

Chapter 18

Sustainable Development in the Eastern Black Sea Mountains: Present State and Perspectives

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Abstract The Eastern Black Sea Region of Turkey, with a mountainous coastline of 39,203 km² (5.1% of the country) and population of 2.6 million (2009 census) has the highest peaks (above 3,900 m) in the central part of the region. Annual rainfall in the coastal areas ranges from 2,000 to 2,500 mm resulting most dense forests in the region. Natural features in the Eastern Black Sea region make living conditions harsh; In addition, the area is difficult to access due to its distance from developed areas and insufficient infrastructure. The mountain areas in this region suffer lack of adequate basic services such as transportation, communication, education, and healthcare (Somuncu and İnci, 2004). Mountains in the Eastern Black Sea Region are less-developed areas. As a result of the inadequacy of incomes and the limited availability of basic services such as transportation, health services and education, local people have been continuously migrating from mountains since 1950s. Sustainable development is needed to reduce and stop emigrations from the region.

Keywords Sustainable development · Mountainous area development · Eastern Black Sea Region

18.1 Introduction

Mountains cover a significant portion of the land area of many countries in the world, and their resources are playing crucial role in sustainable development. But the specific challenges of development in mountains are rarely reflected in national policies. Only a few countries have adopted coherent policies that address these challenges from a mountain perspective.

Mountains play a key role in sustainable development, and their importance will increase in future. As water towers of the world mountains will play a crucial role in providing fresh water for a growing number of people, for industrial development,

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and for agriculture and irrigation in mountain and downstream areas. Food security, poverty alleviation, and, ultimately, political stability will thus be critically linked to mountain resources, and hence to the development taking place in mountain areas. Mountains will also continue to play an important role as hotspots of biodiversity. Increasing urbanization within mountains will put additional stress on scarce resources such as water. At the same time, mountains are characterized by specific development challenges. Typically, these include difficult access, economic, and political marginality, out-migration, environmental sensitivity, diversity of livelihoods, and cultural diversity. These challenges need to be addressed by specific policies, laws, and institutional arrangements at the international, national, and local levels (Mountain Agenda, 2002).

Turkey is situated in the Northern Hemisphere near the junction of the continents of Europe, Asia, and Africa, between 36 and 42° North latitude and 26 and 45° East longitudes so that it occupies a unique geographical and cultural position at crossroads between Europe and Asia (Fig. 18.1). Turkey is a vast country with an uneven topography. It consists of a land area of 814,578 km² and an average height of 1,132 m (Table 18.1). Mountain crests exceed 2,000 m in many places, particularly in the east, where Turkey's highest mountain, Mount Agri (Ararat) reaches 5,137 m close to the borders with Armenia, Nahçıvan (Azerbaijan), and Iran. Steep slopes are common throughout the country, while flat or gently sloping land makes up barely one sixth of the total area.

In this chapter, the Eastern Black Sea Regional Development Plan (DOKAP) of Turkey is analysed in terms of sustainable mountain development. The Plan is



Fig. 18.1. Location map

Table 18.1 Elevation groups in Turkey

Elevation groups (m)	%
0–250	8.0
251–500	9.5
501–1,000	27.0
1,001–2,000	45.5
2,000+	10.0

very important for Turkey and global ecosystem, because mountainous area of the region is one of the least-developed areas in the country. Also, the rich flora in the Eastern Black Sea Region is an important contribution to the world’s biodiversity. The region is in the Caucasus Hot Spot.

18.2 The Eastern Black Sea Region

The Eastern Black Sea Region is in the north-eastern corner of Turkey (Figs. 18.1 and 18.2). The region consists of seven provinces: Ordu, Giresun, Trabzon, Rize, and Artvin, facing the Black Sea, and Gumushane and Bayburt, situated away from the coast. Total population of this region is 2.6 million, accounting for 3.6% of the national population, and total area is 39,203 km², accounting for 5.1% of the national area.

