

## **A Participatory Assessment on Environmental Impacts of Tourism Development in Target Villages of Golestan Province Using ICOLD Matrix and COPRAS Technique**

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### **Extended abstract**

#### **1. Introduction**

Today, the growth of urbanization and industrial development in various aspects of human life has led to an increase in its need for recreation and tourism. Tourism is one of the human activities that is growing as new functions of the spaces with different economic, social and environmental dimensions, but these dimensions do not only appear positively and desirably, and along with benefits, they have negative outcomes and effects. The most important positive effects of tourism on host societies include the creation of jobs, the rehabilitation of undeveloped or non-industrial areas, the rejuvenation of art and local techniques, traditional and cultural activities, improvement of the social and cultural life of the local community, the modernization of local architecture and traditions as well as increased attention to the protection of extremely beautiful areas with aesthetic and cultural values.

#### **2. Theoretical Framework**

Developing tourism and equipping infrastructure through various projects to meet the needs and demands of tourists is one of the main goals of managers and planners. But it should be noted that the development of tourism and related activities can lead to many environmental impacts, especially in rural areas, which are destinations for urban tourists. The determination of environmental impacts is one of the main issues and concerns in the process of Environmental Impact Assessment (EIA) of projects. Assessing the effects of tourism can also predict the length of time for tourism activities in the region. In fact, in order to achieve sustainable tourism, these assessments must first be initiated and managed to reduce the adverse effects and promote the benefits for local stakeholders.

The presence of diverse attractions in some of the country's villages has led to their selection as tourist destination villages and welcoming destinations.

In this regard, providing touristic villages with the services and infrastructures for tourists' welfare, and attracting more tourists are in priority for governments and tourism proctor institutions such as Cultural Heritage Handicrafts and Tourism Organization of Iran. In some cases, private tourism investments have also been directed to these villages. Therefore, all of these executive and infrastructure activities such as tourism projects can have diverse effects on different aspects, including environmental impacts on rural destinations.

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Accordingly, the assessment of environmental impacts of rural tourism activities in line with having the goal of sustainable rural tourism development can help planners and managers to prevent the negative effects of tourism development in rural environments.

### **3. Methodology**

The study area includes a set of target villages in Golestan Province covering 37 villages. About 14 villages, in which the infrastructure and development of tourism services such as medical and sanitary facilities, prayer, sanitation, landscaping, available roads and asphalt, housing construction, camping and the like are emphasized, were selected as the basis of study and evaluation. They are also selected by the Cultural Heritage Handicrafts and Tourism Organization of Golestan Province as sample rural areas active in tourism.

The reason is that after this selection by related governmental institutions, a significant amount of public and private investing projects flow to these villages for providing the services and infrastructures that will result in the increase of positive and negative effects that need to be studied. The present study uses an analytical-explanatory methodology using library-documentary and field study.

In order to collect the field data, after identifying the variables of the research, data were collected through a questionnaire distributed in the studied area.

Samples are chosen in 2 levels: 42 local elites (local managers and Dehyars) for counting the ICOLD matrix, and 366 households that had been selected by Cochran formula (with 5 percent error rate) from local community for environmental impact assessment, and for ranking the rural by COPRAS technique.

### **4. Results and Discussion**

Based on the results obtained from the evaluation of the effects and calculating the sum of algebras of values in different dimensions, the highest positive effects of tourism activities in the subsections were in the socio-economic aspect with a score of 115 and the lowest score in the physical-chemical aspect is equal to 3. In other words, the activities expressed in the surrounding villages have positive social and economic effects, and the highest negative effects in physical and chemical dimensions with a score of 189 and the least negative effects in the cultural-infrastructure dimension with a score of 45 are observed, which indicates high negative environmental impacts of tourism activities in the studied villages. The comparison of negative and positive environmental impact total score (+75, -201) shows this fact.

Also, the comparison of the sum of algebraic values indicates that in physical- chemical (-186) and biologic (-72) dimensions, sum of scores are negative, and in social-economical (66) and cultural-infrastructure dimensions, sum of scores are positive or inactive. The considerable point in results is the inactive algebraic sum of negative and positive values in cultural dimensions of tourism development in case study area. Finally, algebraic sum of scores for total environmental dimensions is 192. Thus, in the case study rural area, negative impacts of tourism in environment are so high. In next step, results of COPRAS ranking techniques implementation show that the impacts of tourism activities on determined subdivisions and rural systems' non-sustainability is different from each other. Thus, most environmental unsustainability had been observed in Ziarat village with 0.145 score. High numbers of tourists and visitors and geographical- spatial position of case study regions could be the reason of this condition. Also, Afratakhteh village with 0.125 score was ranked second

regarding the amount of environmental impact. The least amount of environmental impact had been observed in eastern Gaz village with a score of 0.035.

## 5. Conclusions and Suggestions

The obtained results of this study for assessing the environmental impact of tourism activities in target villages of Golestan province with emphasis on the results of former studied (e.g., Gharakhlou, RamezanZadeh Lsboi, & Glin Sharifi, 2009; Mamaghani Nasab, 2013; Amirhajilo, Tavalae, Zanganeh, & Zanganeh, 2013; Eftekhari and Mahdavi., 2005), enumerate that negative effects and faults of tourism development projects and activities are more than its benefits. Hence, the results show that the highest negative impacts of tourism development activities was in physical-chemical dimension with a score of -186, and in the biologic dimension with a score of -72. Therefore, it could be said that despite positive effects in social-economical dimension of rural areas, the tourism development project has more negative and destroying effects on rural landscape that need to be controlled. Based on COPRAS ranking techniques, Ziarat and Afratakhteh rural points experienced the most amount of environmental impacts. Especially, in rural points that lay along roads and communication ways, these effects are intensified. Therefore, determining the environmental impact of tourism development, as well as the implementing projects with fewer environmental impact, is the main suggestions of the present study.

**Keywords:** Environmental impact assessment, Tourism sample rural, ICOLD matrix.

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