treatment’; ‘GAP Urban Planning and Sanitation’ and so on.

Under the light of the developments achieved related to the sustainable development through Rio Conference; the GAP Administration launched its Sustainable Development Program including 28 sub-projects in 1997 with the technical support of the UNDP to reinforce the human centered and integrated approach of GAP.

The program has so far been carried out by the funds allocated by UNDP and the Turkish Government. During the first phase of the program; many projects such as ÇATOMs, Adıyaman eco-city planning, GIDEMs; youth for social development and so on have been completed.

The relationship between the GAP Administration and the European Union (EU) was initiated through the presentation of projects prepared by GAP Administration upon the advise of the Undersecretary of Treasury in 1996.

As a result; 'GAP Regional Development Program' took effect upon a financing agreement acted on 7 December 2001 by the Turkish Undersecretariat of Treasury, GAP Regional Development Administration and the European Union. The program covers an implementation period of 5 years starting in 2002. 47 Million Euro, which is the budget of the program, is given fully as a grant.

The program has its objectives including such national ones as the improvement of economic and social status of people living in this region of Turkey; contribution to stable economic growth; mitigation of regional development disparities and enhancing the production and employment capacity of the region.

The GAP Regional Development Program has three components: "Support to Small and Medium-Size Enterprises", "Rural Development" and "Development of Cultural Heritage".

The specific objective of the SME Development component is to assist business start-ups and improve the entrepreneurial, operational and managerial capacities of existing entrepreneurs and small, medium and micro enterprises through upgraded GIDEM (Entrepreneur Support and Guidance Centres) services. With this objective, it is aimed to improve the Region's competitiveness in national and international markets. Within the SME Development Component, up to date, consultancy services to 351 enterprises have been provided. Additionally, 29 seminars have been organized with the participation of 1392 people. Inventories of 1300 company have been recorded to a database in conformity with the EU product code system. Grant scheme under this component will be launched following the contract, which has just been signed between UNDP and EC Representation in August.

The specific objective of the Rural Development component is to alleviate poverty through the strengthening and diversification of rural based sustainable income generation. With this objective, it is aimed to alleviate poverty by income generating activities and employment opportunities.

Some important activities undertaken since the beginning of the project are; the dissemination meetings, round of workshops and help desks in each province; the preparation of the report of Rapid Appraisal and Need Analysis for Rural Development and the guidelines for the applications.

Call for proposals for the grant scheme was announced on 15<sup>th</sup> May 2004 and deadline for the applications is 27 August 2004. Project proposals will be evaluated since the beginning of the second half of September.

The specific objective of the Cultural Heritage component is to establish regional and national capacity to prepare and implement an integrated Cultural Heritage Strategy in line with EU standards for the GAP Region by implementing a Cultural Heritage Fund. With this objective, it is aimed to increase social and economic benefits to the local population derived from the preservation and exploitation of cultural assets in the GAP Region.

One of the Project's key results is the "Integrated Strategic and Action Plan" for the sustainable development of the Region. *Integrated Strategic Action Plan* for Cultural Heritage will be prepared and adopted to provide a framework for all future policies, plans, programs and budgets related to the development of cultural heritage and culture tourism in the region.

Call for proposals was announced on 16 March 2004 and the deadline for the applications was set as 25 June 2004. Project proposals are being assessed and selected by the Evaluation Committee, formed jointly by the GAP-RDA and EC Representation since 12 July 2004.

## CONCLUSION

The Southeastern Anatolia Project, or GAP with its Turkish acronymy is one of the most comprehensive development ventures of the world with respect to its scale, scope and objectives, and has a leading position among similar development programs, with the "human development" approach placed in its core.

The vision of the GAP-RDA is to become a regional development administration with sufficient resources and authority, which constitutes a model in terms of the integrated regional development. The basic mission of the GAP-RDA is to ensure coordination among the institutions and carry out the planning, implementation and monitoring of the regional plan in order to raise the indicators of the living standards in the GAP Region towards the national average.