Within the Eastern Black Sea Region, high mountain ranges run parallel to the Black Sea coast in the north with undulating plateau on the southern foot of the mountains. High ridges trending east–west abruptly from the Black Sea coast, and the coastal plain has narrow openings at few places. The mountain ranges get higher, narrower, and steeper towards the eastern area. Less than 75 km from the coast, the Eastern Black Sea Mountains rise to more than 3,700 m, with a maximum

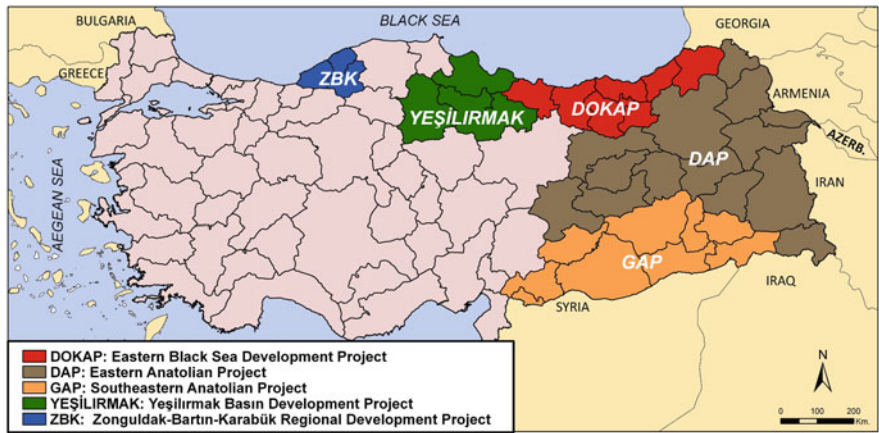


Fig. 18.2 Regional development projects in Turkey

elevation of 3,932 m in the Kaçkar Mountain, one of the steepest topography in the world (Fig. 18.1) (Japan International Cooperation Agency and State Planning Organization the Republic of Turkey, 2000; Somuncu, 1989).

Extensive glacier and water erosion have given these mountains their craggy, rugged look, and they are known for the complexity and power of the streams and rivers which rush down to the lower altitudes. In fact, this range is the third most important glacial region in Turkey following the Mount Agri and Cilo-Sat Mountains. Today, there are five large glaciers in the Kaçkar Mountains National Park. Therefore, the region is characterized by harsh topography. Steep and high mountain ranges near the coastal area limit flat land, making both ordinary life and development activities difficult and costly. This may be one reason for emigration from the region.

The region is far from the major population centres in Turkey. The economic activity in the region is concentrated along the coast. There are physical limits to the growth of these areas due to harsh topography. Concentration along the coast is associated with differences in incomes between these areas and the less-developed inland and mountainous provinces, which has led to severe environmental degradation of the Black Sea coast (Japan International Cooperation Agency and State Planning Organization the Republic of Turkey, 2000).

18.2.1 Settlement System

Major urban centres are located along the Black Sea coast, while there are a small number of centres in the inland, which are small compared to the centres along the seacoast. Rural or small-scale settlements are widely dispersed in the whole areas of region, and the residents are moving to urban areas (Japan International Cooperation Agency and State Planning Organization the Republic of Turkey, 2000).

18.2.2 The Economy

In mountain areas, agriculture is the main economic activity in which crop production is accompanied by livestock husbandry. Western part of the coastal areas in the region, with relatively low elevation and precipitation, is planted predominantly with hazelnut, while the eastern part, having higher precipitation, is planted with tea. Inland dry areas are planted with field crops (Japan International Cooperation Agency and State Planning Organization the Republic of Turkey, 2000).

High mountain ranges with steep slopes and limited flatlands restrict agricultural activities. As mechanization is difficult under these conditions, crop cultivation depends largely on man power. Dry climate in inland areas with an annual precipitation ranging from 400 to 600 mm limits crops that can be cultivated under rainfed conditions. Low temperature is another constraint limiting crop species in most inland areas with high elevation. Annual rainfall in Rize and parts of other coastal provinces amounts to over 2,500 mm with some 170 cloudy days annually. Large

amount of rainfall leaches nutrients and makes soils acidic, which lowers crop productivity. Lack of sunshine also adversely affects crop performance. Monoculture of tea is attributed to this climate and soil condition. Livestock in the region is also a very important for economic activity. In particular, cattle, dairy, and honey production are of national importance (Japan International Cooperation Agency and State Planning Organization the Republic of Turkey, 2000).

As a result of the inadequacy of incomes and the limited availability of basic services such as transportation, health services and education, many mountain residents have abandoned their mountain abodes since 1950s. Sustainable development is needed to reduce and stop out-migration in the region.

