

# INTRODUCTION OF APPLICATION OF SELF-EVALUATION FORM FROM THE GLOBAL GEOPARKS NETWORK FOR REGIONAL VITALIZATION PROJECT PREPERATION AND PROJECT MANAGEMENT

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# INTRODUCTION OF APPLICATION OF SELF-EVALUATION FORM FROM THE GLOBAL GEOPARKS NETWORK FOR REGIONAL VITALIZATION PROJECT PREPERATION AND PROJECT MANAGEMENT

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**ABSTRACT:** New project scales and project types are created on a daily basis but, while some of them are successfully developed, others simply fail to materialize. Project Management Body of Knowledge (PMBOK) defines a project as a temporary endeavor undertaken to create a unique product or service, and may involve from one to thousands of people. Although there are many guidelines for project management, because they are designed for general application to various kinds of projects, they show only general not detailed instruction for successful project initiation. However, for regional vitalization projects that utilize local resources, because those resources are difficult to evaluate, it is crucial to have a tangible plan for the initiation process. In this study, the project management of the Global Geoparks Network (GGN) supported by UNESCO is introduced as an example of a practical project that utilizes natural resources. The Geoparks self-evaluation form issued by GGN and its general concept are analyzed, and some key elements are extracted. From the results, the potential for applying the general concept and key elements to other regional vitalization projects that deal with local resources is introduced.

For future study, the planning and evaluation of projects in various disciplines utilizing key elements and concept extracted from Geoparks self-evaluation form would be beneficial.

**KEYWORDS:** Geoparks, project management, regional vitalization

## 1. INTRODUCTION

Various scales and types of project are created every day, but while some of them are successfully developed, others simply fail to materialize. Although definitions of project vary according to the field, Project Management Body of Knowledge (PMBOK) defines a project as a body of work which creates new products, services, or outcomes during a limited period of time [Project Management Institute, 2004]. A major difference between projects and routine works is whether there is a specific time limit, and whether the outcomes are the creation of new products or services [Hirokane, 2005]. In routine work, usually, there are certain routine processes to

follow; on the contrary, in projects, processes are followed towards the new goal during a specific period of time.

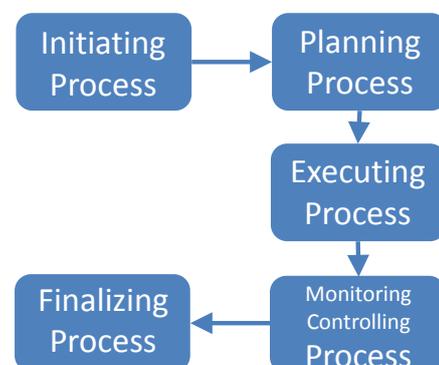


Figure 1 Process of general project

[Project Management Institute, 2004]

As shown in Figure 1, in general projects have 5 processes - Initiating, Planning, Executing, Monitoring/Controlling, and Finalizing [Hirokane, 2005]. To create a successful project, it is important to manage each process with care.

Unlike general projects, regional vitalization work aims to utilize natural resources in local areas. One of the main goals of a regional vitalization project is to create industrial clusters in the relevant area. Therefore, as with other general projects, regional vitalization projects follow the same processes until the initiation, planning, execution, and monitoring / controlling process. However, after the monitoring / controlling process, instead of following finalizing process, regional vitalization projects proceed to continuous development with the repetition of the Plan-Do-Check-Action-cycle (PDCA cycle) (Figure 2).

