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Case of Mountain Community of Kıbrısçık, Turkey**

**Kırsal Alanlardan Dışarı Göç Sürdürülebilir Kalkınma İçin Değerli mi?  
Kıbrısçık Dağ Topluluğu Örneği, Türkiye**

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## Is Rural Out Migration Constructive for Sustainable Development? A Case of Mountain Community of Kırısıcık, Turkey\*

### Abstract

This paper investigates the relationship between environmental degradation and out migration in mountainous area of Kırısıcık district, Bolu Province, Turkey. Primary data was collected through personal observations and in-depth interviews with residents of different age groups and representatives of civil society organizations. Furthermore, secondary data was collected from Turkish Directorate General of Forest, Turkish statistical Institute and District Agriculture Office, Kırısıcık. Results revealed that population of the research area have decreased significantly in recent years due to lack of employment opportunities in the area. Out migration has proved beneficial in terms of environmental stability. On the other hand, decreased number of young people resulted in abundance of economically inactive older ones. As a result, serious decrease in livestock and agricultural activity is observed in the area. Similar situations in most of mountainous areas of Turkey has affected the country's overall demand of dairy products.

**Key Words** Environmental conservation, population dynamics, sustainable development, mountainous areas, Turkey

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### Öz

Bu makale, Türkiye'nin Bolu İli, Kırısıcık ilçesinin dağlık bölgesindeki çevresel bozulma ve dışarı göç arasındaki ilişkiyi incelemektedir. Birincil veriler kişisel gözlemler ve farklı yaş gruplarının sakinleri ve sivil toplum örgütlerinin temsilcileri ile derinlemesine görüşmeler yoluyla toplandı. Ayrıca, Orman Genel Müdürlüğü, Türkiye İstatistik Kurumu ve İlçe Tarım Ofisi, Kırısıcık'tan ikincil veriler toplanmıştır. Sonuçlar, bölgedeki istihdam imkânlarının bulunmamasından dolayı araştırma alanı nüfusunun son yıllarda önemli ölçüde azaldığını ortaya koydu. Dışarı göç, çevre istikrarı açısından faydalı oldu. Öte yandan, genç nüfus sayısının azalması, ekonomik olarak aktif olmayan yaşlıların bolluğu ile sonuçlandı. Sonuç olarak, bölgede hayvancılık ve tarımsal faaliyetlerde ciddi bir düşüş gözlenmektedir. Türkiye'nin dağlık bölgelerinin çoğundaki benzer durumlar, ülkenin genel süt ürünleri talebini etkilemiştir.

**Anahtar Kelimeler:** Çevre Koruma, Nüfus Dinamikleri, Sürdürülebilir Kalkınma, Dağlık Alanlar, Türkiye

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## Introduction

Sustainable development is the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs (WCED, 1987). Mountain areas of the world with enormous assets of natural resources play significant role in sustainable economic development. Mountain areas cover 24 per cent of the worldwide land surface hosting 12 per cent of the global population. Moreover, 14 per cent of the world population lives adjacent to mountain areas being largely dependent on resources provided by nearby mountains (Price and Jansky, 2004). However, despite these facts, rural communities of mountain areas in the world suffer poverty, remoteness and thus considered deprived of standards of life quality. Therefore, mountain areas are characterized by specific development challenges including difficult access, economic and political marginality, out-migration, environmental sensitivity and diversity of livelihood (Somuncu, 2011). The concept of sustainable development in mountain areas focusing on knowledge of ecology and environmental problems, socio-economic issues and development of alternative livelihood opportunities for mountain communities has entered in global debate about environment and development for the first time in The United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992 (Price and Jansky, 2004, United Nations, 1992).

Debate over the issue of rural out migration in mountain areas and its association with natural resources conservation in term of sustainable development has been gained much scholarly attention over the time (Grau and Aide, 2007; Qi et al., 2008; Qin 2010; Robson and Nayak, 2010). Rural communities of many mountain areas of the world find migration as the primary way to diversify their economic activities for a better living (Schoch, 2010). It is argued that increasing inflow of remittances provided by the migrants contributes to poverty reduction, facilitate investment and raise productivity, and reduce environmental pressures (Grau and Aide, 2007; Schoch, 2010). It is also assumed that rural out migration from mountain areas contribute to ecological recovery and increases biodiversity. However, on the other hand, out migration causes the reduction of human capital and work force while demographic, cultural and environmental change through out-migration alter the configuration of institutions, capital and values in local communities (Grau and Aide, 2007). These facts are in contrast to the notion of sustainable development where a steady development is attributed to development of economic, social and environmental capitals equally.



