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**Determination of Ecotourism
Potential of Igneada Region
According to Rural Development**

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Abstract

Recently, rural development is key factor to improve agricultural income and come to life to rural people and prevent traditional values. For this reason, ecotourism is major element for rural development. Different regional and natural identities should be considered as an alternative economic activity by definition of ecotourism. Research area is located in northeast direction of Thrace region and surrounding with black sea in Turkey. Igneada, deep spot in a sea forest, has very rich biological species and different variety of habitats. By the way it is biggest deep spot in a sea forest ecosystem in Europe. This place and its surrounding area are convenient to apply ecotourism activities. Such as; Nature Photography, Caving, Trekking, Hunting, Bird Observatory, Butterfly Observatory, Mushroom Picking, Orienteering, Water Sports, Fishing, Camping, Outdoor Cycling and Picnic. Igneada is also very important area for Botany and Wildlife researching. This research will argued how these ecotourism activities should be planned at Igneada.

Keywords: Ecotourism, ecotourism activities, rural development, Igneada, deep spot in a sea, forest

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Introduction

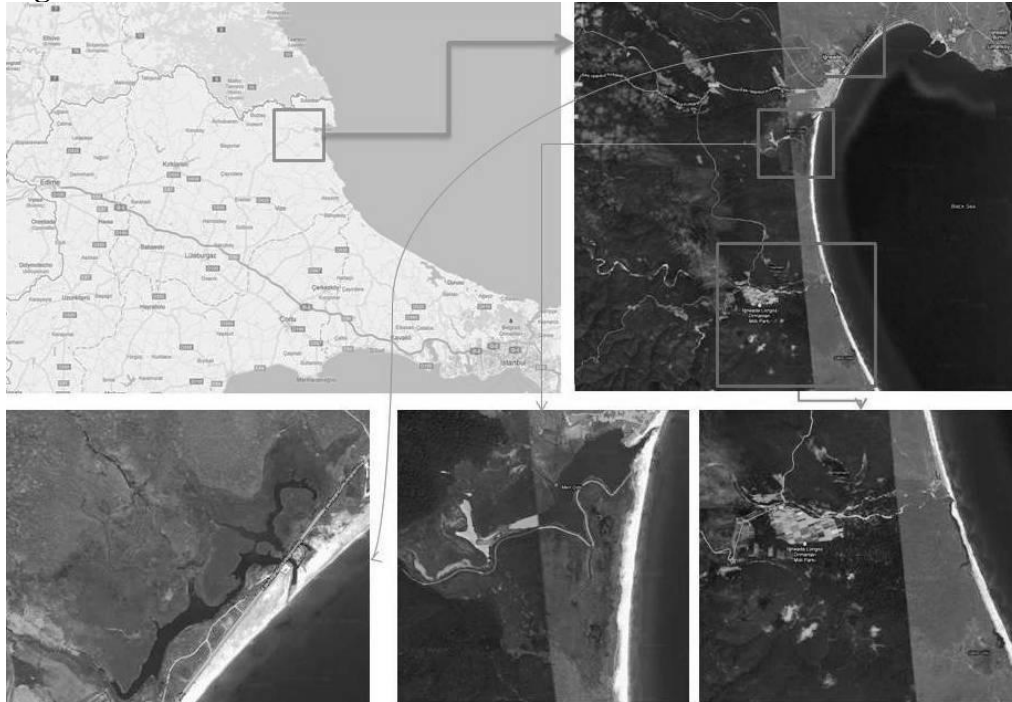
Ecotourism is growing in popularity around the world and generating considerable economic impact. It offers unique opportunities for integrating rural development, tourism, resource management, conservation and protected area management in many areas (Hvenegaard, 1994). Recent years in Turkey, job opportunities stimulated to rural people migration through urban areas. One of the major issues in rural areas is unemployment and lower incomes. To eliminate this situation, rural development provided by ecotourism is key factor. The term of ecotourism emerged in 1980s and demand was boosted by the years, the evidence that visitors had shifted away from mass tourism towards individual and enriching experiences (Diamantis, 1999). The potential for ecotourism to promote the well being of both local peoples and their environments. Ecotourism maintains or enhances the local community equilibrium. Community cohesion is improved as individuals and families work together to build a successful ecotourism venture. Some funds raised are used for community development purposes, e.g. to build schools or improve roads (Scheyvens, 1999).

