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研究課題名（和文）The Importance of Geoparks for Tourism in Japan

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研究代表者

COOPER M・J・M (COOPER, Malcolm J. M.)

立命館アジア太平洋大学・アジア太平洋学部・教授

研究者番号：50369146

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研究成果の概要（和文）：本課題では、雲仙やその他国内ジオパークにおける地質、歴史と文化、教育、マーケティング、サイト保全、訪問者の管理、立地条件、安全性、そしてエクストリームツーリズムについて分析をし、他サイトと比較することで、日本のジオパークに基づいたエコツーリズムの発展について研究を行った。

2013年度は文献レビューを行い、2014年度と2015年度は経済価値、地質学的資源、社会的・文化的影響、リスクマネジメント、および教育プログラムに関して現地調査を実施した。研究を進める中で、発展や成功の指針と同様に失敗の指標を設定することも重要だと考えた。そのため、継続認定されなかったイランのゲシュム島に関する研究を行った。

研究成果の概要（英文）：This project investigated the development of ecotourism based on Geoparks in Japan by analyzing the geology, history, culture, education, marketing, site preservation, visitor management, geographic location, safety, and extreme tourism within the Unzen and other Japanese Geoparks, and comparing this to other sites in the Asia Pacific. We reviewed literature in Phase 1 (2013). We carried out field surveys in Phase 2 (2014) and Phase 3 (2015), on economic value, geological resources, social and cultural impact, risk management, and educational programs. During phase 1 and 2 we added a study of Qeshm Island Iran. It was important to establish park failure benchmarks as well as development and success indicators.

研究分野：Tourism Management

キーワード：Geoparks Regional Development Visitor Management Ecotourism

1. 研究開始当初の背景

There were three sets of propositions underlying our research proposal:

A Geopark seeks to conserve significant geological features, and explore and demonstrate methods for excellence in conservation. The management authority of each Geopark ensures adequate protection measures in consultation with collaborating universities geological surveys or relevant statutory bodies in accordance with local traditions and legislative obligations, and we need to understand these objectives and networks;

A Geopark organizes activities and provides logistic support to communicate scientific knowledge and environmental concepts to the public. This is accomplished through protected and interpreted geosites, museums information centres, trails, guided tours, school class excursions, popular literature, maps, educational materials and displays, seminars and so on. A Geopark also fosters scientific research and cooperation with universities and research institutes, stimulating dialogue between the geosciences and local populations. We wished to document these functions;

A Geopark stimulates economic activity and sustainable development through geotourism. By attracting increasing numbers of visitors, a Geopark stimulates local socio-economic development through the promotion of a quality label linked with local natural heritage. It encourages the creation of local enterprises and cottage industries involved in geotourism and geo-products (e.g., minerals used in health and wellness treatments, bottled spring water, use of onsen facilities). We sought to test these propositions in the context of Japanese, Australian, and other national Geoparks.

2. 研究の目的

This research was designed to test the criteria for the development of Geoparks in Japan and other countries. We considered that this outcome would be of great help both to local and international National Parks and tourism managers as well as to the academic study of tourism.

A Geopark is based on a nationally protected area containing a number of geological heritage sites of particular importance, rarity or aesthetic appeal, and these earth heritage sites must be part of an integrated concept of protection, education and sustainable development.

3. 研究の方法

We first undertook a desk-based review of geotourism and non-tourism based regional stimulation efforts on Kyushu (grounded in our regional base and of great importance to the local economy) and in other areas of the Asia Pacific Region, and an analysis of the impact of socioeconomic changes from the establishment of Geoparks.

During this phase, we found that Qeshm Island, Iran had just been de-listed as a failed Geopark, and we needed to find out exactly why so that our final recommendations could take such situations into account. We therefore broadened our research to include this analysis in the 2nd and third phases.

In the 2nd and third years we carried out in-depth field studies at selected sites in Japan, Iran, Germany, New Zealand, Australia and Iran based on the literature review material. We visited many Geoparks during these studies, interviewing local tourism operators, park management officials, community representatives, and tourists. We also met with the company KTM (based in France) to discuss their world-wide serious games educational program, and its applicability to geotourism and the educational requirements of Geoparks.

In each field study area, we collected the available published physical, human, economic, social, tourist attraction, and institutional capital data relating to the operation of an existing geopark(s), or the proposed or delisted geopark (see Fig. 1 below for the range of data collected and analyzed). This approach allowed the analyses to be carried out in a systematic manner covering the resources, the structures and processes that affect their utilization, the strategies for their enhancement, and the specific outcomes relating to the Geopark concept.

In each park we used a focus group technique to explore the relevant aspects of the geopark with management and operators, and conducted small on-site surveys of visitors to check their comments.

4. 研究成果

The analysis of the different bodies of data was carried out using a number of different methodologies (surveys and interviews, statistical analysis, textual analysis, content analysis of articles in the press, participant observation), gave us a robust set of conclusions and a base for evaluating future policies in the Japanese tourism sector relating to Geoparks.

