

Achievement and future challenges of Japan Geopark Committee

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The Japan Geopark Committee was established on May, 2008 to promote geopark activity in Japan. Since then the JGC authorized twenty-five areas as Japan Geopark and six areas as candidates for member of the Global Geoparks Network (GGN). Through these evaluation process, JGC basically adopt the guideline of the GGN but JGC also adding some ideas and criteria to make Geopark system more comfortably accepted in Japanese society. As a result of the evaluation criteria of JGC, Japanese geoparks have some distinct characters comparing to the European geoparks and Chinese Geoparks. The distinct character includes; management of the geoparks with less bottom-up style than European ones and more bottom-up style than Chinese ones, more emphasis on relationship between man, biosphere, hydrosphre and geosphere.

Keywords: Geopark, Japan Geopark Committee, Japanese Geoparks Network, Global Geoparks Network, Sustainable Development, Sustainable society

Bottom-up Management of Muroto Global Geopark

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One of the responsibilities for GGN and JGN members is to use local resources in order to construct a sustainable society, and it is absolutely necessary local people's independent activities in order to make this happen. We can find a word 'local' many times in the GGN guideline. The section titled 'Management and local involvement' in the Guideline says that 'The establishment of a Geopark should be based on strong community support and local involvement, developed through a 'bottom-up' process. It should demonstrate strong support from local political and community leaders, including in relation to the provision of necessary financial resources. The Geopark should have effective and professional management structures, deliver policy and action for sustainable regional socio-economic and cultural development across the territory where it is located. Success can only be achieved through strong local involvement. The initiative to create a Geopark must therefore come from local communities/authorities with a strong commitment to developing and implementing a management plan that meets the community and economic needs of the local population whilst protecting the landscape in which they live.' The 3rd JGN Conference, held in Muroto Global Geopark in November 2012, also discussed on local involvement into geopark project. It is contained on the Muroto Declaration.

However there is no definite way how local people relate to Geopark. All of geoparks in the world has problems to promote local involvement into geopark project. There are slight differences between Geoparks in Europe and Japan. In Europe, geopark is mainly managed by NPOs and local groups; in Japan it is mainly controlled by local government.

In Muroto Global Geopark, new projects based on bottom-up management by local people have been introduced; 1) Preparation project of Geopark off-site center, 2) Developing a new action plan for next three years (2013~2015 fiscal year) of Muroto Geopark Promotion Committee (MGPC, hereafter).

1) Muroto Geopark off-site center will be established by using a closed school in the city. MGPC has held workshops discusses about effective and ideal image of off-site center with local people. In the workshop, participants have shared aim that Geopark off-site center is not only for tourists/ travelers but also for local people. Among the participants, following ideas were shared that Geopark off-site center should be the place where makes visitors actually visit to geo-sites around Muroto city, local people can study, and many people can communicate with each other. An idea of geo-tour which off-site center plays an effective role was also emerged.

2) MGPC introduced workshop style for developing a new action plan. Participants talk about strong and weak points of Muroto Global Geopark. In the workshop, participants are not just discussing. They read the GGN guideline and consider on 'assignment' for Muroto Global Geopark from GGN judges. MGPC try to share such problems with local people through the workshop.

Workshop style has some sort of influences on involved groups in MGPC. For example, a guide group, managed in top-down system so far, has started to develop a program for the year, plan a schedule of guide training program, discover a new geo-sites, and make a new geo-tour program independently.

This presentation/ poster will show you bottom-up management of Muroto Geopark with examples of workshop-style introduced into preparation project of Geopark off-site center and developing a new action plan.

Keywords: Muroto Global Geopark, management, action plan, guideline, bottom up

Economic effect and its temporal change that the GGN authorization brought -the example of Unzen Volcanic Area Geopark

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Local promotion using geo-heritages is one of the main purposes of geoparks. Though the Unzen Volcanic Area was authorized as a Global Geopark in 2008, local residents have not felt actual economic effects yet. Are there actually tourists with the purpose of visit of the geopark? In order to estimate the proportion of the tourists to see the geopark, we carried out the questionnaire to tourists visited at the Shimabara Peninsula in summer of 2011 and 2012.