Rural development is the improvement in overall rural community conditions, including economic and other quality of life considerations such as the environment, health, infrastructure, and housing. For most small communities, this improvement involves population and employment growth, however, such growth is neither a necessary nor a sufficient condition for rural development (USDA, 2007). For this reason, ecotourism is key factor to improve rural development. Ecotourism is responsible travel to natural areas that conserves the environment and sustains the well-being of local people (Wood & Halpenny, 2001). At the same time, sustainably managed ecotourism can contribute to nature conservation by offering income alternatives to other, unsustainable forms of natural resource use (IUCN, 2008). Thus, to ensure true sustainability, it is vital that the local population is involved in the management of their tourism resources and benefits directly from the utilization of these resources (Cater, 1993).

Ecotourism is low impact natural tourism which contributes to the maintenance of species and habitats either directly through a contribution to conservation and/or indirectly by providing revenue to the local community sufficient for local people to value, and therefore protect, their wildlife heritage area as a source of income (Fennell, 2005).

Research Area

Research area is located in northeast direction of Thrace region and surrounding with black sea in Turkey. This place is called Igneada which located the lower slopes of Istranca Mountains. This area is placed northeast of the Kırklareli municipality territory. Black Sea near the east direction and Bulgaria placed north of Igneada.

Figure 1. Research area

Source: googlemaps.com, 2012

Igneada and its surrounds is unique place regarding connected ecosystem chains. It comprises rivers, fresh water lakes, salt water lakes, sand-dunes, fresh and salty swamps, deep spot in a sea forest and different type of tallest trees.

Sand-dunes is one of the sensitive ecosystem in Igneada with deep spot in a sea forest. The field of sand-dunes protect its form and keep it to date from environmental effects. A lot of endemic plants stay living on these sand-dunes (Güler, 2007). At the east and south place of the Igneada shoreline covered with a swamp and its flora (sedge). This field and its surroundings are forming the deep spot in a sea forest. Field of deep spot in a sea forest is nearly flat and almost no slope. The main trees of the forest are ash-tree, oak, common alder and pedunculate oak. Common alder and ash-tree placed on wetland fields and pedunculate oak and oak placed on comparatively dry fields. Additionally, species of climbing plants are major characteristic of forest.

Forest is also important animal sanctuary and living mammals (Deer, Roe, Wild Boar, Wolf, Fox, Jackal, Wildcat, Marten, Badger, Bat, Otter), 194 bird species (especially; Pygmy Cormorant, White-Tailed Eagle, Lesser Kestrel, Grey-Headed Woodpecker) and other animals (Southern Crested Newt, Green Toad, European Glass Lizard, Green Lizard, Snake-Eyed Skink, Snake) (Akkaya et al. 2010).

Eco-tourism Potential of Igneada

Hunting

Research territory, very rich in wildlife, is one of the most important hunting areas. The heights of Yıldız Mountains, covered by dense forests, are the living areas of big game-animals and the plains are the living areas of flying game-animals. Around Igneada Panayir Harbour and Kiyikoy and Kastro coves, deer and roe are seen. Fox and rabbit exist on the hills and valleys of Ergene Water Basin and badger can be seen in the riparian areas. Goose, duck, woodcock and ququail live in the reed fields and marsh areas where the rivers around Igneada region flow in to the sea, and in the forests near the sea (Anonymous, 2005).

Outdoor Cycling

Demirkoy to Gunesli Lakes route is suitable for outdoor cycling. It is an enjoyable route, which requires passing a few lakes of medium difficulty. It can be experienced as a one-day trip, starting from Demirkoy. The trip can be finished in Gunesli Lakes or in Sivrilir.