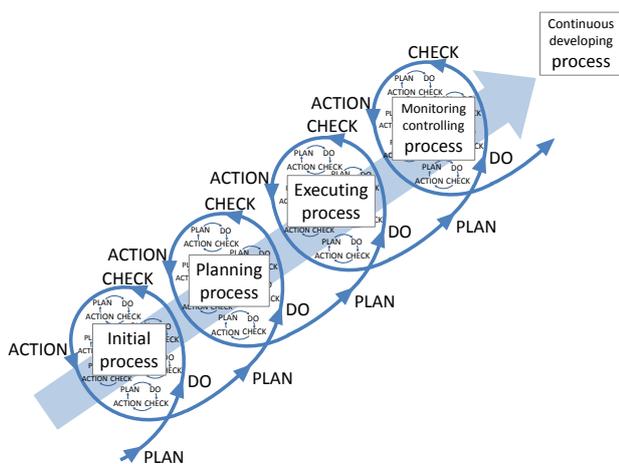


Figure 2 Process of regional vitalization project

Regional vitalization projects deal with natural resources that are hard to evaluate, so outcomes and goals are also difficult to be clearly defined. Therefore, it is crucial to have a tangible plan in initiating process. Although there are many documents and guidelines for project management, these show only general instructions to precede the project successfully. However, because they are designed for general application of various kinds of projects in, they do not contain detailed instruction

for project initiation. Furthermore, the categories and conditions of resources vary by location and are difficult to evaluate, so a regional vitalization project plan, which connects the natural resource to business, needs to be elaborated carefully in the preparation process. However, currently there is no particular detailed guidelines for preparation of regional vitalization projects that deal with natural resources. To address this problem, it is important to identify factors used as indicators of regional vitalization project.

Recently, a number of UNESCO-supported Geoparks projects have established their own guidelines and contributed to regional development by utilizing natural resources. According to the qualification defined by The Global Geoparks Network (GGN), a project that can be considered as a Geoparks needs to have a management plan designed for sustainable socio-economic development and demonstrate methods for conserving and enhancing geological heritage with broadening environmental issues by joint proposals submitted by public authorities, local communities and private interests acting together. Moreover, according to Nagano [Masanobu Nagano, Yumi Takemura, 2011], Geoparks activities and regional vitalization activities work together. Since Geoparks successfully combine conservation, sustainable development and community involvement [Global Geoparks Network, 2010], the initiating processes of Geoparks are examined in this study.

## 2. OBJECTIVES

The objective of this study is to extract and analyze effective concepts and essential factors from self-evaluation form initiated by Global Geoparks Network (GGN). Concepts and key factors extracted from Geoparks management can be applied to other projects, especially to utilize natural resources in local areas to contribute to regional development.

### 3. WHAT IS GEOPARKS?

According to the guidelines issued by Global Geoparks Network (GGN), Geoparks are defined as “a geographical area where geological heritage sites are part of a holistic concept of protection, education and sustainable development” [Global Geoparks Network, 2010]. In 2001, a committee of UNESCO determined to support geologically significant areas and natural parks in UNESCO member countries. With the support of UNESCO, the Geoparks initiative aims for the protection of environment and geologically significant heritages, and socio-economic and cultural development in the region simultaneously [Global Geoparks Network, 2010]. Moreover, the inclusion of various different types of significant sites, such as those with ecological, archaeological, historical, and cultural worth besides geological, is expected to lead to additional positive effects [Global Geoparks Network, 2010]. Yajima (2008) encapsulates this concept of Geopark in 3 words, “Rock”, “Green”, “Café” (Figure3).



Figure 3 A concepts of Geoparks, “Rock”, “Green”, “Café” (Yajima, 2008)

According to Yajima (2008), “Rock” represents geologically significant phenomena which are the basic components of Geoparks, and forms the foundation. “Green” represents concept of ecology which live on the rock, such as plants and animals.

On the top of them, there is a “café” representing places where people can enjoy food, art, sports, townscape, religion, and literature. Geoparks

contain all of these components. Moreover, they differ from world heritage sites, whose purpose is mainly conservation and protection. One of the main strategic targets for Geoparks is vitalization of regional economy through sustainable development [Global Geoparks Network, 2010].

There are many aspects to Geoparks; hence a wide range of academic fields besides geology are related to Geoparks (Figure 4). According to Nagano (2010), almost 18 academic fields are related to Geoparks projects; 8 of them are from natural science and the other 10 are from art and humanities. Geoparks can be well planned and managed by integrating aspects from these academic fields with proper balance.

