

Geoparks as Art Museums for Geotourists

NEDA TORABI FARSANI * [ntorabi@ua.pt]

CELESTE COELHO ** [coelho@ua.pt]

CARLOS COSTA *** [ccosta@ua.pt]

Abstract | Geopark as an innovation for the protection of natural and geological heritages plays an important role in geotourism development. In recent decade “geotourism” emerged as a much talked about topic that is frequently linked to the term “sustainable tourism”. Moreover, a geopark stimulates local socio-economic development by attracting increasing numbers of visitors, and promotion of a quality label linked to the local natural heritage. It encourages the creation of local products and local handicrafts involved in geotourism and geoproducts. Moreover geoparks join local artists to promote tourists attraction and local development. This paper discusses the vital role of indigenous people and innovative activities in geoparks through the analysis of sixteen geoparks strategies and art innovations around Europe and in three countries of Asia (Australia, Malaysia and Iran).

Keywords | Geotourism, Geopark, Innovation, Socio-economic Activities, Sustainable Development.

Resumo | Os Geoparques, como inovação para a protecção do património natural e geológico, desempenham um importante papel no desenvolvimento do geoturismo. Na última década, o geoturismo emergiu como um tema muito discutido e frequentemente associado ao “Turismo Sustentável”. Um geoparque estimula o desenvolvimento socio-económico local ao atrair um número crescente de visitantes e ao promover uma imagem de qualidade associada ao património natural local; encoraja o desenvolvimento de artesanato e outros produtos locais relacionados com o geoturismo e os geoproductos. Os geoparques incentivam, ainda, os diversos actores locais a promoverem a atracção turística e o desenvolvimento local. Este artigo discute o papel vital da população local, das actividades inovadoras e das estratégias desenvolvidas por 16 geoparques localizados na Europa, Austrália, Malásia e Irão.

Palavras-chave | Geoturismo, Geoparque, Inovação, Actividades Sócio-económicas, Desenvolvimento Sustentável.

* **PhD Student in Tourism** at the Department of Economics, Management and Industrial Engineering, University of Aveiro, Portugal.

** **PhD in Applied Environmental Sciences** by University of Aveiro and **Professor** at the Department of Environment and Planning, University of Aveiro, Portugal, CESAM – Centre for Environment and Marine Studies.

*** **PhD in Tourism** by University of Surrey (UK) and **Professor** at Department of Economics, Management and Industrial Engineering, University of Aveiro, Portugal.

1. Introduction

Nowadays tourists want to find out more about the outside world. They want to test new things and increase their knowledge. New framework conditions such as airline deregulation, economic restructuring, environmental awareness, consumer protection, and the increased spread and flexibility of vacation days, are giving rise to a new tourism (Poon, 1993). Consequently, at present, geotourism is a new movement helping travellers how to increase their awareness about natural resources and ways of preserving them. According to National Geography definition, geotourists are travelers whose educational levels are high¹ and they travel in order to increase their knowledge in geological, cultural and natural sciences. Regarding their high education, they deserve to take advantage of educational facilities provided by tourism organizations. Nowadays geoparks as vital museums are ideal destinations for geotourists, since geoparks try to apply some innovative strategies and arts which not only improve the local economy but develop tourists' knowledge. Moreover indigenous people involved in the local geotourism marketing help to increase cultural communication between geotourists and locals. This paper focusses on the role of geoparks on revival of local products, traditional arts and geotourism development. The data was collected through literature review and the responses from electronic questionnaires sent to geoparks. Our results show the strategies adopted by geoparks to improve geotourism and local communities development.

2. Literature review

2.1. Geotourism appearance

The World Tourism Organization defines sustainable tourism as tourism development that "meets

the needs of present tourists and host regions while protecting and enhancing opportunities for the future leading to management of all resources in such a way that economic, social, and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, biological diversity, and life support systems" (Byrd, 2007).

Geotourism incorporates sustainability principles which was introduced publicly in a 2002 report by the Travel Industry Association of America and National Geographic Traveler Magazine.