Botany Research

Igneada longoz forests were formed when the Erikli, Mert and Saka lakes, which get their water from the rivers that flow from Yildiz Mountains to the Black Sea, were stopped by the sand dune, and thus, poured backwards and covered the flat area because of so much water in spring. These forests, which are full of water in winter and spring and whose water shrinks in summer and autumn, have a floristic composition, consisting quite long (8 to 15 meters) forest trees. In these forests, trees like ashen, beech, common oak, sessile oak, field maple, Norway maple, rowanberry, lime, common alder, elder, cornelian cherry dogwood, elm and hornbeam are found. These forests, which have a rich under-forest flora, are hotter than its neighborhood because of the density of the microorganism activities, so the trees and the other plants begin vegetation earlier. High ground water level is necessary for these forests to protect their present conditions. It is really important to protect the habitat of these forests, which are rarely found both in Europe and in Turkey (Anonymous, 2010).

The commonly found bulbous plants in the area blossom in two different seasons: in spring and autumn. The two most common of these plants are cyclamen and bifoliate scilla. While blue water flag and snowdrop are more commonly found in the openings in the forest, orchid types and fritillaria pontica are usually found under forest. It is possible to see lecojum aestivum in groups in the areas of the deep sea in a spot forest where there is plenty of water (Anonymous, 2010).

The coastal sand dunes between the lakes and the marshy grounds surrounding the forests and the sea are an important plant site. This coast line, whose length can reach up to 18 kilometers, is the widest in the area from the eastern side of Lake Mert to Panayır Harbour. 46 types of plants have been identified in the researches done up to now in Igneada sand dunes. Silene sangaria, centaury and crepis macrobus are the endemic plants that are only found in the Black Sea coasts of Thrace. Pancratium maritimum, centaury and crambe are rare plants taken under preservation by the Berne Convention.

Freshwater marshy areas around Lake Hamam and Lake Pedina are really important in that they include European – Siberian freshwater flora, which is rare in Turkey. The endangered water caltrop and water lily that are found in the marshy areas are considered as the signs of high water quality. Some rare types of trifolium and logfia minima, which is a new type in Turkey, are found sandy posture areas along the natural sets in the riparian zone (Anonymous, 2010). The area has got a potential to arouse eco-tourists' attention, who are interested in botanical tourism by both its forests and its rare and endemic plants.

Nature Photography

Igneada and its surroundings is one the most important natural areas of Turkey with its different eco-system. Ornito-photographers who come to the area can take photos of 194 different species of birds. They can also take photos of 159 seedy plants and 3 types of sword fen in the biological diversity of deep sea ina spot forest and lakes (Güler, 2007). On the other hand, the people who want to take photos of the wild life can see mammals such as chamois, rabbit, squirrel, wolf, jackal, jungle cat, wild cat, caracal, red deer, deer, roe, wild pig, fox, marten, wood mouse, badger, bat, common otter; some amphibians such as southern crested newt and bufo viridis; some reptiles

such as European glass lizard, green lizard and European copper skink in the area (Anonymous, 2010). This area is an important photography area for the “Nature Photographers” with its all these specialties and sometimes, photography contests are held by the photography groups.

Camping

There are two areas allocated for camping, which provide convenience to the visitors with their infrastructure. One of them is located in the oak forest near Lake Mert, and the other is in the riparian zone of Lake Erikli, which is on the harbor exit way of Igneada. Camping is sometimes allowed in the area, where the Facilities of Special Provincial Administration are located, by receiving permission.

Camping in the areas which are not allocated is controlled by the municipality because of the rich forest existence of the area, and punishment is imposed.

Butterfly Observation

According to the field surveys and literature records, the number of butterfly species on Yildiz Mountains is 117. Thirty-three of these species belong to geometriade, 23 of them belong to Lycaenide, 17 of them belong to Satyridae, and 43 of them belong to other 11 families. Butterflies especially prefer the openings in the forest, meadows, and openings near the roads and in the riparian zones (Sozen & Karatas, 2010).

