ENVIRONMENTAL EVALUATION FOR TOURISM DEVELOPMENT IN ILAM TOWNSHIP

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ABSTRACT

Industrial Tourism is today the attention of many Governments. Tourism industry on the national employment rate, income, consumption, and investment has positive effects. Relate to target tourists, tourism have been classified into different types, one of which is ecotourism. Ecotourism is now a small part of the total of Industrial Tourism. In this research, using Boolean logical model of ecotourism-prone area of Ilam city has been identified. Therefore the information layer contains map height levels, zoning of the slope, vegetation, water sources, were prepared. And then by combine the layers overlap and information in geography information system environment. Then based GIS layer the suitable zone to development of ecotourism in Ilam Township was indentified. The result of research showed, that much more attractive areas are located in the north and center of the area and the South East. These areas have vegetation and natural forests, water resources and good climatic conditions. As well as Areas with low attraction be located in the South and West area.

Key words: *Environmental capability, tourism development, Ilam Township, remote sensing, geography information system*

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INTRODUCTION

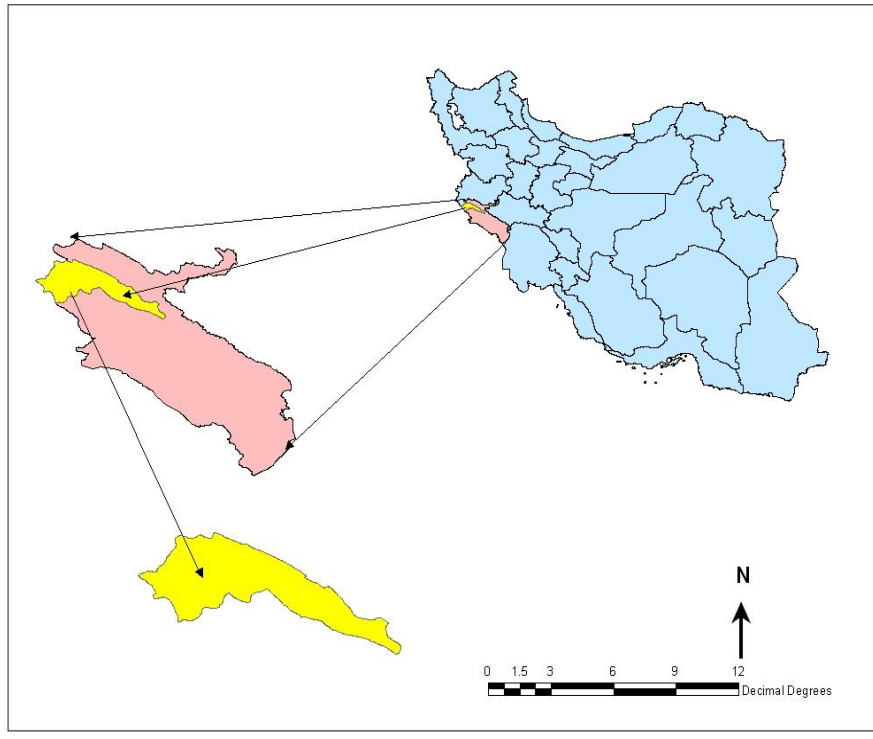
Developing tourism as a business has a great impact on strengthening communities' economic foundation. Tourism, as a source of new jobs, incomes, taxes, exchanging and strengthening social infrastructure, will grow and boost other civil industries (Lankford & Howard, 1994). Most of the developing countries are now in favor of developing tourism industry (KO & Stewart, 2002). In recent decades, the importance of tourism has internationally been increased from the viewpoint of the number of tourists who arrive in the target areas and the way it affects the local economy (Thomas et al., 2005). However, it must be noted that the improvement of tourism quality should not threaten the sustainable development of the industry, itself (Haiyan S. 2005 Papatheodorou A.). Ecotourism should be considered as a part of sustainable tourism. Ecotourism is an applied tool to support sustainable development something which is expected to play a major role in boosting development process and of course conserving tourism target areas. Ecotourism development will be achieved if it combines with other factors including cooperation among tourists, residents and local managers (Ceballos, 1998). Wrong assessments about both environment and ecotourism destinations will cause various problems in understanding the real damages of the tourism target areas. However, here are a few practical assessments, which have been conducted in various regions. It should be said that at the moment some standards and criteria are still on the verge of developing (Ross & Wall, 1999). Traditional approaches based on inappropriate law and regulation has had harsh consequences on local residents living in tourism target areas (Heinen, 1996, McNeely, 2001) Wells & Brandon, 1992). This may lead to negative interaction between locals and park zone authorities (Brandon, 2001; Hackel, 1999). Managing the target areas successfully, will not be achieved unless authorities cooperate, connect and support local communities (Gurung, 1995). Authorities should allow local communities to be involved in controlling tourism protected areas. Authorities should also use proposals local communities offer for protecting areas with high tourism potentials (Alpert, 1996). In order to meet such standards, many plans and programs have been adopted all over the world. Protecting Ecosystem and preserving wildlife has been considered as a high