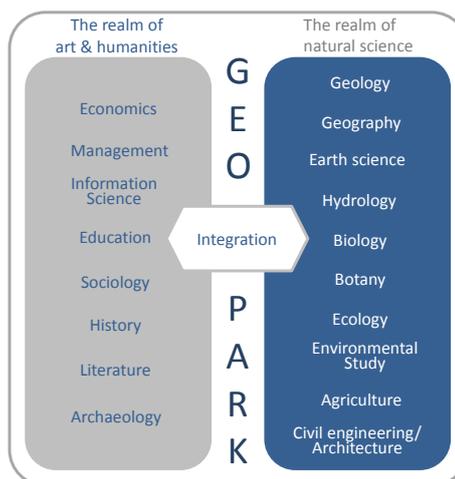


Figure 4 Academic field of Geo Park (Nagano, 2010)

#### 3.1 Geoparks management: Self-Evaluation Form

To apply for membership of Global Geoparks Network (GGN), the applicant is required to complete the self-evaluation form issued by GGN [Global Geoparks Network, 2010]. This self-evaluation form contains the following 5 sections:

- I. Geology and Landscape
- II. Management Structure
- III. Information and Environmental Education
- IV. Geotourism
- V. Sustainable Regional Economy

Table 1 Part of the GGN self-evaluation form

I. Geology and Landscape	Marks Available	Self Assessment
<b>1.1 TERRITORY</b>		
<b>1.1.1. Geosite list</b>		
List of "Geosites" located within territory (GIVE A LIST)		
20 "Geosites" or more	100	
40 "Geosites" or more	200	
<b>Maximum Total</b>	<b>200</b>	
<b>1.1.2. Geodiversity</b>		
How many geological periods are represented in your area? (5 points each, maximum 50 points). (GIVE A LIST)	50	
How many clearly defined rock types are represented in your area? (10 points each, maximum 50 points). (GIVE A LIST)	50	
How many distinct geological or geomorphological features are present within your area? (GIVE A LIST) (10 points each, maximum 100 points).	100	
<b>Maximum Total</b>	<b>200</b>	

Each check item has a maximum available mark (Table 1). For an applicant to be accepted as a member of GGN, a score of more than 50% in each category must be achieved. After acceptance as a member of GGN, a periodical review is conducted within every 4 years, and if the accepted Geopark is not considered to satisfy the criteria, GGN will give advice for its improvement. If a member cannot achieve its improvement requirement issued by GGN within 2 years, GGN will remove its status as a member of GGN.

#### 4. METHODOLOGY

In order to extract concept and key elements/ factors of Geoparks management system, the self-evaluation form issued by GGN and other literatures related to Geoparks management are explored. Five categories of the self-evaluation form are examined, and key elements that are applicable to other regional revitalization projects are extracted from each category.

#### 5. ANALYZE

##### 5.1 Weight of each category

As stated in section 2.1, the Geopark self-evaluation form has 5 categories, and each category has their own evaluation weight (Table2).

Two categories with the largest weight are "I. Geology and Landscape" and "II. Management Structure" which are allotted 35% and 25% of the total 100%.

Table 2 Weight of each category

No	Category	Weight
I	Geology and Landscape	35%
	I-1 Territory	5%
	I-2 Geological conservation	20%
	I-3 Natural and Cultural Heritage	10%
II	Management Structure	25%
III	Interpretation and Environmental Education	15%
IV	Geotourism	15%
V	Sustainable Regional Economic Development	10%

Geoparks are projects which generate value from the geological heritage of the area (Nagano, 2010). Category I. Geology and Landscape has the greatest weighting because it is important to emphasize the available natural resources which can have commercial value. Geology and Landscape covers 3 sub sections; Territory, Geoconservation, and Natural and Cultural Heritage. Regarding the Geological and Landscape subsection, 20% out of 35% is allotted to Geoconservation. This indicates that conservation and protection of resources are important in order to maintain and develop the quality of the projects. The next largest weight is in category II, indicating the importance of management; including human resources, organization, financial planning, master planning, and others. The smallest weight is in category V -Sustainable Regional Economy. This is because Geoparks management system emphasizes the strength of resource value and management body as solid foundation in order for a project to be sustainable. Without being sustainable, it is impossible for the Geopark to contribute to the development of the regional economy.

##### 5.2 Key elements from each category

Some key elements are extracted from each category in Geoparks self-evaluation form, and analyzed. The results of analysis are presented in section 5.2.1 to section 5.2.5.