Present research explores the inter-relationship between rural out migration and conservation of natural resources and associated issues in mountain community of district Kibriscik, Bolu province, Turkey.

## Literature Review

There is a large amount of empirical studies that have focused on the notion of impacts of out-migration on the socioeconomic and environmental regimes of the rural and mountain areas. It has been found that out-migration in the rural area has resulted in the declining yield of agricultural and livestock production. Some empirical studies have confirmed the view that the lower agricultural production is associated to the households with labor out-migration as compared to the households without migration (Mazambani 1990; Rozelle et al. 1999; Schmook and Radel 2008). Besides, rural out-migration has also found positively affecting the sustainability of the abundant area due to the provision of remittances made by the migrants (Taylor et al. 2003; de Haas 2006; McCarthy et al. 2006; Hull 2007). The movement of population from the rural and mountain communities and its relationship with the natural environment has become long debated issue. It has been argued the migration is strongly linked with the land use/cover changes in the rural areas (Kates and Parris, 2003; Lambin and Meyfroidt, 2011).

Many developed countries including Western European countries and United States have experienced widespread migration to the large urban centers since the late 16<sup>th</sup> century (Brown et al., 2005; Bell et al., 2010). These large population movements have not only changed the landscape of the cities but also have affected the land use practices in the rural areas. The developing countries have also followed the same path and since 1950s many developing countries have also faced rapid urbanization and abandonment of the rural areas. In relation to the migration, the rural and mountain areas of the world are facing serious land use/cover changes that have both positive and negative consequences. In many mountain areas the abandoned land is found causing and increasing the erosion. On the other hand, the environmental sustainability has also been observed in the areas with high rate of outmigration as it reduces the consumption pressure on the environment (Aide and Grau, 2004; Grau and Aide, 2007, 2008).

Chen et al. (2013) have conducted an empirical research to figure out the relationship between out-migration and land use changes in China. They have found that rapid rural urban migration has turned china from an agricultural society to the industrial one. However, this trend has changed the land use practices that include increased demand of land in urban areas and abandoned villages and rural settlements. They have found that demographic dynamics and transitions are strongly associated to the land use changes in an area. Goodal



(2004) has conducted an empirical study of the pastoral communities of western Himalayn region of Ladakh. She found that the decision for migration towards big cities depends on community specific factors including social arrangements, economic and psychological motivations. According to Bilborrow and Geores (1992), the outmigration causes brain drain or loss of human capital from the area of origin and gain in the destination areas. It is also observed that there is no loss of agriculture production linked to out-migration in rural areas because these areas have surplus labor.

Despite many studies on the relationship between migration and socioeconomic and environmental sustainability, a literature gap is still observed in terms of area specific studies. The present research is aimed to explore the nexus between rural outmigration from mountain areas and its compatibility with the socioeconomic and environmental regimes in rural community of Kibriscik district.

## Material and Methods

Qualitative and quantitative research techniques were used for comprehensive evaluation of the issue. Data were collected through primary and secondary sources. The qualitative data was collected through personal observations and in-depth interviews with local residents, return migrants and representatives of civil society organizations. For this purpose, principal field work was conducted during June to August 2011. A total of 201 people were interviewed during field work. Participants of interview were selected from all the villages and city center based on random sampling. The sample consisted of 85.5% (N= 170) male and 15.4 % (N=31) female participants. The respondents were asked several questions in order to find out the reasons behind out migration.

Moreover, discussions with aged people and meetings with people from various interest groups were arranged. This technique provided useful information about trend of out migration in the area. Furthermore, secondary data was collected from Turkish Directorate General of Forest, Turkish statistical Institute and District Agriculture Office, Kibriscik. Data collected from various institutions provided broader view of the change in socio-economic and environmental setup of the area over the years. All the collected data were evaluated for presentation of results.

Bolu Province, located at Western Black Sea region of Turkey, is known for its vast natural resources especially forest cover, lakes and biodiversity. The province is divided into 9 districts administratively. District Kibriscik, with mountainous topography and dense forest cover is situated in Koroglu Mountain Range constituting a large part of Aladag river basin (Figure-1). Total area of the district including city center and all 22 villages is 621 Km<sup>2</sup> with an average height of 1100m above sea level (<http://www.kibriscik.gov.tr/>). The



population of district as of 2011 census is 3484 (www.tuik.gov.tr). The area is rich in natural beauty and biodiversity along with a number of high peaks in which Goynuk peak 2888 m is the highest one. A landslide lake is also found within the borders of the district which has been recognized as an entertainment area by Nature Conservation and National Park unit.