In July 2008 five U.S. government agencies joined the National Geographic Society to formally adopt the principles of geotourism (Moffet and Moody, 2008).

In December 2005, the states of Arizona in the United States and Sonora, México signed a National Geographic Geotourism Charter to promote sustainable tourism and destination stewardship in the Sonoran Desert region, one of the most ecologically and culturally diverse regions in the world. This project will include the creation of a Geotourism Map Guide and an associated website that encompass both cultural and environmental concerns regarding travel as well as the impact that tourism has on local communities and their individual economies and lifestyles. This was the fourth Geotourism Charter issued worldwide and the first transnational effort undertaken by National Geographic. In The First Trans-National Geotourism Project they decided to establish a geotourism council. The Council will lead a bi-national grassroots effort to develop a regional Map Guide, promote the tenets of geotourism, and encourage destination stewardship in the region (Murrieta *et al.*, 2005)

Other existing charters include Norway, Honduras, Romania and Cook Islands. Honduras was the First country to make geotourism its national tourism strategy (National Geographic Society, 2005).

¹ National geographic <http://industry.traveloregon.com/upload/otc/departments/tourismdevelopment/geotourismwebsitesfinal.pdf>.

Nowadays geoparks are key factors in geotourism development since they maximize geotourism and local arts for the benefit of the local economy and educate people about the evolution of their local landscape.

3. Methodology

The main objective of the study is to assess innovative strategies to improve the local economy of geoparks. Whereas development of local economy is a target of sustainable tourism, we follow the specific objective: How to identify the strategy for geotourism activities.

The research methodology includes both primary and secondary research. The first phase consists of an extensive literature review of existing reports on geotourism activities. The main objectives are to assess innovative strategies to improve the local economy of geoparks, in this regard; in the second phase we will focus on the geoparks registered in UNESCO and comprehensive information collected (by sending electronic questionnaires to all of the geoparks around the world (64) about geoparks and their strategies to improve geotourism and local communities.

There were sixteen questionnaires (25%) forms that have been recollected after they have been filled by the chosen respondents. Moreover the following questions were designed for the purpose of achieving the research objectives:

- Could you please explain about your innovative activities?
- Does geopark brand play a role in development of local economy?
- Whether Local foods are served in your tours?

Then we get experiences from different strategies in geoparks to find the key components in geopark management planning and geopark activities.

4. Results

The respondents were in sixteen geoparks around the world registered in UNESCO global geopark network. The majority of responses were obtained in Europe (81%) and the others were collected in Australia, Iran and Malaysia (Table1).

At present (2009), there are 64 geoparks in 19 Member States which had been registered in the GGN; China with 22 geoparks is the first country in the world. It is noteworthy that most countries have similar strategies in management planning. The officials employ network activities for implementation of geopark targets and they have established a domestic network for collaboration of geoparks.

The sample presents 4 key factors (Innovation, Art, Network, and Participation of local communities) in geopark management.

Table 1 | Countries that replied to the questionnaires

No	Country	Geopark name
1	France	Réserve Géologique de Haute-Provence
2	Portugal	Naturtejo geopark
3	Germany	Vulkaneifel geopark
4	Germany	TERRA.vita geopark
5	Greece	Psiloritis geopark
6	Spain	Sobrarbe geopark
7	Norway	Gea Norvegica geopark
8	North Ireland	Marble Arch Caves geopark
9	Ireland	Copper Coast geopark
10	Scotland	Lochaber geopark
11	Romania	Hateg Country Dinosaurs geopark
12	Czech Republic	Bohemian Paradise geopark
13	Austria	Eisenwurzen
14	Australia	Kanawinka Geopark
15	Iran	Qeshm geopark
16	Malaysia	Langkawi geopark

4.1. Geoparks and innovation

Beside the geological and natural landscape, geoparks as museums of natural history, exhibit local arts, local foods, local artists, children's art activities and geoproductions.