priority matter across the world (Fennell & Weaver, 2005). Eco-system could cause more benefit for the local residents, it also could attract international support for preserving protected areas. Ecotourism can be regarded as a major solution for economic problems and problems environmental. It also plays a major role in global economic growth, especially in the developing countries. Tourism improvement basically stands on the consistency, attention and accompanying with the nature along with preserving and boosting main infrastructures in areas with high tourism potentials. However, mismanagements in tourism industry will cause negative effects in the pre-determined standards in the local areas with high tourism capacities. Ecotourism can create benefits for local residents and can also attracted international support for protection regions (Fennel, 2005). Hence the support and participation of local people is essential to create a sustainable ecotourism) Yoon, 2001). And development of ecotourism should increase the maximum participation of local communities in the conservation of natural areas (Cooke, 1982). Today, the phenomenon of tourism and ecotourism, in terms of its abundant income, many of the world's countries have it that the contributing in this industry (Tremblay, 2004) Ecotourism means a trip to different regions of the country and of different communities, natural and cultural monuments (Wight, 1994).

CASE STUDY

Ilam County with an area of 400,000 square kilometers less than one percent of the total area of the country Iran was including, in the West and southwest of the country, between 31 ° to 34 ° and 58 minutes and 15 minutes north latitude and 45 degrees 24 minutes and up to 48 degrees 10 minutes East along the meridian is located relative to GMT (figure 1).

Figure 1: situation of case study in Iran



MATERIALS AND METHODS

Probabilistic Boolean Logic and Well Formed Formulae

Informally, probabilistic Boolean formulae—like their deterministic counterparts—can be constructed from the Boolean constants 0, 1, Boolean variables, and probabilistic Boolean operators: probabilistic disjunction, probabilistic conjunction and probabilistic negation. Probabilistic disjunction, conjunction and negation will be represented by the symbols _p,^q and ¬r respectively, where p, q, r are the corresponding probability parameters or probabilities of correctness. The probabilities of correctness associated with the disjunction, conjunction and negations operators are such that 1 2 _ p, q, r _ 1 and p, q, r 2 Q, the set of rationales. Initially, for clarity of exposition and for a model of finite cardinality, we consider only rational probabilities of correctness. We seek the indulgence of the

reader and will defer a more detailed discussion of the justification underlying our choice of considering rational probabilities, to Section 3. A pair of probabilistic operators, say in the case of probabilistic disjunction, _p,_ˆp, will be deemed identical whenever p = ˆp. They will be considered to be comparable whenever p 6= ˆp. Similarly for probabilistic conjunction and negation. Analogous to well-formed Boolean formulae, well formed probabilistic Boolean formulae are defined as follows:

(1) Any Boolean variable x, y, z, • • • and the constants 0,1 are well formed probabilistic Boolean formulae 2.
(2) If F, G are well formed probabilistic Boolean formulae, (F _p G), (F ^p G) and (¬pF) are well formed

Probabilistic Boolean formulae. Henceforth, we will use the term probabilistic Boolean formula, or pbf to refer to a well-formed probabilistic Boolean formula and the term Boolean formula (bf) to refer to a classical well formed Boolean formula (which is deterministic). In addition, the length of a probabilistic Boolean formula is the number of operator's n in the formula. Given a pbf F, we will use varF to denote the set of variables in F. If varF = _, that is if F is a formula over Boolean constants, F will be referred to as a closed well-formed Probabilistic Boolean formula or a closed pbf.