## Results and Discussion

### Demographic Dynamics and Migration

In Kibriscik district agricultural land is scarce and irrigation opportunities are limited. People make their livings primarily through livestock grazing and working as labor in forests. A small number of people are engaged in service sector and business in city center. Animal husbandry has been affected at significant level due to strict forest policies regarding grazing inside forest area. Lack of any alternative work opportunity forced people to migrate for diversification of their economic activities. After analyzing the population statistics during 1935-2010, it is revealed that population of area increased steadily from 1935 to 1980. However, after 1980, the population started to decline continuously (Figure- 2). At first only one or two members of the family migrated in order to increase household income. The situation changed dramatically with the passage of time and whole family started to migrate to big city centers for better living standards.

During field work a total of 201 persons from different age and interest groups were interviewed for provision of first-hand information regarding process of migration in the area. Information regarding demographic factors like gender, age, education level and occupation of the participants has been given in Table 1. It is observed that most people have migrated permanently after finding a reasonable job outside the district leaving behind the elder ones. These people come to visit their homelands occasionally. Better living standards, easy access to education, better health facilities and increased employment opportunities are considered the main reason for migration.

It was found that people still thinking about migration from the area. Out of 201 interviewees 18% (N=36) had a thought of out migration while 72% (N=165) have no such thought regarding migration (Table 2). Often stated reasons for out migration were low living standards (44.4%), lack of secured employment opportunities (33.3%), and lack of suitable economic opportunities (16.6%) in the area (Table 3). A person after getting good education also demands a job according to his level. Further stated reasons of migration and finding a job were as follows: easier work than in agriculture and secure income. It is stated that young people want insurance and security while agriculture activities do not provide such kind of security.