Sustainable tourism requires innovation – major changes in management planning – and it cannot be “business as usual”. Some of the necessary innovations involve reforming internal management approaches to achieve constructive alterations; some concern new technologies; others are related to the nature of monitoring, regulation and enforcement processes through globally agreed standards and reporting mechanisms. Central to all these necessary changes is the participation of stakeholders, especially local artists and local communities.

However, geoparks must actively participate in the economic development of their territory and immediate surroundings through collaborating with locally-based small and medium sized enterprises to develop and promote new products and services, ranging from interpretative provision to souvenir manufacture; equally, leisure-related activities (e.g. cycling and climbing) can be encouraged so that geopark’s host communities recognize and appreciate the geo-heritage and engage in its cultural activities, arts and economic regeneration (Hose, 2007).

Currently, most of the craft businesses which are located in the geoparks territory are linked to the geoparks and produce products based on the geological elements such as: Geococktail (Vulkaneifel Mineral Water Cocktails) in Vulkaneifel geopark, Germany, dinosaur bread in Hateg Country Dinosaurs geopark, Romania, ammonite chocolate and ammonite bread (figure 1) in Réserve Géologique de Haute-Provence, France and trilobite cake in Naturtejo geopark, Portugal (figure 2).

These innovative activities not only improve the local economy but also educate tourists and popularize geological science.

Local products and handicrafts should become close to trade marking and they should be designed based on geoparks environment and culture, which may be used in decorative or utilitarian ornaments, commemorative goods made of stone or wood, furniture, toys for children, clothes, etc. These would certainly stimulate locals for new economic activities



Figure 1 | Ammonite bread, baked locally in the town of Barrême (Source: Jean-Simon PAGÈS).



Figure 2 | Trilobite cakes, baked locally in the Casa do Forno, Naturtejo geopark, Portugal.

in the region of the Parks. In this regards Psiloritis geopark (Greece) invited artists and craftsmen from Germany, France and Psiloritis area to exchange ideas and to increase the bounds between the management bodies of the Park and the local artists and craftsmen to create innovative strategies and products (Skoula and Fassoulas, 2008).

In most geoparks, geotourism markets take advantage of the geopark brand (e.g. in festivals) or some local producer use the geopark brand for their products.

In this regards we designed a question for officials of geoparks around the world – Q1: Does brand play a role in development of local economy? – Figure 3 indicates that most of the geoparks (69%) believe that geopark brand develops local economy

through tourists' attraction, geoproducts, geopark publication and geotours (Mean=1.31, SD= 0.479). In France, Craft businesses are linked to the Réserve network and produce products based on the geological elements. In Malaysia, 30 shops in the village of geopark offer an impressive selection of Malaysian arts, crafts and souvenirs. Besides, tourists can enjoy T-shirts designed by local artists, straw hats and various batik prints. Moreover, in Qeshm the officials of the geopark with the help of UNDP

established two handicraft's workroom (needle felting) and created supplementary income especially for the women in villages. They have also established a geopark museum which embraces contemporary art, traditional art, and science museum.

It is noteworthy that developing geotourism is considered as a target for geoparks, thus they attempt to provide new facilities for tourists. In this regard they serve geoproducts in tours and restaurants. Samples analysis in Table 2 illustrates that 56.2 % of geoparks emphasis to serve local foods in tours (Mean= 1.44, SD= 0.512).

The results of questionnaires illustrate that the officials of geoparks are more concerned with applying art and innovative strategies to improve local economy and attract more tourist. Table 3 shows the various innovation which are being applied in geoparks.

It is worth to mention that, network activities, innovations, arts, and participation of local communities, are four key components in geopark management planning and strategies.

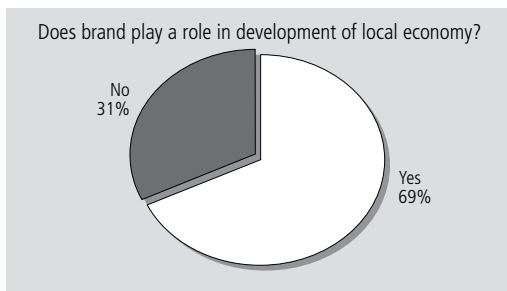


Figure 3 | Percentage of responds to the question (Does brand play a role in development of local economy?).