DATA AND ANALYSIS

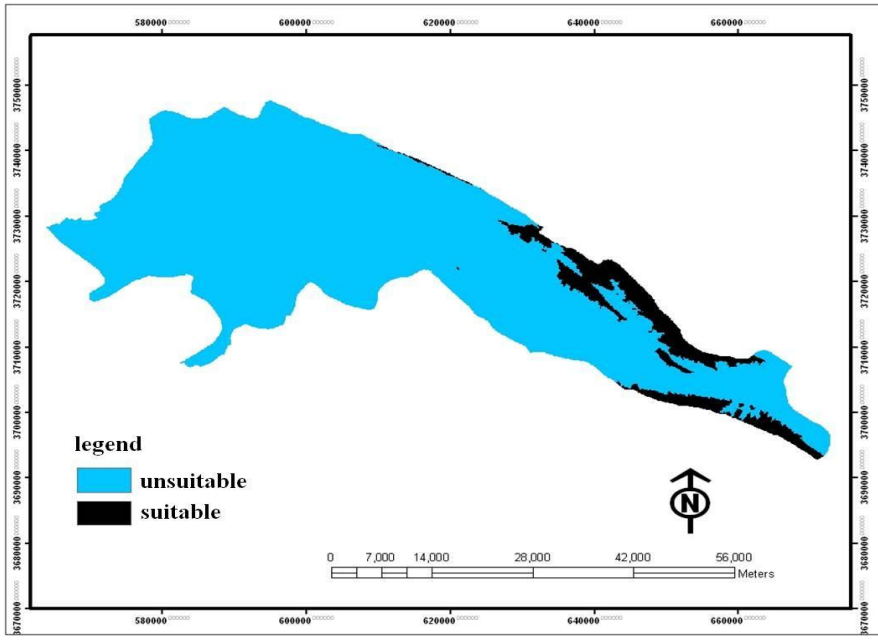
In this study the surface height maps, digital elevation model map of (DEM) with a spatial resolution 90*90(cell size 90) of the map, digital elevation model (DEM) was selected for the whole country. The digital elevation model map of Ilam DEM map in GIS environment was developed then categories. The maps used in this research are: topography, slop, vegetation, land use, hydrology, and water resource. After the analysis of the environment GIS, Using Booleans were weighted, and the final map was prepared and the Environmental capability evaluation area has been determined.

RESULT AND DISCUSSION

Suitable Area to Mounting

The suitable area to mounting in the research, that s the high more of 1800 meter and slop between 20 and 70 percent are the suitable area for mounting. Less 8 percent of the total area is suitable to mounting. These areas are more great heights mountain (Manesht Mountain, Gchan, Ghlarang and are included) and these area be located in the South and South-East of the area (figure 2).

Figure 2: Suitable area to mounting

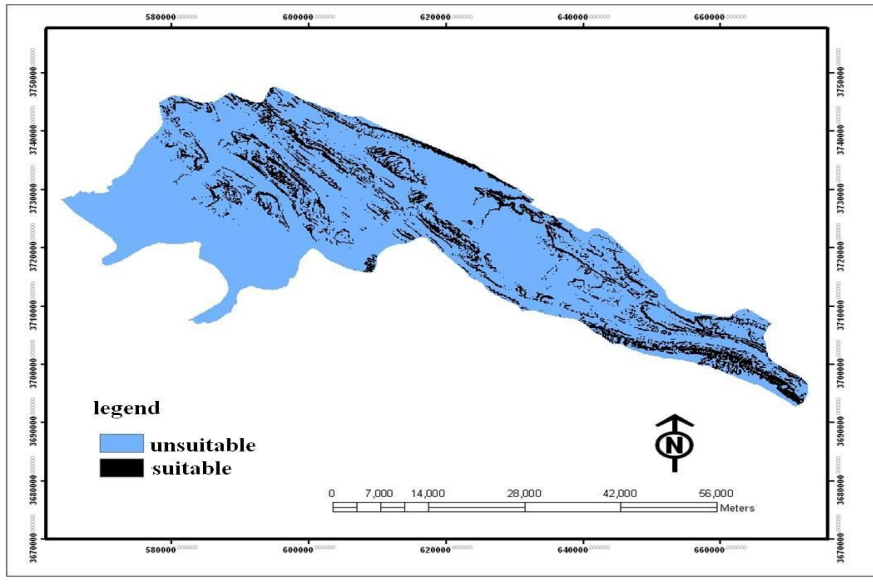


Suitable zones for hillside climbing

This area of the 16% of the total area is included, which has a height of more than 800Meter and less 2050 meter and the range slope of between 20 to 70 percent. The annual average temperature of the area is between 12 ° and 20 c. And rainfall between 400 and 900 mm variable. 80 percent of zone is covered by Forest cover. This zone is located in the northern and central of Ilam Township. These areas are not included, only areas more than 2050 mm (North and Central Highlands) and the parts of the south township then are

covered to slope of the low, that has low rainfall and vegetation (figure 3).