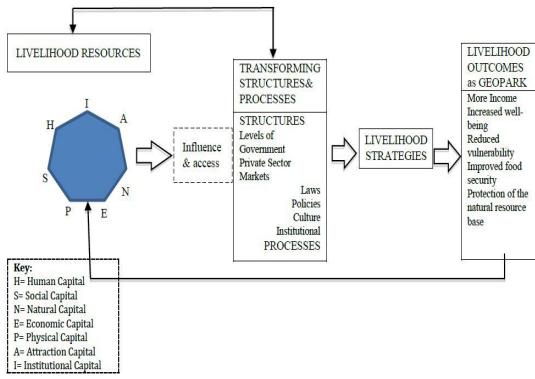


Figure 1: The Analysis of Capital Resources for Geoparks

We published parts of these data sets as they became available (see the publication lists in Section 5). These results included our work on the reformulation of the Izu geopark, using this to make further observations about the usefulness of geosystems (the physical nature of the geopark) in the conservation efforts on the Izu peninsula, and in the Mt Aso-Kuju Geopark context. One example of the data gathered is that on the position of Mount Unzen as one of the 16 listed decade volcanoes globally, but since August 2009 also recognized by UNESCO as being the primary attraction in the *Unzen Global Geopark*.

This allowed us to come to an understanding of the geopark as a showplace for a dangerous volcano that last erupted in 1990-95, after nearly 200 years of silence. In a reflection of how such natural heritage is important to local development however, these disaster zones have been later developed into major tourist attractions. The 'Buried Village' for example, is part of a suburb of Shimabara City, and is a constant reminder of the dangers of living close to active volcanoes like Mt Unzen. This area was located in the flow path of the lahars which followed the pyroclastic flows, with coincidental monsoonal rains causing large mudflows that destroyed over 2500 houses. Every day busloads of tourists bring 100s of domestic and international visitors to view the destruction caused. We provided this data and visitor numbers, and so on, to other Geoparks in Japan and overseas as an indication of how to use such geosites as a tourist attraction.



Figure 2: Mass tourism at one of the disaster zones in Shimabara (Unzen Geopark)



Figure 3: Local communities are very involved in disaster prevention and share their experiences with tourists (Unzen Geopark).

We also provided our study data to a number of organizations in Iran and Japan. We advised for example on reversing the delisting of the Qeshm Island (Persian Gulf) Geopark internationally. This will occur in 2016-7, and could be counted as a successful outcome from our project, albeit in another country. We also advised public and private organizations in Iran, using our data on the tourism implications of mining in the city of Yadz, Iran, and on extension of water supplies to agriculture in the Geoparks of this region. The work we undertook in respect of the geothermal activity in the Aso-Kuju and Unzen Geoparks of Japan were also passed on to organizations and communities in the Ardabil area of northern Iran, to the operators of the Uzu Geopark in Japan, and to operators in Australia.

We have made presentations based on our research to conferences and local workshops, and we have also published some of the results. 3 books will be or have been published in 2016, and more are to come. These include our work in Japanese Geoparks such as Unzen Geopark (Kyushu), Lake Akan (Hokkaido), and in relation to the volcanoes that make up many of the local geo-resources for tourism and regional development. Others have covered sustainable tourism, the tourism of Iran, and the use of social media in the marketing and management of such resources.

Special mention should be given to the parallel work done on globally important agricultural

heritage (GIAHS) that we incorporated into our Geoparks research in order to round out our consideration of the types of geo-resources available in Geoparks. Using ecotourism and other data previously collected in studies of the Kunasaki Peninsula (Oita), the Ifugao Rice Terraces (The Philippines) and the Noto Peninsula (Kanazawa) (Vafadari 2012-2015), we were able to provide more depth to our Geoparks analysis. This covered the interrelationships between geophysical resources (natural capital) and social and institutional capital in the local community.

Geological heritage conservation is important to the sustainability of tourism, and this has been recognized by UNESCO. In 1997 UNESCO's General Conference approved an initiative to promote a global network of geosites having special geological features as Geoparks. Our research, made possible by the very generous support of this JSPS Kakenhi grant, has allowed us to understand the development of inbound tourism (both domestic and overseas) to areas with geotourism potential and to predict its impact on regional economic health and restructuring through the creation of Geoparks.

In summary, we have been able to:

- Track changes in destinations and numbers of inbound geotourists in Japan and selected countries using primary and secondary data;
- Track tourism impacts and risk management in existing Geoparks using a combination of primary and secondary data;
- Provide a review of tourism policy and action (comparing and analyzing sites and potential sites) in relation to geotourism in particular areas; and
- Disseminate the results through conferences and local workshops, and publications, in order to gain support for our best practice model of geopark development.

5. 主な発表論文等

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6 . 研究組織

(1)研究代表者

COOPER M.J.M. (COOPER Malcolm J. M.)
Ritsumeikan Asia Pacific University
College of Asia Pacific Studies
Professor

研究者番号 : 50369146

(2)研究分担者

VAFADARI Kazem (VAFADARI Kazem)
Ritsumeikan Asia Pacific University
College of Asia Pacific Studies
Associate Professor

研究者番号 : 70628049