18.3 The Eastern Black Sea Regional Development Plan (DOKAP) and Sustainable Mountain Development

In Turkey, regional development policies have been developed in the quest to eliminate regional disparities, to accelerate local and regional economic development and to enable sustainable development (Kayasü, 2006). Regional development projects have been designed, mainly for the less-developed regions, and regional development policies have been developed as part of the National Development Plans, which have been also prepared by State Planning Organization (SPO). The Eastern Black Sea Regional Development Plan (DOKAP) is one of them (Fig. 18.2).

The regional development plan for this region is identified as the DOKAP, abbreviating its Turkish name. The Eastern Black Sea Regional Development Plan has been prepared for the Eastern Black Sea Region, one of the underdeveloped regions of Turkey and one from which large number of people emigrate according to the 1990, 2000 census. Currently, DOKAP is a regional development plan that covers seven north-eastern provinces extending over the mountainous area in the Eastern Black Sea Region.

The Eastern Black Sea Development Plan was designed not only as a rural development plan but also as an economic initiative intended to have positive social and political consequences for urban areas. The project's main objectives were to improve living standards and income levels so as to eliminate regional development disparities, and to contribute to such national goals as social stability and economic growth by enhancing productivity and employment opportunities in the rural sector (Japan International Cooperation Agency and State Planning Organization the Republic of Turkey, 2000).

Sustainable rural development is one of the major components of the Eastern Black Sea Regional Development Plan which was prepared in 2000 by State Planning Organization and Japan International Cooperation Agency. The main objectives of the Eastern Black Sea Regional Development Plan are:

- To develop an integrated regional development plan, providing short- and long-term development of the Eastern Black Sea Region so as to eliminate regional discrepancies between the DOKAP region and the other regions of Turkey,

- To define priority sectors and investment projects, and to cooperate with the relevant personnel during the course of this study for the purpose of developing their planning capabilities.

Under the scope of the preliminary studies, researches have been conducted on the natural structure, social structure, urban impact areas, industry, and geographical information systems.

Within the framework of the first site study under DOKAP, the existing socio-economic and topographic conditions of the region have been analysed and the development strategy has been established. Furthermore, a draft integrated regional development plan has been prepared.

Under the scope of the second site study, project profiles for the selected priority projects/programmes have been prepared and related studies have been initiated for the formulation of an action plan. The Final Report prepared within the framework of DOKAP studies consists of a Master Plan, Sectoral Reports, Institutional Development, Project Reports, and an Executive Summary. The DOKAP Master Plan includes 10 programmes and 52 projects. The studies on the project have been completed and have been implemented since 2001 (Japan International Cooperation Agency and State Planning Organization the Republic of Turkey, 2000).

18.3.1 Legislative Basis

The Government of the Republic of Turkey requested the Government of Japan for technical cooperation to prepare a multi-sectoral regional development master plan for the Eastern Black Sea region. In response to this request, the Government of Japan decided to implement this technical cooperation and entrusted the implementation to Japan International Cooperation Agency (JICA). The Scope of Work for this technical cooperation was contracted between the State Planning Organization (SPO) of the Turkish Government and JICA, and signed by respective representatives on December 17, 1998 (Japan International Cooperation Agency and State Planning Organization the Republic of Turkey, 2000).

18.3.2 Design

The region covers seven provinces of Black Sea Region including Ordu, Giresun, Trabzon, Rize, Artvin, Gümüşhane, and Bayburt.

18.3.3 Objectives, Rationale, and General Description

Objectives for the DOKAP regional development are defined to address the most critical problems in economic, social, and environmental aspects, which are described below and aimed:

- To strengthen the economic structure, responding to emerging opportunities, to diversify employment opportunities, raise income levels, and contribute to capital accumulation within the region.
- To promote regional integration or social cohesiveness through minimizing intra-regional disparities and out-migration.
- To restore and sustain resource and environmental capacity as a basis for diversifying socio-economic activities.

The basic strategy consists of the following four elements:

1. Upgrading of main infrastructure,
2. Multi-purpose water resources development and management,
3. Land tenure improvement,
4. Strengthening local governments.