The results show the proportion of tourists with the purpose of the visit of the geopark was 13.2 % (day-trippers) and 16.0% (overnight visitors) respectively. From the total amount of visitors, averaged consumption per a person (5921 JPY of a day-tripper and 28964 JPY of an overnight visitor) and average number of purposes of tourists (2.5 of a day-tripper and 3.4 of an overnight visitor), the economic effect brought by GGN authorization was estimated to about 2.5×10^9 JPY in 2011.

On the other hand, in 2012, the proportion of tourists with the purpose of the visit of the geopark was systematically decreased; 10.0 % (day-trippers) and 12.4% (overnight visitors) respectively. Preliminary estimates of economic effect in 2012 is only about 1.9×10^9 JPY. Judging from the decrease of tourists, this value must decrease more.

The decrease of the economic effect was due to the decrease of the proportion of tourists for the purpose of the visit of the geopark. The main factor is drastic decrease of the number of collection of the questionnaire at the core and satellite facilities in the geopark; i.e. Mt. Unzen Disaster Memorial Hall, the Heisei Shinzan Nature Center, the Onokoba Sabo Mirai Hall and so on. On the other hand, in 2012, the number of the questionnaires of day-trippers increased more than 200 cases in comparison with 2011. We consider that the results of 2012 are almost the actual situation of the tourists visiting our geopark. We must utilize the information and promote the maintenance of the geo-guide and the development of the local geotour, the development of the original souvenir more to treat the tourist for the purpose of the visit of the geopark.

Keywords: Unzen Volcanic Area Global Geopark, Economic effect, Questionnaire, Day-trippers, Overnight visitors, Local promotion

How to bring up the ability of geo-guide

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¹Promotional meeting for Happo-Shirakami Geopark

1, Introduction

One of the most important things of managing the geo-park is the ability of geo-guide. In our Promotional Meeting for Happo Shirakami Geopark, we have been operating the activities of the geo-guide.

I would like to introduce our active methods and practical geo-guide.

2, Beginning

Hachimori town was one of the typical depopulation town before the annexation of towns and we had been searching the way of promote the economical activities. In that period, Seisyu-wood land load has been proposed that was to construct the wood land load border of Aomori and Akita prefecture.

The wood land load was started at Hachimori town. The load was named Seisyu Wood land load.

We were afraid that this load would destroy 130,000ha virgin forest of beech trees. Some conservation of nature began the movement to prevent this load construction. After that the load construction was stopped. But this Low was afraid to be canceled someday, thereby the idea of registering Shirakami Sanchi was planned and, in 1993 this new idea was realized. That is way to be registered Shirakami Sanchi as the world Heritage.

Hachimori town was nominated as the model area of the Environmental Education. Further more some new activities were started such as To live together with Forest. Promotional Interchange Activities in Shirakami Nature Watching.

To realize these activities, many talented nature guides are necessary.

3, Establishment Happo-Shirakami Guide Association

(1) To open Guide Training Course

To carry out the following guide training seminar, the participants are required to have taken lectures of Nature Conservation Soc. of Japan

(2) The contents of lecture

To learn about the nature phenomenon in Shirakami Sanchi, the participants are required to learn about wild plants in Hachimori area.

Those lectures are held 5 times a year, and required to take lectures and to visit the other local spot to learn the guide methods in those areas.

(3) The activities contents

The participants are required to learn about plants, animals, germs in Shirakami Sanchi area, and the next steps, they have to learn about geographical features, varieties of rocks and geological structures. In addition they must training first aid.

4, The outcomes

In Happo-Shirakami Geopark area, there are 5 geo-model courses as follow.

a: related Hachimori sand fish with Shirakami mountain course.

b: People lived in sand blowing course.

c: Feeling by observing many terrace land forms course.

d: Interesting process to grow up Mt. Futatsumori course.

e: Protected forest Tomeyama course.