Bird Observation

Igneada is ornithologically on the important migratory routes of birds of West Palearctic. There is a high level of biodiversity by providing living space to animal and plant species. It is also an internationally important area in protecting European and world natural heritage because it is a critical and rare eco-system in Europe and it is a hot place (Ozyavuz & Sisman, 2009).

The variety of biodiversity (forest, longo forest, wetland area, sand dune eco-system) of Igneada, which is a rest point for the birds on Europe to Africa migratory route, increased its bird richness. This area is used as an ecologic corridor by the migrating birds and is preferred as an area of breeding, sheltering and reproduction by 57 species of water birds and 15 species of wild birds (Anonymous, 2009). Almost half of the 454 bird species, which form the bird existence in Turkey (194 species), can be seen in Igneada throughout the year. The area is the migratory route of many water and wild birds, especially storks, white and black storks in autumn. Some water birds (heron, goose, duck, coot and plover, etc.) and wild birds (eagle, buzzard, hawk and harrier, etc.) breed in the area (Anonymous, 2010).

Nine of the bird species seen in the area were accepted as the indicator of whether the eco-system of Igneada was doing well or not. One of these species, woodpecker, lives only in the North Thrace, in our country. Pygmy cormorant, white-tailed eagle and lesser kestrel are the endangered or possibly endangered species in European Red List (Anonymous, 2010).

184 bird species in the area, 133 of which are strictly protected fauna species (SPFS) and 51 of which are protected fauna species (PFS), are in the category of endangered species according to the Berne Agreement (Ozyavuz, 2008).

Lake Mert and Lake Erikli in Igneada are important wetlands in Igneada for the water birds to breed, shelter and nest. Surrounding forests and wide reed field provide great advantages for the birds here (Kaya, 1998). Igneada wetlands with its potential to see different birds, can be visited by the people who want to observe birds throughout the year.

Caving

The first and only cave of Thrace that is opened to tourism, Dupnisa Cave, is influenced by the cool climate conditions of the Black Sea. It is located on a wild-

looking area where the Rezve Creek, which borders Turkey and Bulgaria, corrodes the Istranca Mountains with deep valleys (Anonymous, 2005).

Dupnisa Cave, one of the well-known caves in Turkish cave literature, is a big subsurface system which has been continuing its formation and progress for about 4 million years. There are rich dripstone formations in the cave, where there is a continually flowing subsurface river and lakes that may be over 2 meters deep and that were formed by the subsurface river. Stalactites, stalagmites and columns which may vary in color tone, from snow white to red and brown; curtain and flag stalactites and stalactite pools have got a charming and amazing view. Beside this wonderful view, the air in the cave, changing so often, is really important for health (Anonymous, 2005).

The second longest cave in Thrace was opened to tourism in 2003. About 250 meters of the Dry Cave, which is covered with stalactites, stalagmites and columns and is the top floor of Dupnisa Cave, which is a 2720 meters long subsurface system; and about 200 meters of the Main Wet Cave were opened to tourism. However, an area where the stalactites are in the formation process and where bats live in colonies are not allowed to be visited in order to protect the nature and the living things of the cave (Anonymous, 2005). The caves, which are located in an area covered by flora with every tone of green and which developed in the second geological time, was formed two interconnected floors and three caves. Thus, it is scientifically recognized as the "cave system". Dry Cave and Girl Cave are located on the upper floor. There is Wet Cave 50 – 60 meters beneath these caves which completed their formation progress. The total length of this cave, in which there is a continually flowing subsurface river and whose mouth is 345 meters above the sea level, is 1977 meters. The last point is 61 meters above the mouth (Anonymous, 2005).

Picnic

The areas to fulfill the increasing needs of people for outdoor recreation and entertainment have been arranged in the forests of Kırklareli. Two in-forest recreation areas, Lake Mert in Demirköy and İncekoru in Vize, are used for this aim (Basgelen, 2006).

Lake Mert Recreation Area: This area, which was distinguished and registered as in-forest recreation spot in 1990, is 10.0 hectares and it is in Type A (Tent Camping Area). Lake Mert Recreation Spot, which is in Igneada, Demirköy, is rich in forests. It is a kind of place to relax for whom wish to escape from the noisy city life with its nature and unique view of the lake, which presents all the beauties of green and blue. Picnic, tents and camping areas are available. Picnic table, restrooms and drinkable water are also available.