Table 2 | Results of the measurement samples (whether local foods are served in your tours?)

		Frequency	Percent	Valid percent	Cumulative percent
Valid	Yes	9	56.2	56.2	56.2
	No	7	43.8	43.8	100.0
	Total	16	100.0	100.0	

4.2. Geoparks and participation of local communities

The concept of protected areas, dating back to 1872 when the first modern protected area was established in the USA, usually focuses on spectacular biological or physiographic features for the limited purpose of conservation. Yellowstone National Park in the United States, established in 1872 following the forced removal of indigenous Indians, remains the national park model followed by many countries. Likewise the 'language of biodiversity enshrined in the Convention on Biological Diversity has come to drive a program of action based upon the identification and protection of critically biodiversity areas (Langton *et al.*, 2005).



Figure 4 | Percentage of responds to question (whether local foods are served in your tours?).

Table 3 | Innovative strategy for geotourism and local development in geoparks

Country / geopark name	Innovations
France (Réserve Géologique de Haute-Provence)	<ul style="list-style-type: none"> - In-situ and ex-situ protection - Georium (interactive tool for school children ages from 6 to 13, in the Museum Premonade) - Craft businesses linked to the Reserve and making products based on the geological elements. (bakeries, pastries, ammonite chocolate, carvers and ceramic makers)
Portugal (Naturtejo geopark)	<ul style="list-style-type: none"> - Geopark calendar - Geo-Bakery and Geo restaurant - Family House - Geo-Menu and Geo-products in Casa do Forno (a part of business around the brand Geo) - TERRAGAZE mobile (a field guide of the Geopark in your pocket) - Spa therapy - Regional and national festivals such as: traditional soups, cheeses, olive oil, pottery, bread and green beans - Sports depend on geology such as: Geo kayak
Germany (TERRA.vita geopark)	<ul style="list-style-type: none"> - Hiking for health - Spa therapy
Germany (Vulkaneifel geopark)	<ul style="list-style-type: none"> - Geo- cocktail such as: Vulkaneifel Mineral Water cocktails - Hiking for health
Norway (Gea Norvegica geopark)	<ul style="list-style-type: none"> - Geopark calendar
Greece (Psiloritis geopark)	<ul style="list-style-type: none"> - Geo-products such as: decorative or utilitarian ornaments, commemorative goods made of stone or wood, furniture, toys for children, clothes which are symbols of geopark - Open-air painting festival
Spain (Sobrarbe geopark)	<ul style="list-style-type: none"> - Facilities for educating tourists, students and researchers, such as: Space of the Sobrarbe Geopark, Technical Office and Geovision Room - Sports depend on topography such as: mountain bike
North Ireland (Marble Arch Caves geopark)	<ul style="list-style-type: none"> - Geopark calendar - The Marble Arch Caves Virtual Tour - Marble Arch Caves European Geopark Tour Book - First unique strategy for development - Audio visual presentation
Romania (Hateg Country Dinosaurs geopark)	<ul style="list-style-type: none"> - Books about local cuisine - Small centre for promoting local products, handicrafts and souvenirs - Geo-products such as dinosaur bread, etc. - Meeting between the geopark officials and the local producers
Scotland (Lochaber geopark)	<ul style="list-style-type: none"> - Mobile Phone Interpretation System (an innovative mobile phone interpretation system has been set up with a local software systems company. Funding for a new member of staff has been obtained as well as working with the University of the Highlands and Islands on the method of producing the interpretive material) - Mountain Festival
Ireland (Copper Coast geopark)	<ul style="list-style-type: none"> - Geopark calendar - The Geological Garden (The geological garden presents large samples of all the rocks forming the foundation of the Copper Coast: mudstones (slate), andesite (basalt), rhyolite, old red sandstone, quartz) - Trail cards cover Stradbally, Bunmahon, Boatstrand / Dunabrattin, Annestown, Dunhill and Fenor. - Artwork - The Copper Coast Women's Initiative such as food, beverages and craft (glassware, sewing, painting/drawing, textile painting/ printing, festive decoration, knitting, crafts with kids, stationary incl. cards, recycled materials, calligraphy, pottery, jewellery, flower arrangement, quilting) - Christmas Markets and exhibition - Providing a 19th century mining experience for tourists - Competition held by officials for themed geopark cake
Czech Republic (Bohemian Paradise geopark)	<ul style="list-style-type: none"> - The traditional September festival - Aquacenter (A swimming pool for adults and for children, offers a swimming pool for diving, 96 m long toboggan) - Small mining train, which travels through a mine shaft 260 meters long - Spa therapy - Traditional transportation (Steam locomotives)