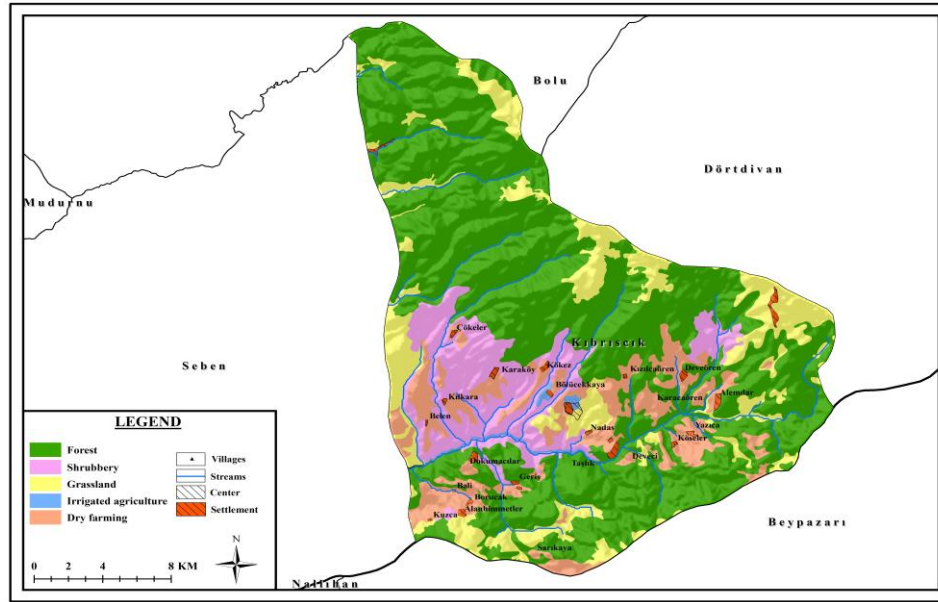


Figure-1: Location map of district Kibriscik showing elevation of the area

Figure-2: Population growth and decline in district Kibriscik

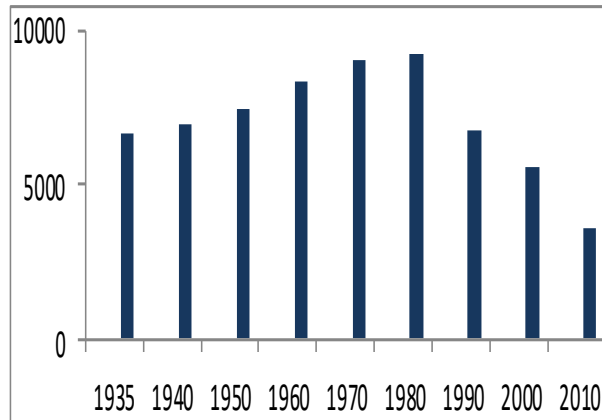
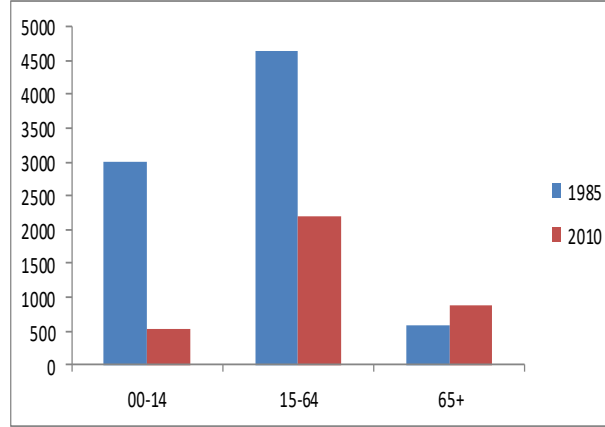


Figure-3: Population age groups of years 1985 and 2010

(www.tuik.gov.tr)





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Table 1: Demographic and other basic information about interviewees

Demographic Characteristics		Number of Persons	%	Total
Sex	Male	170	84.5	201
	Female	31	15.4	
Age Group	15-24	15	7.4	
	25-34	20	9.9	
	35-44	42	20.8	
	45-54	40	19.9	
	55-64	45	22.3	
	65+	39	19.4	
Education Level	İlliterate	5	2.4	201
	Literate	21	10.4	
	Primary School	106	52.7	
	Middle School	23	11.4	
	High School	38	18.9	
	University Degree	3	1.4	
Other	5	2.4		
Occupation	Agricultural Activity	88	43.7	201
	Government Servant	15	7.46	
	Private Sector	29	14.4	
	Retired	40	19.9	
	Student	8	3.9	
	Housewife	13	6.4	
	Jobless	3	1.4	
	Other	5	2.4	

Table 2: Views of residents about migration (N=201)

Do you want to migrate to another location?	%
Yes	18
No	72
Total	



Table 3: Reasons behind out migration (N=36)

Reasons	%
Low living standards	44.4
Unavailability of secured job	33.3
Lack of economic opportunities in the area	16.6
Do not know	5.5

It is revealed that people having thought of out migration include young population that is economically active. On the other hand, people having their own settled businesses and the aged ones are satisfied from their livings. However, people with low income, no access to credit and no alternative employment have a strong thought to migrate from the area. The main barriers behind their migration are lack of interest, family ties and lack of professional skills.

This loss of young community members that are of a productive age has had an important effect on the age–sex structure of those left behind. There has been an obvious change in the number of economically active population (aged 15 to 64) during last 25 years. While the proportion of residents over 65 years of age has increased, the number of children under the age of 15 has decreased to a significant level (Figure-3)

### **Positive impact of Out Migration on natural resource conservation**

It is argued that resource dependent communities used natural resources in unsustainable manner resulting in ecosystem destruction. Out migration is considered helpful in sustainability of fragile mountain environment. Protection of natural environments while sustaining a growing population requires high agricultural yield per hectare. If not, most or all-natural resources like forest land and meadows would have to be transformed to agriculture land. Therefore, by migrating to big city centers, where the population consumes agricultural products from more well-organized systems, migrants help to preserve land for nature and conserve natural ecosystems in mountain regions (Grau and Aide, 2007). It has been assumed that local population of Kibriscik district has played important role in environmental degradation. People used to graze their animal herds inside forest area and cutting of trees for domestic purposes is performed



throughout the area. Moreover, clearance of land for new agricultural fields is also observed. In conclusion, all of these practices have given ways to increased deforestation and erosion (Sahin, 1990).

According to data provided by Turkish Directorate General of Forest, the forest land has increased continuously over the time. Afforestation campaigns are also being successful in order to combat erosion. New plants are being planted in abandoned land. According to statistics, the forest cover has increased from 30174.2 hectares to 32839 hectares by a percent increase of 8.8% during the years 1968 to 1986. However, forest cover increased from 32839 hectares to 33382.6 hectares by 1.65% during years 1986 to 2005 (Figure- 4). It is assumed that this increase in forest area is directly related to decrease of population in the area. Moreover, strict forest policy regarding animal grazing and illegal cutting of trees inside the forest land also contributed at significant level.

