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Negative Effects of Recent Unplanned Expansion on Highland Ecosystems in Turkey

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Traditionally, highlands in Turkey have been used mainly for transhumance, a pastoral system based on seasonal transfer of livestock herds to and from uplands. The back-to-nature trend in the 1990s led to a rediscovery of the highlands by non-rural populations, a trend that is threatening to destroy both natural and cultural resources in mountains. The Ministry of Tourism, inspired by the concept of ecotourism, announced in the 1990s that it would open the highlands of the East Black Sea region to development, as this region's share of overall tourism income was negligible, and classified various highlands located there and in other regions as "tourism centers." Infrastructure investments which the Government tried to introduce in the highlands, combined with uncontrolled demand, has led to unplanned development with negative impacts. The factors that threaten both the highlands and transhumance in the Mediterranean, Central Anatolian and Black Sea regions can be divided into 4 categories: unplanned infrastructure investments, mass tourism-oriented development, construction of second homes, and traditional festivals that are losing their substance.

Multiple uses of Turkish highlands

Highlands in Turkey are relevant to a number of groups of people. The nomadic clans—who live in tents in southeastern and eastern Anatolia—still rent highland pastures to graze their flocks and herds. Seasonal herders living in the Mediterranean, Central Anatolian and Black Sea regions use the highlands as pastureland (transhumance system, see Figure 1), and as haymaking areas for collection of winter fodder; their housing is of a more permanent style. The Turkish word *yayla* refers to a place where farmers go to spend the summer; it is either a residence on a mountaintop or a summer pasture. Finally, people living in the Mediterranean and Aegean regions, whose income does not depend on rural activities, choose the highlands for recreation and to escape the summer heat and mosquitoes.

A new movement has sprung up centered around providing lodging and other basic needs for these new highland visi-



FIGURE 1 Nomads moving to new pastures with their herds in the Taurus mountains in the Mediterranean region of Turkey. (Photo by A. Fatih Pinar)

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FIGURE 2 Although Turkish law only allows the building of temporary dwellings in the highlands, an increasing number of permanent homes have been constructed, using non-traditional material and architecture. The village of Kumbet in the Black Sea region. (Photo by M. Resat Sümerkan)

tors. The chance to experience traditional highland culture and its pristine environment has drawn many people, and a new kind of "highland tourism" has enabled many visitors to participate in this fascinating way of life. However, intense construction and development resulting from this opportunity is interfering with traditional utilization of highlands.

Four threats to the highlands

Unplanned infrastructure to increase accessibility

Before opening the highlands to tourism activities, the Ministry of Tourism first waged a campaign to promote activities in the Black Sea region and invited tourism companies to invest in the highlands. New roads were built to help provide infrastructure such as telephone lines, electricity, water, healthcare services, and toilets. Buildings and other structures were hastily constructed.

The negative impacts of this construction work, completed in an unplanned manner in order to rapidly provide services to rural areas, appeared only later. Considerable damage was caused to the ecosystem. Highland houses built in the traditional architectural style were replaced by 3- or 4-story concrete buildings constructed of cement, iron bars, gravel and sand—materials that were brought from the lowlands thanks to the new roads (Figure 2). The roads in question also attracted more people to the highlands for daily recreation, and visitors began to constitute a threat to the highland ecosystem. The exhaust gases and noise resulting from the heavy influx of motor vehicles became an additional burden on the environment.

Mass tourism-oriented development

After declaring the highlands to be "tourism centers," the Government began to offer various incentives to investors in tourism. Individuals and groups from the outside were invited to invest, at the expense of ecotourism based on training and participation of local people. As a result, a system based on mass tourism was adopted. Tourism facilities were generally built far from settled areas in the highlands, thus excluding the local population from new sources of income.

The private sector was not encouraged to ensure that tourism facilities reflected the regional architectural style: to lower the costs, investors usually preferred to build concrete structures sometimes clad with wood—a source of visual pollution that has spoiled the landscape. Moreover, as most of the buildings have not been equipped with waste treatment systems, solid and liquid waste has accumulated in the highland areas. Hence highland ecosystems that for centuries were free of pollution caused by humans are now being rapidly polluted. Wildlife is suffering from various hazards, and the quality of products obtained from livestock owned by highlanders is deteriorating because animals tend to feed on waste materials or polluted resources.