### 5.2.1 Geology and landscape

As stated in section 4.1, there are 3 subsections in the category I. Geology and Landscape, and a part of the sub-section, Territory, is shown in table 3.

Table 3 A part of Check list I Geology and Landscape

I. Geology and Landscape	Marks Available
<b>1.1 TERRITORY</b>	
<b>1.1.1. Geosite list</b>	
List of "Geosites" located within territory. (GIVE A LIST)	
20 "Geosites" or more	100
40 "Geosites" or more	200
<b>Maximum Total</b>	<b>200</b>
<b>1.1.2. Geodiversity</b>	
How many geological periods are represented in your area? (5 points each, maximum 50 points). (GIVE A LIST)	50
How many clearly defined rock types are represented in your area? (10 points each, maximum 50 points). (GIVE A LIST)	50
How many distinct geological or geomorphological features are present within your area? (GIVE A LIST) (10 points each, maximum 100 points).	100
<b>Maximum Total</b>	<b>200</b>
<b>1.1.3. Public Interpretation of the Geopark's sites of interest</b>	
Number of sites with public Interpretation (trails, interpretation panels or leaflets) (GIVE A LIST)	
5-10	40
10-20	80
20 or more	140
Sites of Scientific Importance > 25 %	40
Sites used for Education > 25 %	40
Sites used for Geotourism > 25 %	40
Non-Geological Sites	40
<b>Maximum Total</b>	<b>300</b>
<b>1.1.5 Relationship to existing Geoparks (select one from the following options)</b>	
There is no comparison with any other existing Geopark	300
There is another Geopark with comparable geology or infrastructure on the same continent.	260
There is another Geopark with comparable geology or infrastructure in the same country	210
There is another Geopark with comparable geology or infrastructure in the same Region	150
There is another Geopark existing in the same geological unit, if yes:	
Is its distance > 200 km	100
Is its distance < 200 km	60
<b>Maximum Total</b>	<b>300</b>
<b>Territory Subtotal</b>	<b>1000</b>

Under the section 1.1 Territory, there are 4 check items. The first is "1.1.1 Geosite list", and it asks for the number and names of geosites in the area. If the number is less than 20, 100 points are available, whereas if the number is more than 40, 200 points are available. The maximum score of this checking item is 200. In this way, the evaluation system asks for the number and variety of geosites, the geomorphological and geological significance of the geosites, and types and originality of the geosites. The total maximum score in Territory section is 1000. Besides this section, in subsection 1.2 'Geoconservation', checking items relate to conservation and protection of the resources; another subsection, 1.3 Natural and Cultural Heritage (not

shown in this paper due to limited space), relates to natural and cultural significance of the resources. In this category, maximum total 3000 points are available, representing 35% of the total self-evaluation score.

The natural resources utilized in Geoparks are mainly those with geological significance, and the geosites are exhibited subjects to pay for. In order to make Geoparks management strategies applicable to other regional vitalization projects, "geosites" can be considered as merchandise in project management. However, since natural resources cannot be cut out and sold, in this study, the term "material" is considered as more appropriate to represent natural resources. In this manner, the category "Geology and Landscape" is represented as "Material and Landscape." Some key elements are extracted with general terms and listed in table 4.

Table 4 Key elements from category I

No.	I. Material and Landscape
1.1	No. of valuable resources (materials) available in the area
1.2	Variety of the resources (Age, characteristics, significance)
1.3	guidance equipment & types of materials
1.4	Comparison with similar existing projects
1.5	Database and maps for material maintenance management of materials
1.6	regal restriction for conservation & compliance strategy
1.7	Maintenance & conservation strategy
1.8	Natural & cultural significance of the materials

This category relates to the quality and quantity of available resources in the area, and they are one of the most important aspects to consider in the first stage of project preparation.

The fundamental question is whether the quality and characteristics (item 1.2 in table 4) of the "materials" in the area are good enough to create new value or not. Therefore, whether or not the resources are globally or regionally significant (item 1.8 in table 4) is queried in addition to quality (item 1.2 in table 4) and quantity (item 1.1 in table 4) of the materials. Other characteristics of the

resources need to be considered at the same time. Comparisons with other similar projects are also required (item 1.4 in table 4), not only to clarify the originality of the project, but also to evaluate the risks.

