Effects of Protected Areas on Ecotourism Development: Camili Biosphere Reserve Example

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Abstract:
The main goal of protected areas is conservation of ecosystem and species. However, there are large-scale social and economic benefit expectations from protected areas, such as reducing poverty, improving welfare, etc. This study was conducted in Camili Biosphere Reserve area to determine effects of protected areas on development of ecotourism. 103 people from local area have taken the survey. These data were analyzed with χ² analysis. 75% of farmers, 80% of workers and 78.9% of other professions answered survey as “since this region declared as a biosphere reserve (2005), ecotourism activities have been increased”. The occupancy rate for the active motels in the area was 6% in 2006, 12% in 2009 and approximately 17% in 2012. This shows an increase in occupancy but still, today, it is not sufficient. On the other hand, 39.5% of male participants and 52.9% of female participants told about an increase of income after ecotourism (biosphere reserve). Also, farmers (85%) have the highest contribution rate to ecotourism activities. Other than these evaluations, population’s view on ecotourism and studies on increase in business and income were compared and discussed. According to the results, after biosphere reserve declaration of Camili watershed and start of ecotourism activities it is observed that it is possible to increase income without damaging natural and cultural structure as long as the protected area managed with a good plan and local community informed and supported.

Key Terms: ecotourism, protected areas, biosphere reserve, Camili, Turkey

Introduction:
Ecotourism is a segment of tourism which is related to forestry because of its subjects, and, in close relation with forests and forest villagers by sources it use/protect. Forest villagers have the lowest income for many years. Forestry is trying to find a solution for this problem and working on it heavily but there are no solutions found yet. Ecotourism, from this perspective, is a sector that can make important economical contributions to forest villagers and rural population.

170 countries attending the World Congress on National Parks in South Africa and reached a conclusion that ecotourism is an effective tool for preservation of biodiversity and reducing poverty (IUCN, 2003). Generally, protected areas contribute to human prosperity and reduce poverty while conserving species along with ecological processes (Dudley et al. 2005; Stolton, 2010).

Tourism means business and a source of income for rural population. Income sources are; park entrance fees, hostels, accommodation, transportation and treating sector, restaurants and gift shops. This can support both nature conservation and sustainable development (Brown, 2001; Lacy and Whitmore, 2006).

The most important development in this matter was happened in Costa Rica. Costa Rica used its national parks as a springboard for ecotourism. In early 90s, 63% of foreign tourists visited at least one natural park (approximately 1.8 million people), afterwards, tourism became the biggest source of income of the mentioned country (Honey, 1999).

On the other hand, even though ecotourism seems like a perfect alternative, ecotourism projects can’t generate enough income to prevent local population from lavishly using the lands (Krüger, 2005).

It can be said that tourism is an active sector on development of mountainous areas. Activities in the area are based on natural and cultural potential and local characteristics of the area (Gürer, 2009). Camili watershed has the highest potential for ecotourism among the other areas in Turkey.

In order to determine the contribution of local population to developments of ecotourism in
Camili Biosphere Reserve was selected as the study area. It is 25.395 hectares and covers Camili watershed completely. Geographically, it is located between Georgia border, Borçka district, Savsat district and Karcal Mountains. The lowest point of the watershed is 350 m, Camili village, and the highest point is Karcal Mountains, 3428 m.

Total residential area, 6 villages combined, of Camili watershed is 1870.70 hectares. Rangelands cover approximately 765 hectares and are being used for grazing and transhumance.

Camili watershed has the biggest old growth forest ecosystem in Europe and Middle Asia. It makes up big part of Karcal Mountains important plant area which is one of the 122 important plant areas in Turkey.

According to area studies and data research made in 2002-2005, there are total of 990 plant taxa (110 families and 432 genera) (Eminağaoğlu et al., 2008). There are bear, brown bear, wild goat, chamois, coyote, fox, hare, and various snake species in the area along with wild pigeon, quail, black grouse, many songbird species, and various bat species. Region hosts intense birds of prey migration during autumn months.