Keywords: Seisyu-wood land load, World Natural Heritage Site, Sand fish, Blown sands, Protected woods, germs

Representation, Understanding and Application of Scientific Knowledge in the Fforest Fawr Geopark (Wales) and the Muroto

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The opportunity to be involved in scientific activities must be provided to a wide variety of people to improve public awareness of science. Geoparks, which are promoted with the assistance of UNESCO, have great potential to appeal to and involve a variety of people and are expected to make a positive impact on society. Geoparks are sites with geological heritages and they aim to conserve these heritages and use them for education, research and local sustainable development.

Geopark activities including conservation, education and tourism are grounded in the communication of the values and characteristics of Geoparks. This study explores how scientific knowledge is represented, understood and applied through information material by focusing on the process of this communication and associated influential factors, and offers constructionism. To emphasize the characteristics of the communication, a comparative study into Fforest Fawr Geopark in Wales and Muroto Geopark in Japan was conducted.

An analysis of information material, qualitative interviews and self-completion questionnaires for visitors was conducted to investigate how scientific knowledge was represented in the material, what the Geopark personnel intended to achieve through the material, how the scientific knowledge was received by visitors and what role it played in the visitors' experience in the Geoparks.

The study revealed the relationships between the information material, the Geoparks' expectation and visitors' experience of the communication of scientific subjects. Between the Geoparks there were differences in visitors' interests, experience of, awareness and understanding of the Geoparks. The intention of the material, the characteristics of the Geoparks, nationalities, gender and age could be considered as influential factors on the results.

The study concludes that Geoparks have great potential to involve a wide variety of people and that communication in Geoparks is diverse depending on the situation of the Geoparks and their visitors.

Keywords: geopark, science communication, interpretation

Let's make Shikaribetsu lake by yourself: geopark lecture in Shikaoi elementary school

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The lecture of the name "Let us make the Shikaribetsu lake by yourself" was performed to a total of 183 children of the Shikaoi elementary school and other schools in the Shikaoi-cho geopark concept area.

<The outline of the lecture>

the central resources of the Shikaoi geopark concept is the Shikaribetsu lake which is dammed up by lava domes.

Therefore, the main aims of the lesson were set at the point "understanding the formation process of the Shikaribetsu lake with feelings."

Geographical feature of the valley system before the domes was made from papier-mache. Lava domes was made from the dentistry impression material. Then water is poured into the depression by valley and the domes.

The composition of a lesson is as follows.

The lecturer first outlines the magma and the volcano.

Next, formation process of the Shikaribetsu lake is explained briefly, and then an experiment is started.

<Questionnaire>

About 5 minutes were used to fill up the questionnaire sheet.

The three questions were set up in order to obtain degree of comprehension about the contents of the lecture.

The next three questions are for knowing intelligibility, pleasure of the lecture, and the intelligibility of the formation Process of the Shikaribetsu lake, respectively. And the last question is a comment. Questionnaires were collected from all the students who participated in the lecture.

<The result of a questionnaire>

Question, Do you understand the lecture?: over 90 percent of children answered "I understand the lecture" or "I understand the lecture very well"

Question, Was the lecture pleasant?: 80 percent or more of the child has answered that It was very pleasant.

Question, Do you understand how the Shikaribetsu lake was formed ? : 45% for the fourth grade children answered that they understood the lecture very well. For the 5th and 6th grade children, it was about 70 percent.

Keywords: geopark, Shikaoi geopark, Experiment, Lava dome

Geohistory of Lake Ogawazawa broken by the eruption of Izu Tobu Volcano Group and the mysterious "Red bull" legend

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Geological and historical studies revealed the geographical evolution of the Ogawazawa area, near Ito, northeast Izu Peninsula, and the geohistorical implication of a mysterious legend, which tells about a monster living in a crater lake of Izu Tobu Volcano Group. This gives us a new theme of the Ito geosite, Izu Peninsula Geopark, Japan.