Besides maintenance and regular cleaning (item 1.7 in Table 4), it is necessary to prepare a resource database and map (item 1.5 in table 4) to capture the holistic maintenance situation, and to make actual plans for both protection and management. Since most of the materials are uncovered and open to public access, rules or regulations alone may not be adequate to protect the project resources. Therefore, particulars regarding how much of the area is protected by national or regional law, and the intended methods to enforce the law (such as observation points or security patrols), are required (item 1.6 in table 4).

As shown in this section, Category I sets out not only the requisite quality of the materials but also the requisite means of managing the materials. By considering resources as “materials”, the items examined and key elements in this category are applicable to regional vitalization projects

### 5.2.2 Management structure

The second category is “II. Management Structure”. Table 5 shows an extract from this category.

Table 5 A part of category II

II. MANAGEMENT STRUCTURE	Marks Available
2.1 How is the Applicants management structure organised?	
A clearly defined border and area of responsibility	40
An effective organisation to enhance protection and sustainable development.	40
An independently administered budget	20
Maximum Total	100

The first question in this category, which is allotted occupies the second greatest weight, is about management organization itself. For example, the question includes clarification of area of responsibility, effectiveness of the organization for conservation and sustainable development, and level

of budget independence. A wide range of examined items are covered, including human resources, regional collaboration system, and facilities. A maximum of 1000 points is available in this category. Some keywords extracted from checking list can be seen in Table 6.

Table 6 Keywords from category II

No.	II. Management Structure
2.1	Management system
2.2	Performances in the past (last 5 years)
2.3	Staffs of the organization (Administrative staffs, research staffs)
2.4	Corroboration with specialists network and research institutes
2.5	Financial planning
2.6	Management plan, master plan
2.7	SWOT analysis
2.8	Audit system from several fields
2.9	Analysis of regional development potential
2.10	Definition of development goal
2.11	Sustainable development model
2.12	3 or 5 year Action plan
2.13	Marketing strategy (holistic marketing, tourism marketing)
2.14	Market research
2.15	Products development
2.16	organization of product distribution
2.17	Communication strategy (Advertisement tool, Multilingual)
2.18	Promotion (Promotion for educational institutes)
2.19	Environmental improvement plan
2.20	Corroboration with local working groups
2.21	Major facilities (Museum, info center, kiosk, guidance equipment, trails)

Management structure category contains 2 aspects - a soft and a hard aspect. The soft aspect is examined items related to management skills, such as management organization (item 2.1 in table 6), financial planning (item 2.5 in table 6), marketing (item 2.13 in table 6), and audit system (item 2.8 in table 6), whereas hard aspect is examined items related to infrastructure and facilities (item 2.21 in table 6). As clearly stated in the Guidelines (2010) issued by GGN, strong administrative organization, a sound master plan, and sound financial planning are requisite for membership of GGN. To fulfill the requirements, the project organization must have clear boundaries of responsibility, and be effective for sustainable development. This is the reason that the category also asks for the achievements of the applicant in the last 5 years in evaluating their potential to be an effective organization for sustainable development (item 2.2 in table 6).

In this category, the specific members (item 2.3 in table 6) of the project team are also defined, including marketing staff, public relations officers, product managers, field trip organizers, guides, administrative staffs, and museum staff. Moreover, in this kind of project, which utilizes natural resources, research activities must also be facilitated. Therefore, preparing a good research environment within the organization by hiring permanent experts as research staffs, and at the same time building a network of specialists and collaboration with research institutes is desirable (item 2.4 in table 6).

Regarding financial planning (item 2.5 in table 6), information as to whether the organization is financially self-supporting is required, as it is meaningless if an organization whose purpose is vitalization of regional economy depends on funds from the government. The organization should run independently on the income from their business activities.