Figure 3: Suitable zones for hillside climbing



Suitable zones for water sports, swimming, and fishing

The area more dispersed and about 4/12 percent of the total area is included and the surrounding area of 1,500 meters of water resource and springs, rivers and lakes are included (figure 4).

Suitable zones for family camping

Areas suitable for ecotourism include areas that have suitable vegetation and beautiful perspectives. The range of 3/35 of the total area of the zoning is included. This range has a wide level of oak forests dense and dense vegetation, and having permanent springs and rivers can be a good place for ecotourism. These areas generally include the northern portion of the township (And the beautiful forest park Dalahoo, Tajarin, Bankol , Hyanan tight, Meshkhas and Ilam dam basin are included). Rare plant and protected area with unique vegetation in some areas (manesht) and and natural beautiful

including perspectives (A massive reef, amp, deep canyons, faults, caves, natural) Includes the tourist attraction in this zone (figure 5).

Figure 4: Suitable zones for water sports, swimming, and fishing

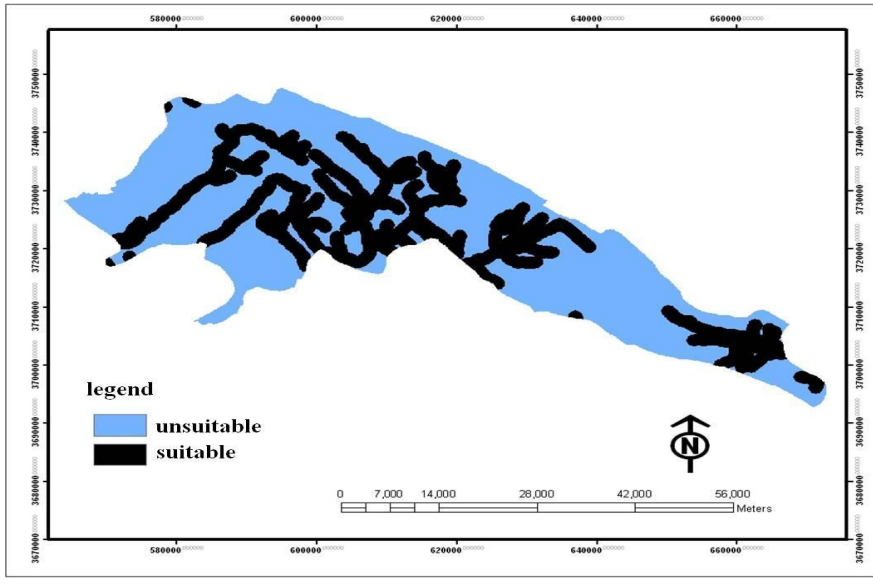
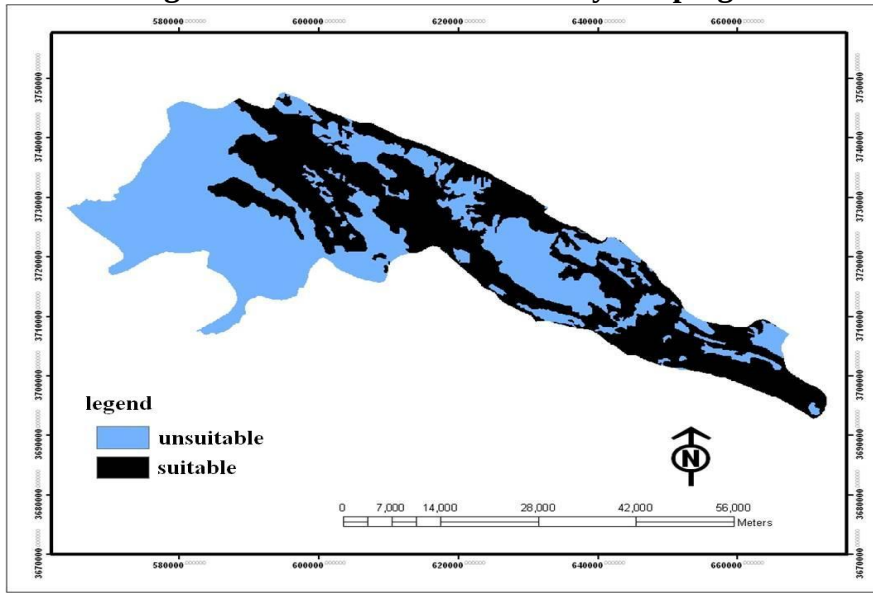