GAP aims at improving the living standards of over 6 million residents of this 75,000-km<sup>2</sup> region by mobilizing the natural resources of this area for an integrated development on a regional scale.

GAP, in its historical context, was formulated as a package of water and land resources development projects in 1970's, which was later transformed, in early 1980's, to a multi-sectoral, socioeconomic regional development program. The GAP Regional Development Administration (GAP-RDA) was established in 1989 for the planning, coordination, monitoring and coordination of the project. Sectors covered in the development program include irrigation, hydropower, agriculture, urban infrastructure, rural development, forestry, healthcare and education among others. The water resources program of the \$ 32 billion project includes 22 dams, 19 hydropower plants and irrigation of 1.7 million hectares of land.

The holistic approach adapted by GAP-RDA is based upon an expanded principle of sustainability. A definition of sustainability has been established for GAP which covers as its main components : economic viability through setting up the GIDEMs, Entrepreneurship Support and Guidance Centers; sustainability of agricultural system and irrigation by providing training to farmers on irrigation and new farming techniques as well as implementing erosion control and watershed rehabilitation; environmental sustainability; spatial sustainability and social participation , equity and human resources development.

Recognizing that women and girls are distinctly disadvantaged group in the GAP region, the GAP-RDA supports a grassroots program by creating community based women's centers, called ÇATOMs since 1997. There are currently 28 ÇATOMs in operation that have reached around 83.000 women since 1997. At these centers women and young girls are provided with skills in areas such as maternal and child health, hygiene, nutrition, home economics and income generation and get together, discuss their common problems and develop a collective initiative these problems.

Within the framework of sustainable development, the GAP-RDA along with collaboration with UNDP has developed the social development program for youths in order to support youth initiatives and involve young people in the development process. The project also represents a partnership between the Youth Association for Habitat and Local Agenda 21.

Besides, GAP-RDA has developed joint projects and programs with many United Nations organizations such as UNDP, FAO, UNICEF, ILO and World Bank; governmental agencies as US Trade Development Agency, Canadian International Development Agency, US National Institutes of Health, Swiss Development Agency and European Union which have supplied technical and financial assistance for the socio-economic, agricultural, environmental-cultural and urban projects of the GAP-RDA.

GAP-RDA has embarked the cooperation with foreign organizations, institutions, NGOs and universities whose basic activities and aims are similar to those of GAP RDA in order to share mutually experiences and knowledge in the integrated regional development process, to exchange experts experienced in their fields, transfer technology and know-how.

The GAP-RDA has partnership programs with Syrian Ministry of *Irrigation, General Organization for Land Development, GOLD; 'TOSKA Project' of Egypt and 'Vardar Valley Project' of Macedonia* in order to share its experiences and to develop joint projects and training programs.

GAP-RDA has provided training programs for a large number of national and international participants coming from countries as diverse as *Egypt, China, Bosnia, Macedonia, Albania, Moldavia, Bangladesh and Georgia..* Besides, various international workshops, seminars and training programs have been organized with the collaboration of its foreign partners including *Portland State University, Arizona State University; Canadian International Development Research Center (IDRC); US Army Corps of Engineers and International Program for Technology and Research in Irrigation and Drainage (IPTRD).*

Since June 2000, one of the world's most ambitious archeological rescue operations has been completed in the antic Roman city of Zeugma by a multinational team of over 100 specialist from Turkey, Britain, France and Italy through a partnership between GAP-RDA and the California-based Packard Humanities Institute (PHI).

GAP Administration has undertaken the GAP Regional Development Program in order to reduce regional disparities, to improve the socio-economic conditions of the people living in the Region through a grant ensured from European Council since 2000.

By considering the comprehensive socioeconomic development project, the GAP has carried on finding stronger echo either at the national or international platforms through bearing the human development approach in its core and implementing this approach within the successful case studies focused on the economic, agricultural, infrastructure and environmental development of the GAP Region.