



## Case study

# Tourism and nature conservation: A case study in Golestan National Park, Iran



Siavash Ghoddousi<sup>a</sup>, Pedro Pintassilgo<sup>b,\*</sup>, Júlio Mendes<sup>b</sup>, Arash Ghoddousi<sup>c</sup>,  
Bernardete Sequeira<sup>b</sup>

<sup>a</sup> Faculty of Economics, University of Algarve, Faro, Portugal

<sup>b</sup> Faculty of Economics and Research Centre for Spatial and Organizational Dynamics, University of Algarve, Faro, Portugal

<sup>c</sup> Conservation Biogeography Lab, Geography Institute, Humboldt University of Berlin, Berlin, Germany

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## ABSTRACT

This paper addresses the role of ecotourism in promoting biodiversity conservation in Golestan National Park (GNP), located in northeastern Iran. Three communities living close to GNP were selected as a case study. A questionnaire survey to local residents revealed that most respondents (80%) have economic benefits from the national park. However, there is also a significant proportion of individuals (35%), mainly farmers, who experience economic losses from living near GNP. Around 58% of the respondents reveal to have benefits from tourism. The results show an inverse relation between having benefits from tourism and bearing losses as consequence of living near the national park. This reveals that the role of tourism in the conservation of GNP is undermined by the fact that residents with high losses from the park get little benefits from tourism.

## 1. Introduction

Population growth together with unsustainable development is causing a boom in natural resource extraction and major impacts on nature worldwide (UNEP, 2015). This trend can also be observed in Iran, where lack of sustainable development in rural areas generates significant migration to urban centers. Notwithstanding, tourism is developing in Iran and is raising new opportunities for local communities in rural areas, drawing attention to the conservation of protected areas (PAs).

In recent years, local people's support for PAs management is playing an important role in nature conservation worldwide (Naughton-Treves, Holland, & Brandon, 2005; Udaya Sekhar, 2003). Conservationists recognize that PAs can be an important tool for sustaining local people's livelihood and that the support of local people for conservation is essential for protecting natural resources and endangered species (Ninan & Sathyapalan, 2005). Several studies have concluded that local residents tend to favor conservation in the presence of benefits and oppose it when it generates significant costs such as wildlife depredation of crops and livestock (Jimura, 2011; Maikhuri, Nautiyal, Rao, & Saxena, 2001; Mbaiwa & Stronza, 2011).

Tourism is a strong tool, which gives communities economic and social benefits and encourages them to support conservation (Stem, Lassoie, Lee, Deshler, & Schelhas, 2010). Some studies suggest that a

sustainable way to promote locals' attitude toward PAs and decrease the negative effects on people who are affected by PAs is to share the economic benefits generated by tourism (Mackenzie, 2012; Stem et al., 2010; Udaya Sekhar, 2003). Tourism is viewed as an environmentally friendly way to regenerate rural communities and economies (Kim, Uysal, & Sirgy, 2013; Snyman, 2012). Benefits generated by tourism should be distributed to cover the costs of coexisting with wildlife, such as the protection of livestock and other human resources (Hemson, MacLennan, Mills, Johnson, & Macdonald, 2009). However, the distribution of benefits from tourism among those directly affected by the coexistence with the wildlife are yet understudied.

This study aims to analyze the role of ecotourism in promoting biodiversity conservation and the share of tourism benefits among people affected by human-wildlife conflict in Golestan National Park (GNP), one of the most important natural reserves in Iran. For this purpose, a case study was undertaken, consisting of three Turkmen communities who live in small villages close to GNP. These remote Turkmen communities are considered to be one of poorest communities in the country (Rashidvash, 2013). In these villages, there is a clear conflict between human activity and nature conservation. This manifests in land conversion in GNP, ungulate poaching and killing of predators as a consequence of livestock depredation and crop damage (Ghoddousi et al., 2017; Khorozyan, Soofi, Ghoddousi, & Waltert, 2015). On the other side, diverse natural landscapes of the national

\* Corresponding author at: Faculdade de Economia, Universidade do Algarve, Campus de Gambelas, Faro 8005-139, Portugal.  
E-mail address: [ppintas@ualg.pt](mailto:ppintas@ualg.pt) (P. Pintassilgo).

park and the rich Turkmen culture makes these villages attractive for tourists.

In this context, the paper aims to determine to what extent the development of tourism in GNP affects the support for conservation. The contribution of the paper is twofold. On the one hand, since tourism is a recent phenomenon in the national park, there is lack of studies on its impacts. Hence, the study fills this gap by providing knowledge on tourism development in a remote rural area of Iran. On the other hand, the lessons of this case study on how tourism can mitigate conflicts between local communities and nature conservation can serve as a reference for other rural areas in the world.

## 2. Communities and nature conservation

Although nature conservation may benefit not only the local communities but also the whole humanity, the costs are usually imposed to the local communities who depend on the natural resources for different goods and services (Ninan, 2012). Communities located at the boundaries PAs usually bear the costs of conservation (Mackenzie, 2012; Ninan & Sathyapalan, 2005). These costs include, economic losses generated by protected animals such as attacks to livestock and crop damages (Naughton-Treves et al., 2005) and exclusion from resource exploitation (Kijazi & Kant, 2010).

Nevertheless, there are some ways in which local people may profit from nature conservation such as ecosystem services, tourism (Naughton-Treves et al., 2005), conservation and development programs (Goldstein, 2003). Maximizing benefits and minimizing costs is a basic rational in human behavior. If local communities increase their benefits from a PA, they will support its existence and conservation. Hence, policies that make conservation economically beneficial to the local communities and decrease the negative consequences to local livelihood are fundamental to sustainable conservation practices (Clements, Suon, Wilkie, & Milner-Gulland, 2014; Lussetyowati, 2015).