We found lake sediments, which are distributed along the Ogawazawa valley and are directly overlain by the fallout scoria from the Babanotaira-Hachigakubo scoria cones, Izu Tobu Volcano Group. The tephrochronological age of the scoria cones is estimated to be 23,000 years ago. The facies of the fallout scoria show that the depositional environment is subaerial. This means that a fossil lake had suddenly been broken by the eruption of the scoria cones. This geological history strangely coincides with a local legend, which tells us that the "Red Bull", who lives in Lake Ippokiko, one of maars of Izu Tobu Volcano Group, once lived in a lake at Ogawazawa valley, where no lake exists now.

Keywords: Izu Peninsula Geopark, Izu Tobu Volcano Group, eruption, landslide, ponded lake, historical legend

Concept for Geopark of Southern Sanriku Coast with the disaster experience

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In this report civilian response for the proposal of geopark of Minami Sanriku coast with the great disaster experience were analyzed.

June, 2011: Start internal meeting

September, 2011: Start external meeting

January, 2012: First report by news paper

March, 2012: Scientific event for civilian

May, 2012: First Symposium (with Media)

July, 2012: Second Symposium (with Academic Society)

November, 2012: Third Symposium (with government)

A needs of civilian after the Great East Japan Earthquake is the life. Many proposals for the life has brought in this Area. Doubts beget doubts. Nevertheless, it is necessary to make proposals for the life.

Keywords: geopark, Minami Sanriku Coast, education for natural disaster

Geo-Tetsu Project: the History of Dissemination Activities of Geoscience for Four Years (2009-2012)

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Geo-Tetsu is the name of the activity that shows everyone ways to enjoy and learn about geology and related sciences, using railways (Kato et al., 2009a; Kato et al., 2009b) [1][2]. The word "Geo" comes from geosciences, and the word "Tetsu" is an abbreviation of railway in Japanese, and common name for railway fans. Following four year's Geo-Tetsu, promotion activities of Geo-Tetsu tours are continued by geological engineers who love railways, organized with the corporation of the Fukada Geological Institute. Fukada Geological Institute. Fukada Geological Institute has the trademark No. 5378786 of the name of "Geo-Tetsu" since December, 2010[3].

Geo-Tetsu offers the chance to get acquainted with geological features, not only through train windows but also along paths accessible from the stopovers alongside the railway routes. We selected enjoyable Geo-Tetsu courses and "Geo-points" which means important geological sites visible, through the train windows from stops alongside the route. In Geo-Tetsu, geological features of the landscape are explained scientifically in a guide-book provided by a group of specialists. As much information is obtainable and can be gathered from various perspectives; the railway itself, geology, geography, cultural heritage and sight-seeing as well. We hope that the general public will enjoy a new style of train trips provided by the Geo-Tetsu.

We have been planned following five routes of Geo-Tetsu since 2009. There are many "Geo-Points" along them, we hope, they make people's eyes direct to geosciences, or eventually toward natural sciences.

1. JR Dosan Line in Shikoku [1][2][4]
2. Gomen-Nahari Line [4][5]
3. JR Yodo Line in Shikoku [6]
4. JR Oito Line [7]
5. JR Furano Line in Hokkaido [8]

We report the Geo-Tetsu activities from May, 2009 to December, 2012; conference presentations, Geo-Tetsu Map productions, book writing, lecture meetings, the guide training courses and tours, the registration of trademark, the logo mark production, media publishing, and collaboration activities with Geo Park (Itoigawa City and Muroto City). Our Geo-Tetsu project will start new stage in 2013.

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Keywords: Geo-Tetsu, dissemination activities, Geo-Point, Geo-Tetsu Map, train trips, trademark No. 5378786 "Geo-Tetsu"

Usage of the term of "geo" in Japanese geopark activity

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Some people in geopark community is called "geo" about inclusive geological, geographical and geophysical phenomena. This usage is ambiguous and grammatical mistake. Some scientist is aware of problem. This case is an example of the problems of science communication.

Keywords: concept of Geopark, science communication, scientist, community