Velike Creek: It is near Demirköy and it is 4 kilometers away from the Karaman Hill. The place along the creek and the forest are recreation spots, and picnic table, seats, restrooms and drinkable water are available. Trout can be caught in the creek.

Orienteering

Turkey orienteering Federation Provincial Spokesman of Kırklareli, Gülistan YILMAZ, states that the maps necessary for the orienteering in Sakizköy Coppice, the town of Lüleburgaz, have been prepared and orienteering activity is being done. Igneada is one of the areas which has the most convenient structure of land for the orienteering sport in Kırklareli. However, this potential is not available due to the fact that mapping procedure is not carried out. Mapping needs to be implemented in the area soon as possible and it needs to be put into practice as an ecotourism activity.

Fishing

Thirty known fish types live in the marshy areas of Igneada such as lagoon, lake and brook. From these fish types 8 of them have been declared as “the type needs to be protected” in Bern Contract. These types are; *Neogobius fluviatilis*, Sand goby, *Aspius aspius*, Chub, *Alburnoides bipunctatus*, *Rhodeus amarus*, *Cobitis taenia*, and *Chondrostoma nasus*. Mert, Erikli and Saka lagoons where fish types are the most, host fish types such as grey mullet and silver atherine which immigrate from the sea to the freshwater or from fresh water to the sea for breeding, food and protection. Crayfish lives in Hamam Lake which is a freshwater lake. However, *Salma trutta* lives in the springs of the brooks supplying the area which come out of Istranca Mountains. Igneada marshy area regarding the sustainable tourism scope except the breeding period has an important potential of sporting fishing which pays attention to protect the fish types in need of protection and not to ruin nature and natural balance. The lakes in the area enrich the research area regarding the fish types. Especially Mert, Erikli and Saka Lakes which have a link to the sea in definite times of the year are linked to the sea. The lagoons are very significant for fish types which immigrate from the sea to the freshwater or the freshwater to the sea for breeding, protection, and food (Ozyavuz, 2008).

Water Sports

In the provincial regarding the water sports activities such as canoeing can be carried out. Canoeing is a water sport which is done in streams. There are a lot of streams in Kırklareli. From them especially Pabuc Brook and Kazan Brook which are in Kiyikoy can be examined to find out whether they are suitable for canoeing and if they are organizing this sport activity will be a factor to bring diversity to the tourists coming to the territory.

Youth and scouting camps which are open to international participation where swimming, sailing, water skiing and camping training is given can be established in the shores. Organizing facilities where there are water sports opportunities can be a charming factor for the tourists.

Trekking

The region has a high potential regarding the trekking activity. The climate conditions of the region and topography, its rich flora and fauna, and also the socio-cultural structure of the locals contributes positively to the improvement and the use of the trekking tracks. The topography of the area has suitable conditions for trekking tourism.

Results and Discussion

Natural attraction sources are the key factors of ecotourism. Without the natural attraction sources and protection of them it cannot be expected that ecotourism in these areas would perk up and improve. Therefore, while setting the substructure of ecotourism in Igneada and its surroundings, protecting the ecological structure and by providing the sustainability protect-use principle should be taken care of. Bird watching, butterfly watching, hunting, caving, water sports tourism, bicycle tourism, camping tourism, orienteering, trekking, fishing, nature photography, observing the wildlife, botany tourism, mushrooming tourism which are stated as the ecotourism activities that can be done in Igneada district can be carried out without requiring bigger investments.

Igneada region have the suitable conditions for trekking. However, till today trekking routes have not been determined, markings according to their degree of difficulty have not been done, and direction signs have not been placed. Trekking routes should

be determined, markings should be done and direction signs should be placed as soon as possible.