Table 3 | Innovative strategy for geotourism and local development in geoparks (cont.)

Country / geopark name	Innovations
Austria (Eisenwurzen)	<ul style="list-style-type: none"> - Medicinal herb Tours - Courses on aromatherapy - Traditional products: herbal teas, herbal salts from wild herbs, flowers, salts, floral, herbal skin care products - Stone pine schnapps - Family house - Geo-Rafting - Geotourism markets and producers have common marketing under Geo Line brand (geopark brand) - Artificial landscape model with mountains and river for children
Australia (Kanawinka geopark)	<ul style="list-style-type: none"> - Aquifer tours to the Blue Lake Pumping Station (takes visitors in a glass panelled lift down the original dolomite well shaft, from which water was originally extracted, through a tunnel to see the Blue Lake at close proximity. Learn about the hydrology of Mount Gambier's water supply and the aquifer system. Hear the interesting stories of local history, European settlement, folklore and aboriginal legend)
Iran (Qeshm geopark)	<ul style="list-style-type: none"> - Atlas of Qeshm - Birds' atlas of Qeshm - Participation of Local Communities in conservation activities of geopark (UNDP 2002,2003a, 2003b) - Mangrove Tour - Establishing handicrafts' workroom - Establishing Family house
Malaysia (Langkawi geopark)	<ul style="list-style-type: none"> - Geopark Song Cideo Clip for tourists - Malay herbal treatments - Ancient rituals and health - Spa therapy - Mangrove Tour

It's noteworthy that, attention to the rights of local communities in management of protected areas is relatively recent. In the 19th and 20th centuries, many protected areas were established on land and resources held in common property by communities but perceived as terra nullius (nobody's property) when it came to asking permission, and offering compensation. The resident peoples were often expelled or severely restricted in terms of permissible uses of natural resources, often without compensation. Today, few people argue against the need to engage positively resident or neighboring communities in protected area management, and probably no-one would defend the proposition that human rights are less important in relation to protected areas than elsewhere. Moreover, around the world conservation agencies and communities are also "learning by doing" in an enormous variety

of specific situations, trying to understand and apply an evolving body of international and national laws and regulations on the rights of indigenous peoples and local communities. The emergence of "human rights" as a subject of global policy is itself a relatively recent development. It first found expression in the aftermath of World War II, in the 1948 Universal Declaration of Human Rights. The International Covenant on Economic, Social and Cultural Rights, which was adopted in 1966 and came into force ten years later, outlined rights in specific terms. It introduced a number of human rights processes and required governments to implement its provisions. The specific concerns about the rights of indigenous peoples have emerged as part of this evolving body of human rights. Thus the ILO Convention No. 169 Concerning Indigenous and Tribal Peoples in Independent Countries, adopted

in 1989, define Indigenous people and recognize their rights to have their social, cultural, religious and spiritual values and practices recognized and protected and the right to define their development priorities (Borrini-Feyerabend *et al.*, 2004).

In addition, according to Agenda 21 (part of the Rio Declaration)² the knowledge and traditional way of life of local, rural communities play a vital role in environmental management. States are encouraged to support the identity and culture of communities and to enable their effective participation in the achievement of sustainable development (Brecon Beacons, 2007).

At present UNESCO declaration about geopark as a new form of protected area has been highly evolved the strategy of local communities' participation in protected areas. Geopark states that indigenous people should not be removed from the lands where they live, since the locals' knowledge, traditional arts and traditional style of their life, play a vital role in geoparks management. Geopark encourages the local communities to follow cultural interchange and identity preservation.