There are studies which emphasize that it is almost impossible to protect natural resources without the commitment of local population (Maikhuri et al., 2001; Sirivongs & Tsuchiya, 2012). Also, there are many examples showing that if local residents are directly involved in PA selection, establishment and management, the local conservation system will more likely be successful (Hamú, Auchincloss, & Goldstein, 2004; Thapa Karki, 2013). Additionally, people may show higher respect for PAs if they are directly involved in reasonable approaches of conservation (Walpole & Goodwin, 2002). Therefore, at any stage, local participation should be encouraged for more effective management (Sirivongs & Tsuchiya, 2012). Also, participation of local communities is based on their local experiences and knowledge, which may result in a stronger conservation management and governance (Maass, 2008; Mackenzie, 2012).

Regarding Iran, Kolahi, Sakai, Moriya, and Makhdoum (2012) examines the situation of PAs and conclude that Iran's PAs system require supporting policies and planning instruments. Kolahi, Moriya, Sakai, Khosrojerdi, and Etemad (2014) refers that biodiversity conservation in Iran has been threatened due to aspects such as ineffective management and lack of public participation. However, public awareness on conservation is growing in Iranian society. Through an online questionnaire administrated on Iran's e-society, the authors show that there is a high willingness to participate in conservation and environmental projects. The high support for conservation was also found by Kolahi, Sakai, Moriya, Yoshikawa, and Esmaili (2014) in local communities near the Khojir National Park (KNP), Iran. The study suggests that participatory conservation should be implemented in the management of the park.

## 3. Tourism as a sustainability tool

Research on the support for conservation through benefits from tourism is still scarce (Lee, 2013; Udaya Sekhar, 2003). It has been

found that tourism can be an environmentally friendly way to restore rural economies (Ghaderi & Henderson, 2012; Rastogi, Hickey, Anand, Badola, & Hussain, 2015). Some studies recommend that a sustainable way to promote local attitudes toward PAs is to share the economic benefits, which can be achieved through tourism (Lee, 2013). A fair sharing of tourism income among the local residents is a key factor to reduce conflicts and negative attitudes toward PAs. Also, it will encourage locals to protect nature as they receive economic benefits from the PAs (Fun, Chiun, Songan, & Nair, 2014; Maikhuri et al., 2001).

In the last decades, tourism has been introduced as a tool for regional economic development in many parts of the world (Kim et al., 2013). There are positive and negative cultural impacts of tourism on local communities recognized in several studies (Andriotis, 2005; Vedeld, Jumane, Wapalila, & Songorwa, 2012). There are also impacts on social welfare (Fun et al., 2014; Lussetyowati, 2015) and on the natural environment (Brightsmith, Stronza, & Holle, 2008; Hemson et al., 2009). Moreover, on the economic dimension, tourism may reduce poverty and unemployment and increase per capita income (Snyman, 2012). Integrating all these aspects, Ashok, Tewari, Behera, and Majumdar (2017) based on a case study in Sikkim, India, proposes a framework for assessing sustainability in ecotourism.

Studies on the environmental impacts of tourism focus on tourism development initiatives (Jonela, Constantin, & Dogaru, 2015; Kim et al., 2013). Regarding positive impacts, some researchers consider that tourism helps generating a greater understanding of the need to preserve the environment by capturing its natural beauty for tourism purposes and increasing the environmental infrastructure and education of the host country (Hillery, Nancarrow, Griffin, & Syme, 2001; Reynolds & Braithwaite, 2001). Also, tourism is known as a comparatively clean industry, creating less pollution compared to other sectors (Stylidis, Biran, Sit, & Szivas, 2014). Tourism as a "clean" industry assists the development process of the community and its neighboring communities (Sirivongs & Tsuchiya, 2012). However, unorganized tourism can lead to the destruction of natural resources, vegetation and depletion of wildlife (Rastogi et al., 2015). Moreover, some studies suggest that economic benefits may not be sufficient to encourage local communities to support conservation (e.g., Stem et al., 2010). Also, some of them do not find a connection between economic benefits achieved through tourism and a positive approach toward conservation (Mbaiwa & Stronza, 2011; Walpole & Goodwin, 2002).

A few studies found that the attitude of local communities toward conservation is mainly dependent on the levels of human-wildlife conflict (Hemson et al., 2009; Mbaiwa & Stronza, 2011; Snyman, 2012). Boer and Baquete (1998) found that promoting conservation and ecotourism, as a practical land use in rural areas is a feasible effort to decrease human-wildlife conflicts and reduce the negative impacts of living near wildlife. Tourism can bring benefits to different groups of a community and hence contribute to reduce human-wildlife conflict (Sebele, 2010). Benefits generated by tourism should be distributed to cover the costs of coexisting with wildlife, such as livestock protection improvement and other human activities (Hemson et al., 2009). A fair distribution of tourism income between the local residents is a key factor to decrease conflicts and negative attitudes toward PAs (Maikhuri et al., 2001). Community groups who benefit from tourism usually show positive attitudes toward conservation and tourism development in PAs (Udaya Sekhar, 2003). According to Stem et al. (2010) residents will not express positive attitude toward conservation without receiving direct benefits.

## 4. Methodology

### 4.1. Study area

Our study area is Golestan National Park (GNP), located in north-eastern Iran (Fig. 1). GNP was the first area to be designated as a national park in Iran and is situated between the sub-humid Hyrcanian

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