**Results:**

Age distribution of the participants of local survey is as following; age 15-24 is %22, age 25-34 is %27, age 35-44 is %20, age 45-54 %17, and age >55 is %14. Genders of participants are 83% male, 17% female. Education levels of participants are 52% elementary school, 34% high school, and 14% college. Occupations of participants are 30% tradesman, 19% farmer, 14% worker, 8% officer, and 29% other. Income distribution is as following; <500 TL 35%, 500-1000 TL 32%, 1000-1500 TL 24%, and >1500 TL 9%.

Contributions of the participants to local ecotourism activities are 61.6% males, and 31.3% females.

Among the occupations farmers contribute most (85%) to ecotourism activities. Other occupations contribute to ecotourism activities are laborers 53.8%, 53.3% others, and 51.6% tradesmen. However, 75% of the workers don’t contribute to ecotourism at all.

60.5% of male participants said they had no increase in their income after ecotourism, however, 52.9% female participants said they had an increase in their income. 61.6% of male participants said they contribute to ecotourism activities, also, this shows that there are ecotourism products that can increase female activities.

About the increasing interest in area, among occupations 90% of farmers, 62.5% of workers, 92.9% of laborers, and 90.3% of tradesmen said scenic beauty of the area increases the interest in it. 37.5% of people who have taken survey said news on media about the area play a role on this interest.

75% of farmers, 80% of laborers, and 78.9% of other occupations said that after biosphere reserve status (2005) tourism activities increased, however 75% of workers, and 62.5% tradesman said there were changes.

39% of the participants who were using their own products for themselves said that their income weren’t enough before ecotourism (the year of biosphere reserve announcement), however, after ecotourism 80% of the participants said their income was sufficient to sustain themselves by selling their products. Also, 46.2% of people who both use and sell their own products said their income was sufficient.

Among the occupation groups that have taken the survey, all of the laborers (100%), 60% of farmers, 46.2% of workers, and 68.2% of other occupation said that Hydroelectric Power Plants will be problematic for environment and watershed.
62.8% of individuals who taken the survey said area requires new roads. However, 77.8% people who said transportation network is sufficient and good, and no need for new roads.

Livestock breeding in the watershed is steadily decreasing. In a study, 1994, it was determined that there were 1550-1800 cattle and 490-570 ovine in the four villages (Camili, Düzenli, Efeler, Kayalar) of the watershed (KIRÇEV, 1994). However, in 2009 there were 953 cattle and 401 ovine in watershed, all villages combined (Albayrak, 2010).

Beekeeping, however, has a different trend. In a study (KIRÇEV, 2004), it was determined that there were 1200-1400 traditional bee hives and 390-470 modern bee hives in the area. 8-15 tons of honey was produced from both bee hives and these honey sold with 150 TL/kg price (KIRÇEV, 1994). At 2009, there were approximately 3000 traditional bee hives and 300-500 modern bee hive. Produced honey amount is around 20-25 tons. In the past 15 years between 1994-2009 there is a transition from traditional to modern bee hive. Also honey production increased twice as much in this time (Albayrak, 2010).

Besides selling honey other bee products such as pollen and queen reproducing by some small companies but still contributes to economy of the watershed. The difference between income generated by honey sales between 1994 and 2009 is 100.000 TL. In 2008 from honey sales the approximate profit was 300.000-900.000 TL (Anonymous, 2008) while in 2009 this profit was 1200.000 TL. More than 50% of the beekeeping products were sold to tourists and other touristic places.

Annually generated average profit by ecological products (honey, beekeeping, molasses, hazelnut, corn, apple, etc.) is 2564.000 TL (Anonymous, 2008).

There were no touristic activities until 2000 in Camili watershed. However, in 2008, 3000 tourists visited the area and used accommodation, guide and transportation services provided by local populations. Generated profit from these services was 310.000 TL (Anonymous, 2008). In 2009, the number of tourists who used hostels was 3.150; it is more than five thousand people with excursions. Total generated profit of all services in the Camili watershed was around 350.000 TL (Albayrak 2010).

Each hostel earns more than 10.000 TL annually. Occupancy rate was 6% in 2006, and 12% in 2009. This shows that occupancy rate increases with each year but it is still not enough today (Albayrak 2010).