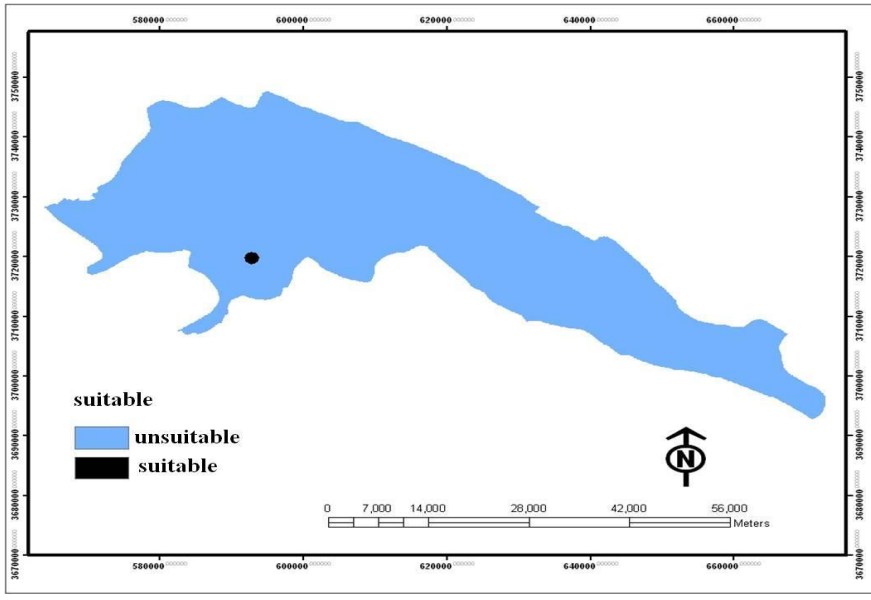
Figure 5: Suitable zones for family camping



Suitable zone for nature therapy

This zone includes areas that are located near the spa springs, (Dshtlg and tang Bijar) About 0/7% of the total area of the township are included. The spa springs with a temperature of about 50 ° c and therapeutic mud pools around them has led the natural springs be importance of special mud therapy, This therapeutic properties for rheumatism, allergy, boils, wounds, as well as broken bones and soreness can be very effective (figure 6).

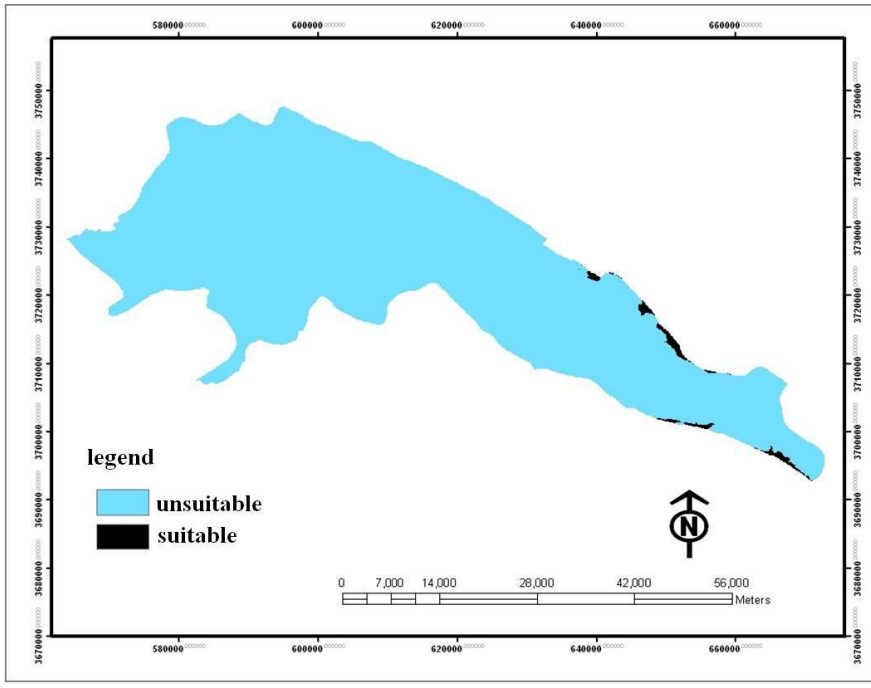
Figure 6: Suitable zone for nature therapy



Suitable zones for winter sports

Ilam Township has high mountains. Altitude of over 2000 meters, less than 2% of the area can be include. But the mountains of the township, such as the Kaber Khoh, Manesht, Gchan, Ghlarang, Sivan have a height of more than 2600 meters. Much precipitation as snow in winter, Due to a thick layer of snow in the mountains is the creation and capacity winter activities at least until the end of June; suitable area for winter sports in the township, about 51/1 percent of the total area of the city is included (figure 7).

