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Geo-tourism overview of East Azerbaijan Province of Iran: The case study of Kandovan village

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INTRODUCTION

Although it has been estimated based on predictions that by the year 2025 Iran may annually attract up to 20 million tourists, especially after Iran-west recent ties, some geo-touristic parts of the country are still unknown for many tourists. If this happens, tourism will be an important economic activity and source of income for the country. On the other hand, the essential part of existing tourism in Iran belongs to few famous historical and religious cities and non-historic sites are more or less unknown for the tourists. One of the main tourism branches yet have to be recognized by travellers is geotourism. Geotourism is a relatively new form of tourism with considerable global growth potentials. Its provision, as tourism focused on geology, with a particular emphasis on rural localities and geoparks has burgeoned since the turn of the present century.

However, its growth and impact on geo-conservation, and associated concerns over geo-exploitation are difficult to accurately quantify due to limited appropriate research and evaluation. It has been considered as a form of niche (Hose 2005) or; special interest tourism', both actively growing tourism market segments. Kandovan (also Romanized as Kandovān and Kandavān; also known as Kanvān) is a village in Sahand mountain rural district, in the central district of Osku county, East Azerbaijan Province of Iran. Kandovan has located 62 km south of Tabriz on Sahand volcanic mountain slopes. This village demonstrates man-made cliff dwellings which are still inhabited. The cave dweller homes, excavated inside volcanic ashes and tuffs are locally called "Karaan". Karaans were cut into the lahars (volcanic mudflow or debris flow) of Mount Sahand. The cone form of the houses is the result of lahar flow consisting of porous round and angular pumice together with other volcanic particles that were positioned in a grey acidic matrix. After the eruption of Sahand these materials were naturally moved and formed the rocks of Kandovan. Around the village the thickness of this formation exceeds 100 m and with time due to water erosion the cone shaped cliffs were formed. At the 2006 census, the village population was 601, in 168 families. This paper attempts to overview the geo-tourism prospects of Kandovan village of Iran.

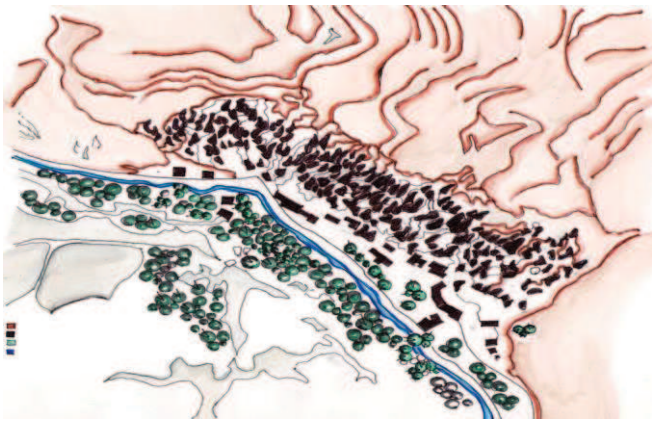
LITERATURE REVIEW

There has been extensive research in the geo-tourism potentials and prospects of Kandovan village of East Azerbaijan, Iran. Ghanbari, et al. (2013) studied the geo-morphological features of the Kandovan as tourism potentials. Esfahani, et al. (2012) studied the economic and geomorphic aspects of the Kandovan geo-tourism attractions. There are a lot more studies concerning the Kandovan Village potentials and prospects that are introduced in detail in the same reference.

Geographic Features

Importance of the geography would be more visible while the condition of each context effect the buildings directly. It is about the topographical and physical characteristics of the land. The rural patterns always develop in parallel with the geographical conditions of the site. Most of the time divisions of the lands are based on the level of them from the sea. They are categorized in this way: High land, mid land (hill lands),flat land and coastal lands (Ghobadian, 2003). In the high land settlements the fundamental building material is stone, because of its availability on the mountains.

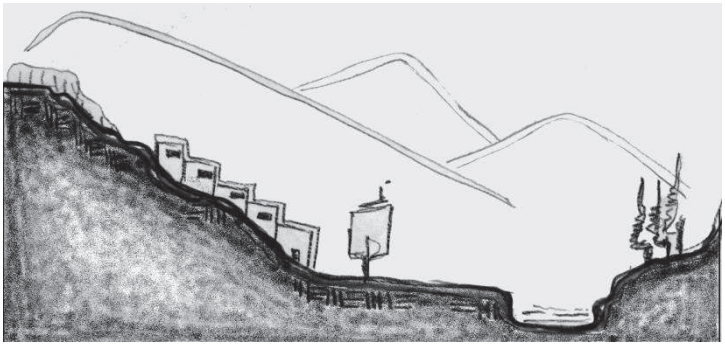
Kandovan Satellite Picture (Source: Google Earth, 2016)



Different geomorphic and topographic outcrops of Kandovan formation

Ignimbrite rock standing of the houses (Source: Auckland, U. 2005, and Ashrafi, N. 2013 flexiblelearning: http://flexiblelearning.auckland.ac.nz/rocks_minerals/rocks/ignimbrite.html)

The formation of Kandovan obeys topographic and geomorphologic features of the area.