It also motivates the local people to effectively participate in achieving sustainable development and sustainable tourism. Moreover geopark leads to stimulate the local economy through geotourism, and conservation activities. Managers of geopark try to improve welfare of indigenous communities through innovative activities and consulting with local businessmen, local artists, local tour operators, private sectors, local accommodation facilities, local restaurants and producers. Besides, they involve locals in conservation and educational activities and imparting of indigenous knowledge and art.

The officials employ network activities for implementation of geopark targets (figure 5). The network illustrates close relation between local communities, private, public and quasi public organizations in education, business, environment and tourism with geotourism and geopark.

²The United Nations Conference on Environment and Development held in Rio de Janeiro in 1992 highlighted the principles of sustainable development.

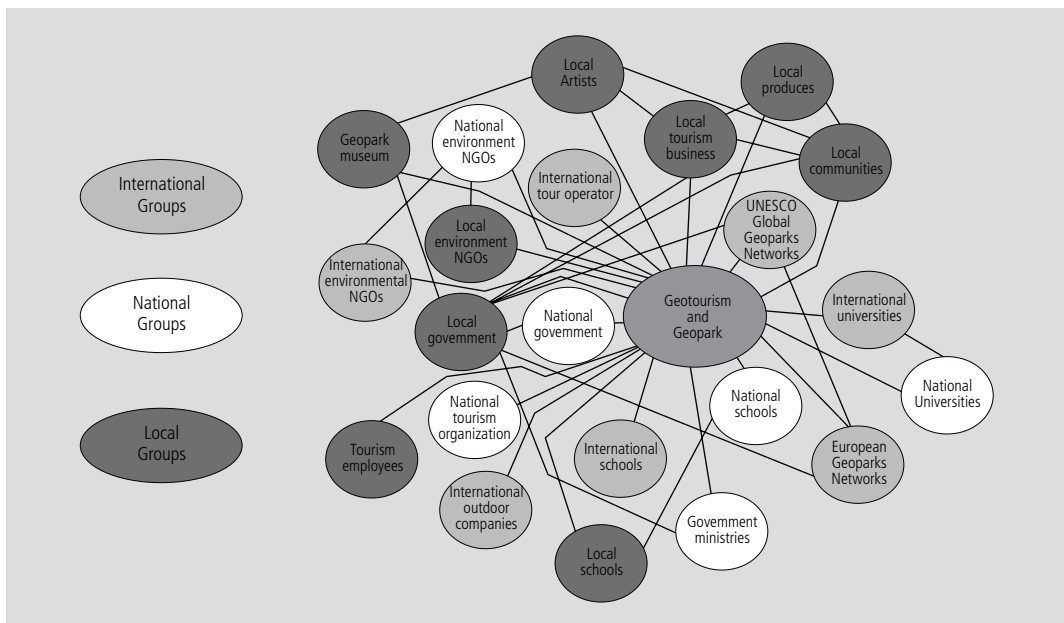


Figure 5 | Networks in geoparks activities.

7. Conclusions

New vision of geotourism can create more opportunities for local sustainable socio-economic activities by tourists' recreation, protection activities and earth science education. Meanwhile geoparks have important role in revival of traditional Art.

Geopark as an innovation in protected areas has an important role in geotourism development. Concerning the present conditions and potentials in every geopark, the managers have taken some positive measures toward stimulating local's participation. Geoparks not only create seasonal and part time jobs for locals through conservation activities and geotourism, but also have a vital role in consulting with locals and suggesting those innovative ideas – geobakery, georestaurant, geoproducs and family house – with the goal of economy improvement in geopark territory. In addition, the officials of geoparks have close cooperation with schools, outdoor companies, local artists, local producer and family houses to promote tourism business. Moreover developing domestic network and producing geoproducs besides improving the local economy educate tourists and popularize geological science.