Further negative impacts due to unplanned development activities are the felling of many trees, erosion and landslides caused by construction work, as well as damage to flora. At the same time, large amounts of firewood for heating are being collected in an uncontrolled way in the surrounding forests. The fact that most of the tourists who use the new facilities are not familiar with the rules of transhumance further increases the damage.

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FIGURE 3 Highlanders in traditional dress during a festival in the Sisdagi mountains in the Black Sea region. New roads to such remote mountain locations are attracting large crowds of tourists. (Photo by M. Resat Sümerkan)



Construction of second homes without a legal basis

In the 1970s, many second homes were built along the Aegean and Mediterranean coasts in the lowlands. These were not based on a development plan, resulting in a "jungle" of concrete structures. Some people decided to leave the crowded coasts in the 1990s to rediscover the highlands. They began to spend their summer holidays there after the Government provided infrastructure such as roads, water and electricity.

Although the Turkish legal system prohibits individuals from owning private property in the highlands and only allows temporary dwellings to be built for highlanders, the process of building second homes in the highlands accelerated. Most of the new buildings located in the Black Sea and Mediterranean regions are second homes; those located within the province of Bolu are mostly ranches, villas or castles owned by high-income individuals based in large cities such as Ankara and Istanbul. An official survey conducted by a government agency in 1998 revealed that 1311 buildings were erected in 100 different highland areas in the province of Bolu without a prior building permit from the authorities. Development expanded so much in the highlands of the Mediterranean region that some areas host over 200,000 people in summer.

Festivals losing their traditional substance

Highland festivals comprise an important dimension of the culture of transhumance. Certain aspects of the festivals held in the East Black Sea region are of special interest. The festivals are held at the peak periods of crowding, usually at the beginning of the highland season or at the end of the grass-mowing process. Highlanders wear traditional clothes, market such animal-based products as milk, butter and cheese, and various handicrafts, give musical performances and dance shows, and arrange various types of entertainment.

As the highlands were advertised to the public and various roads were built to provide access to them in order to create demand for local tourism activities, highland festivals began to attract intense interest. Highland festivals, held by a limited number of local people who walk from their villages to perform traditional dances, now attract tens of thousands of people who travel for great distances, from different cities and countries. As a result, thousands of vehicles pile into the festival spaces (Figure 3). Damage done by people and vehicles surpassing the local carrying capacity in a single day is immense. Overcrowding, noise, exhaust emissions, littering (Figure 4), provisional tents and prefabricated huts set up for a day exert too much pressure on the ground, damage the local flora, and disturb local wildlife.

FIGURE 4 Litter remaining after the festival: a heavy burden on the environment. (Photo by M. Resat Sümerkan)



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Conclusion and recommendations

Highlands constitute the geographical roof of the world. Demolition starting at the roof of the world will have negative impacts on all lower ecosystems. This chain reaction must be stopped. In Turkey, different demands exerted on the highlands threaten the very existence of mountain ecosystems, which have survived with minimal damage to date. Current damage affects not only the natural system, but also the culture of transhumance. Possible measures to protect the highlands and transhumance are summarized below:

- Current laws are incapable of meeting the present needs. The Law of Pastures enacted in 1998 is insufficient in terms of scope. Priority should be given to laws that would improve highlanders' utilization of the highlands, and correct other forms of use related to second homes and tourism.
- There are legal vacuums in terms of administration of the highlands. Different governmental agencies have various responsibilities for the same land but do not cooperate. The administrative structure for the highlands should be reorganized to ensure local participation.
- Environmental Impact Assessments should be conducted for all planned facilities in the highlands. A master plan should be prepared to simplify the administration of the highlands and determine priorities.
- Highland festivals should be planned in such a manner as to minimize damage to the environment and not spoil the local socio-cultural structure. The number of non-local visitors should be limited during highland festivals and other recreational activities to respect an area's carrying capacity.
- The number of buildings constructed in the highlands should be kept as low as possible. Facilities should be in the local architectural style and not spoil the landscape. Infrastructure (telephone, electricity, water, transportation, waste and sewage utilities and systems) should be built in such a manner as not to damage the environment. Access to the highlands should be provided by alternative means such as rail and cable cars instead of overland routes.
- Highland and transhumant traditions are values that we should bequeath to future generations. Laws and regulations needed to protect the values in question should be passed as soon as possible, and awareness of the values raised.

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