The DOKAP regional development to the year 2020 is supported by a set of development projects and programmes and related institutional measures. A total of 52 projects and programmes in different sectors were included in the DOKAP Master Plan. They were packaged into 10 broad programmes:

- a. Spatial Structure Strengthening
- b. Local Alliance Urban Development and Management
- c. Comprehensive Water and Land Resources Management
- d. Industry and Trade Support
- e. Diversification of Rural Economy and Intensification
- f. Applied Research
- g. Strengthening of Local Administration
- h. Sustainable Human Development
- i. Enhancement of Living Environment
- j. Special Programme to Establish DOKAP Identity

18.3.4 Financing

The investment requirements for achieving the projected socio-economic development in the DOKAP region over 2000–2020 have been estimated. The total investment requirement is estimated as US\$46 billion over 2000–2020, of which US\$18 billion is for public investments.

18.3.5 Administration of the Plan

To facilitate the DOKAP Master Plan implementation through effective planning, coordination, and monitoring, it was proposed to establish a regional agency as a union of DOKAP local governments (Japan International Cooperation Agency and State Planning Organization the Republic of Turkey, 2000).

18.4 The Project Achievements

18.4.1 Accessibility and Mountain Development

There is a common belief that underdeveloped regions with major accessibility problems have insufficient resources for development. However, social and economic development in these regions can be realized through proper planning and resource management (Somuncu and İnci, 2004). The DOKAP Project focusing on social and economic development through protection of biodiversity in northern Turkey is a good example.

The DOKAP region is served by only one east–west artery road along the coast, and north–south lateral access capacity was limited. An important element of the basic strategy for the Eastern Black Sea regional development is to strengthen the main transport and communication infrastructure. In particular for the transportation system, a multi-modal artery network was developed. The Eastern Black Sea Highway Project with 542 km was completed. The total cost of the project is estimated to be US \$4.2 billion. The existing east–west artery along the coast was strengthened as a backbone axis, from which links to other areas of the DOKAP region and neighbouring regions and countries could be extended. Some sections of the existing coastal highway were improved with lane expansion, minor realignment, and re-surfacing. Also, the north–south lateral access capacity was expanded.

Village and *yayla* (*Yayla*: a temporary settlement in mountain pastures; plural: *yaylas*) roads are an extremely important part of the rural infrastructure services both in terms of meeting the social needs of the people living in the rural areas and in terms of transporting the agricultural products to the market in time. In the scope of DOKAP project asphalt roads and bridges have been constructed. Consequently, more easy accessibility to mountainous areas is possible in the region. Therefore, rural tourism has developed in the region. If a mountain community or region wishes to encourage flows of visitors, not only attractiveness, but also relatively easy access is usually necessary. Improved accessibility by road, air, and/or rail may include either new technologies or improvement of existing routes. These may contribute to either intentional or unintentional tourism (Price et al., 1997).

18.4.2 Tourism and Mountain Development

Tourism has become a primary source of revenue for many mountain areas, providing a rare opportunity for mountain people to participate directly in the global economy. There are many opportunities for the development of tourism in mountain regions. Tourism offers a great variety of opportunities. Tourist activities include swimming, walking, visiting cities and national parks, skiing, snowboarding, bird-watching, diving, and a number of sports including bungee-jumping, river-rafting, paragliding, and mountaineering – just to mention a few. Many activities are specific to mountain areas, which provide a variety of natural and cultural settings. Mountains are highly diverse. Climatic zones are condensed over distances

of a few kilometres. On a single mountain, one can experience a tropical climate at the base, a temperate zone at medium altitudes followed by alpine conditions higher up, and finally an arctic environment with snow and glaciers on the highest peaks (Mountain Agenda, 1999).

The Eastern Black Sea Region's mountainous areas have a strong potential for tourism owing to its natural beauties and cultural features. This area is Turkey's greenest region with outstanding natural beauty and has its lush green mountains and valleys, glaciers, glacial lakes, and clear gushing mountain streams. With their mountain meadows adorned with colourful wildflowers, the highlands of the region are characterized by their spruce forests. The verdant appearance and lush green slopes of the region are due not only to the abundant rainfall but also to the humid and foggy weather. The humidity and the foggy weather gives way to a brilliant sunshine and oxygen-rich fresh mountain air as one ascends from the coastal areas high up to the mountains.