Figure 7: Suitable zones for winter sports



The results of the overlapping layers of information on Boolean logic model

The range of number 0: This range of ecotourism in zoning the township lacks none of the ecotourism activities. This area of the 27% of the total area of the area are includes. In fact, 27% of the total area of the area lacked the potential for ecotourism activities. Due to the low slope and height less than 800 meters apart from areas that are at the margins of rivers and springs, there are no potential to ecotourism activates in this area.

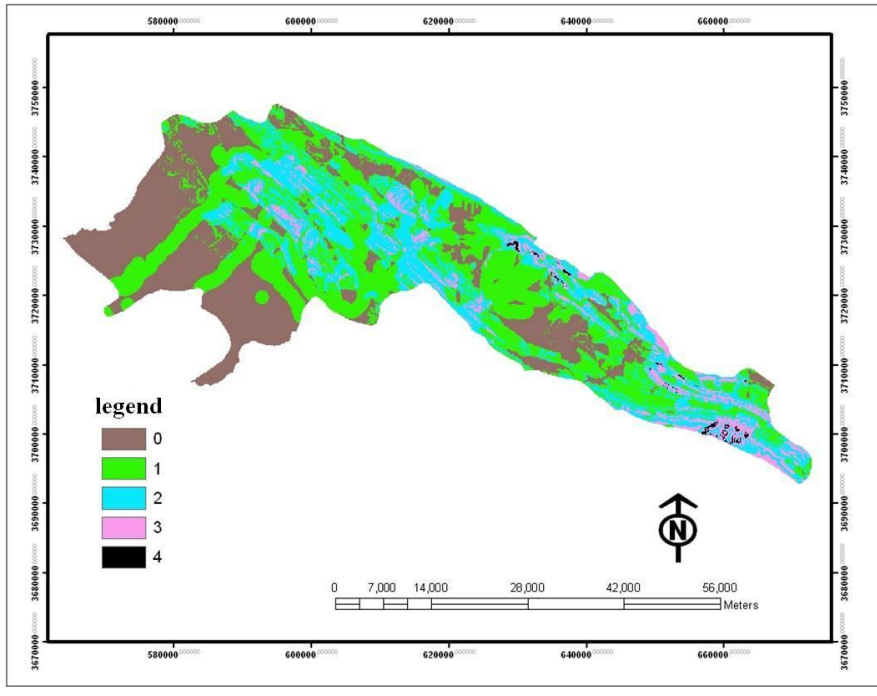
The range of number 1: the area has been the potential for one ecotourism activities such as climbing, winter sport or water sport. This area of more than 37% of the township area is included.

The range of number 2: the area has been the potential for two ecotourism activities. The altitudinal of this area is between 800 to 2000meter variable. this area is about 26% of the total area of the township are included.

The range of number 3: the area has been the potential for three ecotourism activities, this zone across the mountain range and the Northern area be located and has been high and the potential for ecotourism activities such as mountaineering, trekking, cave view the natural landscape, the winter sports and ecotourism, and camping. This area of about 6% of the total City area is included.

The range of number 4: the area has been the potential for four ecotourism activities, having potential for ecotourism activities such as climbing, winter sport, view natural perspectives, winter sports and ecotourism. This area is less than one percent of the total area is includes (figure 8).

Figure 8: The results of the overlapping layers of information on Boolean logic model



CONCLUSION

According of the results obtained from the analysis of the data and the findings of research, However 70% of the total area of the township of Ilam is suitable to development ecotourism, there is enough potential for the six basic activity. In this zoning that Obtained via Overlapping layers of information, Such as digital elevation models, slope, vegetation, hydrology and land capability. E ecological capability in six ecotourism activities was identified. Among the six mentioned activities, ecotourism family with more than 35% had the greatest extent. This is due to the high mountains and density of vegetation and forest in area. Mountain climbing as well as domain due to congestion in the area and That covers most of the mountains are forested and have been a good slope for this exercise, With 24% of span Second place is allocated. Winter sports and Nature therapy with less than 2 percent are the lowest among these activities.

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