Figure-4: Increase in forest cover with the passage of time (Directorate general of forests, Turkey)



## Negative Consequences of Out Migration

Although migration has played an observable role in conservation of natural resources and environmental sustainability but associated negative consequences make the situation unhealthy. It is argued that the constructive aspects of rural-urban migration are not possible to attain without harmful concerns. Rural communities lose human capital, mainly young people who are attracted to education and job opportunities in urban centers. This often results in loss of traditional knowledge and sociocultural values. In addition, the social structure of community often changes as males migrate to other areas leaving behind children, women, and the elderly population. Kibriscık district is not an exception in this scenario.



## Decline in traditional livestock activity

In Kibriscik district, traditionally a family's income was calculated on the basis of number of heads of livestock it owns. Livestock was considered important for maintaining self-sufficiency due to the milk products and meat it provides. Moreover, people made much investment on livestock in previous years because livestock was assumed to serve as an investment that increased itself through natural reproduction and can be sold whenever cash is needed. It was a customary practice by most of households to handover their animals to relatives, friends or a professional herder during summer. There was a trend of transhumance activity and in summer season majority of families with their herds shifted to summer pastures for almost 3 months. In winter season the herders moved towards down the valley areas. Moreover, customarily, livestock had also played important role in generation of seasonal employment for several local herders.

However, in recent years, livestock activity, once served as backbone of economy of the area, has declined to a great extent. Increased out migration of young people and abundance of aged population in the area are important factors in this decrease. The number of cattle, sheep and goat are continued to decrease as compared to previous years. Moreover, traditional activity of transhumance is also decreased and very few households take their herds to summer pastures.

According to statistics sheep and goat production has declined from 75880 heads in 1981 to 23010 heads in 2010 by 70 %. On the other hand, cattle production has also decreased from 6000 heads in 1981 to 5463 in 2010 by 9%. Cattle production in the area is generally low as compared to sheep and goat production throughout the history. Most people rear cattle for domestic use only.

Similar situations prevail in many mountain areas of the country. As a result, country' overall production of meat is being affected. According to current statistics it is found that beef production of Turkey from year 2008 to 2009 has decreased by 14.5 % while sheep mutton and goat mutton has decreased by 22.9% and 15.1% respectively. Therefore, Turkey, once an exporter of meat, has to decide to import meat and animal from U.S and other European countries (Karakus, 2011).



## Reduction in cultivated land and agricultural production

Agricultural land is also decreased as most of the people have abandoned their fields. During the years 1995 to 2010, Vegetable fields have decreased by 97%, crop land has decreased by 21% while fruit garden land area has decreased by 47% ([www.tuik.gov.tr](http://www.tuik.gov.tr)). Consequently, agricultural production has also decreased. Most of the people pointed out absence of work force as primary reason of decline in agricultural production. In addition to abandonment of agricultural field due to migration other factors like scarcity of suitable agricultural land and little or no irrigation availability are also play important role in decline of production.

## Conclusion

In this article a case study was conducted from mountain area of Turkey to examine the relationship between out migration and environmental stability. It is found that out migration has proven beneficial and significant increase in forest land has observed along with considerable decrease in erosion. These findings are in line with the previous studies conducted by Grau and Aide (2007). However, keeping in view the importance of human capital and core of idea of sustainable development this process is not sustainable on social and economic grounds. Proper utilization of economic potential of the area is required to facilitate local community of the area. Out migration can be slowed down with provision of alternative income resources. Promotion of ecotourism and organic agriculture along with planned livestock activity in the area are suggested to be helpful in this regard.

The findings of research have revealed that out migration from the area has no positive contribution in terms of social and economic sustainability of the area based on the remittances sent by the migrants. As mentioned in the part of literature review, the out migration is considered as a key to the social and economic development of the origin area (Hall, 2007). The situation is very different for the case of Kibriscık as most of the migrants have no interest in development of the origin area. The most important reason behind such behavior is location of whole families towards big cities. Therefore, people only return to the area of origin in case of retirement in old age without their other family members. It is found that reverse migration is not possible to the area, however, efforts can be made to minimize the out migration and holding the remaining population by means of providing better economic opportunities. The decision-making processes must involve local stakeholders to be more effective.



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