The region has four national parks, one biosphere reserve, one natural park, and four areas for preservation of nature in the mountainous areas. The area is also sprinkled with early Byzantine and Genoese monasteries and castles, rising impressively from the steep hill sides, and is renowned with their strong cultural traditions.

Tourism in mountainous areas has recently begun to diversify to fill different niches, including: hiking, trekking, climbing, water sports, air sports, bird-watching, and to meet the needs for local produce, and handicrafts (Karadeniz and Somuncu, 2003; Somuncu, 2007).

Sustainable rural tourism is one of the major components of the Eastern Black Sea Regional Development Plan. Sixteen tourism centres were created in mountainous area in the region by Turkish Government. Sustainable Rural Tourism Development Plans were prepared for these centres by Ministry of Culture and Tourism. Transportation, electricity, communication, and accommodation facilities were developed in the centres. Today, the mountains of the Eastern Black Sea Region have become well-known and popular tourist destination and are visited by a growing number of foreign and Turkish tourists. Tourism has contributed greatly to rural development in the region. The rise of tourism as a business has brought great benefits to the mountain areas in the region. Tourism has provided local people with additional income and employment, opened new career opportunities, and created markets for both high-quality traditional products and local products from mountain areas. Tourism is also opening new ideas and cultural exchange to the mountain region (Karadeniz and Somuncu, 2003; Somuncu, 1997, 2007).

18.4.3 The Kaçkar Mountains National Park: A Model for Sustainable Mountain Development

The Kaçkar Mountains National Park is situated in Rize Province in the Eastern Black Sea Region. The Park was created in 1994 and covers 51,500 ha. There are 11 villages and 44 *yaylas* in the National Park. Villagers mainly keep cattle, sheep and goats, or live off the forest, and to lesser degree they farm. Tea is the leading

crop of the coastal strip, Rize being Turkey's one and only producer and processor of this leaf. In the mountains there is not enough land for extensive agriculture, so livestock breeding takes its place. Livestock farming as a household activity has significant place in the local economy. In early summer, rural families move to summer pasturage with their stock. Taking place in the Alpine layer above 2,000 m in average, summer pasturage has significant functions for purposes of both animal husbandry and of passing the summer in a cooler environment (Karadeniz and Somuncu, 2003). Rural families live in wood cabins in *yaylas* to return again to their villages with the approach of autumn.

The Kaçkar Mountains National Park has become one of the important points of attraction for tourism because of its natural features and cultural structure. Tourist activities in this area include climbing, trekking, camping, photography, flora, fauna and natural beauty-seeing, meeting the local people who live in *yaylas*, and learning about their lifestyle. Due to these activities, the local people earn from accommodation, transportation, souvenir sales, guidance services, etc., which further add to rural economy. The accommodation potential of the park amounts about 1,000 beds. The characteristic feature of tourism here is its seasonality having its peak during summer months. The average number of tourists per year is over 100,000 (Somuncu, 2007).

Economic and social effects of tourism in the Kaçkar Mountains National Park may be summarized below:

- The tourism of National Park provides money inflow and increase in income not only for low-income villagers who live within borders of the National Park but also for the towns and villages around the National Park.
- Since tourism is a service-based sector that requires more manpower, the development of tourism creates new job opportunities for local people.
- Another positive effect of tourism is related with the employment of women. Along with the development of tourism in the national park, local women have begun to work in touristic enterprises. Thus, the role of women, who were engaged in housework and agricultural activities, has changed.
- Parallel to development of tourism, host–guest relationship has begun to change in a positive direction (Somuncu, 2007).

18.5 Conclusion

Eastern Black Sea Regional Development Plan has provided substantial contributions to the sustainable development of the Region and Turkey till now. The progress of the transportation system and accessibility to the mountainous areas has importantly contributed to mountain development in the region because accessibility to the mountainous areas has made growth of the rural tourism possible. Rural tourism in the mountainous areas is continuing to grow. This plan has also more expected contributions in the future. The contributions of the plan are not only

developments in the region but also protection of natural resources. The development of the Eastern Black Sea mountainous region is very important for Turkey and global ecosystem. Development in the region will play a prominent role in Turkey's expanding relations with the countries of Caucasus, Central Asia, and Black Sea Economic Cooperation countries by fostering foreign trade and social/cultural ties. Protection of biodiversity of the region also depends on sustainable development of the mountainous areas.

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