Thus geoparks, pursuant to accomplishing their targets – geotourism, conservation and education – try to involve local people in geopark activities. For locals involvement not only improves the local economy but develops utilization of indigenous knowledge and art.

Acknowledgment

The authors will wish to thank the officials of the geoparks around the world and they also appreciate any comments and information from geoparks managers.

References

- Poon, A., 1993, *Tourism, Technology and Competitive Strategies*, C.A.B International.
- Byrd, E.T., 2007, Stakeholders in sustainable tourism development and their roles: Applying Stakeholder Theory to Sustainable Tourism Development, *Tourism Review*, Vol. 62(2), pp.9.
- Moffet, & Moody, 2008, 5 U.S. Agencies sign agreement to embrace geotourism, expanding conservation efforts, *On line national geographic*, [<http://www.doi.gov/bia/docs/press/Agreement%20to%20Embrace%20Geotourism%20Expanding%20Conservation%20Efforts.pdf>], (Site accessed 8 July 2008).
- Murrieta, Elizondo & Iribe, 2005, The Arizona-Sonora geotourism initiative, the first trans-national geotourism project, *On line national geographic*, [www.sonorandesertgeotourism.org or], (Site accessed 9 July 2008).
- National Geographic Society, 2005, The geotourism approached, *On line national geographic*, [http://www.innovasjonorge.no/Reiseliv_fs/PDF/Foredrag%20Tourtellot-2.pdf], (Site accessed 8 July 2008).
- Hose, T.A., 2007, Geotourism in Almeria Province, southeast Spain, *Tourism*, Vol. 55(3), pp. 259-276.
- Skoula, Z.D., Fassoulas, C., 2008, Building participative processes and increasing the economic value of goods in psiloritis Natural Park, *On line UNESCO global geopark network*, [<http://www.globalgeopark.org/publish/portal1/tab128/info2463.htm>], (Site accessed 9 May 2008).
- UNDP, 2002, Pilot Project for Rehabilitation of Marine Resources of the Persian Gulf in Salakh Region (Qeshm Island) (IRA-G52-2001-005(IRA98G52)), *on line SGP (GEF Small Grants Programme)*, [http://sgp.undp.org/web/projects/5298/pilot_project_for_rehabilitation_of_marine_resources_of_the_persian_gulf_in_salakh_region_qeshm_isla.html], (Site accessed 9 August 2008).
- UNDP, 2003a, onshore preservation of sea turtle eggs (mainly Hawksbill) and a minimum of 20 km coastline stretch through local participation in the Persian Gulf area, (IRA-G52-2003-024(IRA98G52)), *on line SGP(GEF Small Grants Programme)*, [http://sgp.undp.org/web/projects/8237/promoting_and_empowering_the_locals_in_the_production_and_marketing_of_conservation_art_for_the_sgp_.html], (Site accessed 9 August 2008).
- UNDP, 2003b, Pilot Project for Aquaculture of Pearl by the Local Community of Berkeh Khalaf Village, Qeshm Island (Pearls of Persian Gulf) (IRA-G52-2003-031), *on line SGP(GEF Small Grants Programme)*, [http://sgp.undp.org/web/projects/6643/aquaculture_of_pearl_by_the_local_community_of_berkeh_khalaf_village_qeshm_island_pearls_of_persian_.html], (Site accessed 9 April 2009).
- Langton, M., Ma Rhea, Z., Palmer, L., 2005, Community-Oriented Protected Areas for Indigenous Peoples and Local Communities, *Political Ecology*, Vol. 12, pp. 23-50.

Borrini-Feyerabend, G., Kothari, A., Oviedo, G., 2004, *Indigenous and Local Communities and Protected Areas: Towards Equity and Enhanced Conservation*, Gland, Switzerland and Cambridge, IUCN, UK.

Brecon Beacons National Park Authority, 2007, Authority Approved Unitary Development Plan, PART 1 Chapter 5 Meeting Economic and Social Needs, *Online Brecon Beacons National Park*, [<http://www.breconbeacons.org/the-authority/planning/strategy-and-policy/udp>], (Site accessed 10 July 2008).