**Discussion and Conclusion:**

After gaining biosphere reserve statue local population of Camili watershed is positive about this change and thinking it increased tourism. 32.8% of people who have taken the survey said they have started on ecotourism activities in between 2000-2004, also, 50.8% of people have started doing ecotourism activities in between 2005-2008 (Aydın and Türker, 2010).

Local population of Entlebuch region of Switzerland supported the biosphere reserve status to get more exposure on media and increase their sources of income with increased tourism activities (Wallner et al. 2007).

The recent interest in Camili is thought by local population of scenic beauty of the watershed. This is the reason why people have a negative opinion of planned projects (Hydro Power Plants and new roads).

Livestock breeding is in decline since it doesn’t generate enough profit. However, one of the main purposes of ecotourism is “empowerment of the local economy”, thus, it will revive livestock breeding by making it profitable again.

There are positive economic developments in the watershed from past to present. Agriculture, beekeeping and accommodation service are important economic activities. From the late 90s to present economic activities technically developed, production increased and prices gone up. However, it is still not enough of the watershed because 50%
of the local population said there were no differences in their income after biosphere reserve status gained.

Natural honeycomb beekeeping was dominant in the area until 2000s, however, after 2000s with projects and ecotourism activities there was a transition into bee hive. After 2000s with the developments in accommodation services honey sales were increased (Bayraktar, 2010). In a similar study conducted on the same area shows similar results. According to that study, 56.7% of ecotourism activities is honey sale (beekeeping), 33.3% of it guide services, 20% accommodation services, and 16.7% of activities is hand craft and selling local food (Aydın and Türker, 2010).

In 2006 occupancy rate was 6% while in 2009 this number was 12%. In 2008 310.000 TL and in 2009 350.000 TL (244.000 $/175.000 €) was generated from touristic services (Albayrak, 2010). Similarly, Aydin and Türker (2010) reported that accommodation and beekeeping started to become main sources of income roughly at the same with the start of ecotourism.

Currently ecotourism activities are not very profitable for the area. However, the common opinion is that both local population and whole area will benefit from developing of ecotourism activities. Aydin and Türker (2010) in their study found that ecotourism increase income of villagers but still not significantly. Also, using local labor to support protected areas enables local population to benefit and profit from these jobs, thus, supports the area (Brown, 2001).

Increase in tourists will decrease migration from the area and turn migration wave back, thus, unused social and natural sources can be directed to production (Albayrak, 2010). Education, healthcare and transportation problems decreased with increased ecotourism activities and this reduced the emigration (Aydın and Türker, 2010). This will lead an important increase in income of rural areas and especially forest villages. In a study on development of mountainous areas it was determined that the most important factor is to improve transportation to that area and secondly improvement of touristic facilities and making locals run touristic activities (Gürer, 2009). Mountains are becoming more important places for tourism industry with each passing day (Karadeniz and Güneş, 2002).

Profits earned from guide services, handcrafts, food, transportation services, and services that local population provides with their own investments can be very important for rural population regardless of the amount of the profit (Kurdoğlu, 2001). Survey studies showed that annual income of Camili is notably low. Handcraft sales increased from 15.45 pieces to 37.55 pieces after ecotourism. Jam and molasses production have increased from 13.52 kg to 18.85 kg. Also, in this study pre-ecotourism average household income was 3245.90 TL (US $ 2165), however, it is 7097.87 TL (US $ 4732) with ecotourism activities (Aydin and Türker, 2010). This has a potential to help with the decreasing forest village population due to protected area status (Kurdoğlu, 2002; Kurdoğlu and Yüksel, 2006).

Participants (86.9%) that have taken the survey said their income had increased after participating in ecotourism activities (Aydin and Türker, 2010). Contribution of women to ecotourism activities is a good sign for the future. Local cuisine, knit works and hostel business parts of ecotourism should encourage women to take more active roles.

According to all these results; ecotourism can improve greatly if Camili Biosphere Reserve will be managed with a good plan, and local population gets technical support and education. As a result of these, there will be an increase in income without damaging natural and cultural structure.

Literature


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