The Stages of Settlement Development according to the Topography (Source: Adeli, 2011)

On the coastal lands the chosen materials are predominantly sand and timber. Use of sand is popular because it's abundances and convinces to the context, and also they use timber to be adapted to the moisture of the whether out there. Topographical condition is the other fundamental term of a certain land.

Ghobadian states that: "Lumps and dents of a land is called topography, which is appearance of changes on the earth's crust. After all the changes on earth different topography appears which has different types and categories. Some of lumps of the lands became hills and mountain and people created habitation there. Some dents of the earth became oceans, lakes and rivers. From the beginning of the time, humans were affected by climate. Their very first idea was protection from the harshness of the weather. They constructed a shelter for protecting themselves. Therefore, it is documented that the first element which effect built environment directly is weather. There are several aspects that effect building formation, location and direction in climatic issues; they are categorized as wind direction, sun direction, humidity, air pressure, temperature, and rainfall (Yaldiz, 2009). Therefore it is clear that, variations in natural environment which is called climate conditions could be cause to have different building approaches in vernacular architecture. In vernacular architecture in all the regions there are some elements, which are showing the effect of climate. For instance in hot and dry climate in, they use thick wall not to let cool weather be consumed in the very hot weather out there. There are other elements such as wind catcher inside the building in the same region. The function of it, is to bring the wind inside the building and most of the time because of the thickness of the walls the wind become cool until it get out of the wind catcher (Zandi, 2006). The other example could be from moderate and humid weather. They construct the building with empty space underneath it therefore; the building does not touch the ground. The aim is that, since the weather is rainy most of the time there, the humidity of it could not have a chance to get inside. The other thing that they usually do in this region is the slope of the roof. It is between 50-60 percent in order not to let the rain water get inside from the roof. These examples show that every region with different climate has differ-

ent approach in terms of vernacular architecture. Therefore, climate could be documented as initial term in vernacular settlements.

ANALYSIS DETAILS

Kandovan village is derived from the nature of Sahand Mountain. Geology of the Kandovan settlement is remarkable, about 12 million years ago Sahand Mountain created from natural deformation of the earth. It was volcanic mountain at that time. All the volcanic rocks after the volcanoes from Sahand Mountain started to live as a very hard kind of rocks in the nature, which is called "Tuff" rock. After being in the harsh nature under hard rains and wind the soft part of the big rocks ruined and the part, which were more stable stand there in the nature. Then it was a time for the migrants to move there inside the nature to be protected from the nature and enemies. They carved the ashes from volcano after that and started to live there. What exist there today, are the units that had more stability to the nature (Bahman, 1937). There are two types of soil in Kandovan village; the first is the one that created from the decomposer of the original rocks, therefore, it is local soil. The second is the one that, from time to time came there with the help of rain falls and deformation of the rivers. In general the most part of the Kandovan village is covered with Ignimbrite soil, which is welded part of old volcanic rocks that survived. All the volcanic rocks are subset of it, such as Tuff, Yellowstone Tuff, Bishop Tuff and etc. Mainly the material of the units is from mentioned material (Katharine, 2007).

The other thing that would be also in consideration is in geographical issues is vegetation on Sahand mountain from the high part of it to the plain of Urmia that Kandovan village is in between of these two part. Generally vegetation is start from the part that the degree of the slope on Sahand is not that vertical. Parts with more slopes are covered with large amount of grass and herb, therefore, in the spring time mostly the vision of the mountain is completely green. As the slope getting softer the shape of the vegetation also changes. On the lower part of the mountain there are amount of trees, which they are not too crowded and the space between them is considerable. On the lowest part of Sahand there are vast lands with a good quality of soil, which is good for agriculture; therefore, it is mostly being used for Kandovan inhabitants to do farming there (Gorji and Sanayi, 2009).

In an earlier study, the author (Roostaei, S.) has calculated the economic added value and the scientific worth of Kandovan Village with the cooperation of Esfahani, et al (2012) and has come to the concluding point that this village has a higher scientific and economic value and there is a need to manage appropriately this fascinating geotourism place or geomorphosites in order to enhance its existing non-value conditions. The analysis procedure involved the inclusion of many criteria in an assessment card issuance taking into consideration various features such as ecological, aesthetics, cultural and economic factors. Each category was classified in a scoring system which was derived from field and data record analyses. According to the results it has become clear that Kandovan Village can be

classified within 4 different ecological, aesthetics, cultural, and economic categories. The highest scores of the estimations belong to its aesthetics and cultural aspects (0.5 and 0.8 points in the calculated scoring system, out of 1), and this was followed by the aesthetics and economic values of the Village that were estimated to be 0.8 and 0.4 points respectively.

CONCLUSION AND IMPLICATIONS

While, many researchers have pointed out that Kandovan Village is an outstanding natural feature being regarded as one of the main geo-tourism sites of East Azerbaijan province and Iran as a whole, some others also have mentioned that if the managers do not pay attention to its existing situation and the gradual deterioration of its natural features there will be negative impacts on its traditional tourism attraction. The findings of our study indicate that Kandovan has an alluring tourism prospect for the future and based on the present dismissal of embargos and hopeful Iran-West economic ties the managers and planners should take into their consideration its international economic, aesthetic, ecologic, cultural and more importantly, touristic position for the development of the area.

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