There is a lack of coordination between the government agencies and non-governmental organizations. Each institution on its own, unaware of the other institutions, carries out studies about ecotourism in the region. However, none of the studies put forward represents the ecotourism potential of the region adequately. It should not be forgotten that the subject needs to be handled primarily is establishing the substructure of ecotourism. Therefore, to establish the substructure of the ecotourism, coordination and cooperation between the government agencies and non-governmental organizations mentioned above should be provided.

While establishing the substructure of the ecotourism in the region opinions and suggestions of the locals should be paid attention to. Accordingly, a survey study can be conducted.

Igneada district is one of the areas which have the most appropriate land structure for the orienteering sport in Thrace region. However, that potential cannot be taken the advantage of due to the fact that the mapping process has not been carried out. It is necessary to implement the mapping in the region and put it into practice as an ecotourism activity.

The marshy lands in and around the Igneada is a significant feeding, breeding and sheltering ground for bird species. The biggest danger for bird species is unconscious hunting. In order to prevent unconscious hunting, the punishments and the frequency of the controls should be increased. In addition, it is possible to train the hunter candidates who attend a course to receive a hunting certificate more intensively. Hunters can also be trained about natural attraction resources while renewing the hunting certificates.

Bird observation centers and bird observation towers can be built in Lake Mert and Lake Erikli for the purpose of bringing into use of nature lovers to put the bird observation tourism into operation.

The irregular and unplanned settlements around the Igneada cause the destruction of the natural resources. It is necessary that these settlements are stopped. The buildings which were built with the reconstruction permit obtained before should be demolished by being publicized and these areas should be turned into their natural states.

Local guides should be educated for the ecotourism activities that will be held in Igneada district. Igneada are mostly visited by the clubs and photography organizations from different parts of Turkey, interested in nature sports. Informative, advertiser and educative brochures can be submitted by contacting these organizations and clubs about the possible ecotourism activities in this area.

While constructing complexes as part of ecotourism in the area, care should be taken that they are adaptable to the nature and the environment. Accordingly, renewable alternative energy sources can be preferred.

The government should provide low interest and long-term loan convenience for the local people who want to be involved in activities aimed at ecotourism in the region. Therefore, new employment opportunities can be provided in the region.

Sales points should be organized in Igneada and on the itinerary for the local people for the souvenirs which the coming tourists can take with them when they leave. In order to enable the service quality and standardization, supervision and control of those sales points should be left to the municipalities of the city and town. Therefore, the satisfaction levels of the visitors from the local products that they bought will be increased to the highest point. In addition, it will be enabled that the coming visitors can easily reach the local products. Furthermore, as part of local handicraft, Turkish

Employment Organization and Public Training Center can open courses on handicraft in the region. In these courses which will be opened, the local people can sell the coming visitors what they have learnt and produced. For this purpose, traditional handicraft production workshops can be established in the region. Therefore, both the handicraft makers will generate an income and they will contribute to the economy of the region.

One of the significant components of marketing is presentation. The local people can be trained about the presentation, communication and packaging. As a result of this, there will be an important increase in the sales of the local products and that will increase the people's level of income.

Area of Igneada has lower socio-economic level compared to Kırklareli average. As the leading reasons of it, we can show the restricted agriculture production and inadequate industrialization due to the geographical position. In Igneada city center, the leading mainstay of the people is boarding house keeping and fishing. Stockbreeding is in the foreground in the surrounding villages. In the past, forestry was an important mainstay in the forest villages whereas in recent years forestry lost its importance due to the policies that the government has applied. Agricultural facilities are restricted in relation to the land structure. There is immigration from the rural areas to the regions where there is intensive industrialization. The leading reason of this immigration is that the young population cannot find employment opportunities in Igneada and its surroundings. From this point of view, ecotourism can be considered in order to increase the people's level of welfare living in rural areas of Igneada and its surroundings, in other words as a supportive component. When the suggestions stated above are fulfilled, ecotourism will be a supportive and important component for the progress of the rural areas in Igneada and its surroundings.

The planning of ecotourism which will be carried out in Igneada and its surroundings will create employment opportunities for the local people, will increase the welfare of the regional economy, will increase the introduction and besides will enable the protection and sustainability of the natural resources.

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