In management and master plan (item 2.6,9,12 in table 6), not only management and administration but also conservation of natural resources and landscape, and other resources such as agriculture, forestry in the area are required to perform SWOT analysis (item 2.7 in table 6). In this analysis, both strength and weakness and risks which might threaten the projects are evaluated. The master plan also needs to clarify project goals; otherwise, it is possible that the development goals will exceed available natural resources. Therefore, it is vital to set clear goals. Moreover, a sustainable plan, through imposition of traffic restrictions, boundary setting of development and protection area, is also important for sustainable tourism (item 2.10, 2.19 in table 6).

With regard to marketing strategy (item 2.13 in table 6), not only market research (item 2.14 in table 6), but also product creation (item 2.15 in table 6) and logistical organization (item 2.16 in table 6) are required for smooth product distribution.

Since the significance of natural resources is difficult for non-expert visitors to understand, how they are introduced to visitors is important. Therefore, details of promotion methods as well as collaboration with local organization and working groups to enhance promotion of natural and cultural heritage of the area are requested (item 2.17, 2.18, 2.20 in table 6). Moreover, in order to prepare for global market, advertising tools and materials for tourism and educational programs must be prepared in multiple languages for foreign visitors (item 2.17 in table 6).

Within the project organization, it is important to establish an audit system (item 2.8 in table 6) for sustainable development to monitor if the projects are working properly. Monitoring the management situation and the quality of both materials and related services from different aspects provides opportunity for refinements to a project.

Regarding the hard aspect, provision of facilities and infrastructures that are necessary to promote onsite tourism, such as museums, information centers, vending kiosk, information panel, trails and so forth are required (item 2.21 in table 6).

In this category, 70% of available marks are given for management, which makes it apparent why management skill and human skill are so important to run Geoparks projects, and in any other kind of projects. Therefore, examine items and key elements in this category can be used as a reference for other kind of regional vitalization projects, and fulfilling the requirements is important for project organization to be successful and sustainable.

### **5.2.3 Information and environmental education**

The third category is “Information and environmental education.” Table 7 shows an extract of the category

Table 7 A part of check list III

III. Information and Environmental Education	Marks Available
<b>3.1 Research, information and education scientific activity within the territory</b>	
At least one scientific/academic institution working in the Applicant's area	40
At least one student final report (mapping etc.) in the Applicant's area per year	20
At least one of PhD thesis on Applicant's area within the past three years	40
At least five Scientific or tourism focused academic papers from the work within the Applicant's area during last 5 years	40
<b>Maximum Total</b>	<b>140</b>

Another main task of regional vitalization projects like Geoparks is education. In other words they should promote services, methods, and activities which disseminate the knowledge of geology, environment, and culture [Global Geoparks Network, 2010]. Therefore, it is ideal for Geoparks projects to continuously disseminate new information.

In this category, items at the top of the list relate to research activities; i.e whether there is at least one scientific /academic institute working on the site, as well as the number of academic journals which have articles relating to the projects. As stated before, this category includes wide range of items relating to research activities, to contents of education service, service facilities, educational media, and marketing to educational institutes. This category has maximum 1000 points available; 15% of the total.

Some keywords extracted from this category are stated in Table 8. Some keywords about marketing and advertising methods to educational institutes from this category are combined with the marketing part of category II for convenience.

Table 8 Keywords from category III

No.	III. Information and Environmental Education
3.1	Research situation (academic institution, journals, Ph.D. thesis)
3.2	Environmental education programs
3.3	Publication
3.4	Guides

As mentioned above, since one of main objectives of Geoparks is education, the content of educational programs must be regularly updated. Therefore, besides the ongoing research activities

(item 3.1 in table 8), educational materials, such as books about conservation of the materials, history, eco-friendly activities, and natural history in the area, are also desirable (item 3.3 in table 8).

To fulfill the educational objective, communicating complex information about the materials to the general public is important. A variety of educational programs and medias are therefore required (item 3.2, 3.4 in table 8).

The condition and types of available resources in an area may vary. Some of them, such as architecture and fossils may be familiar to the public, whereas others such as geology may be less familiar. Therefore, preparing an environment which allows for accurate and up-to-date information to be transferred to the public is important, and both information collection and transferal skills are necessary for regional vitalization projects which deal with such resources.

### 5.2.4 Geotourism

Although Category "IV. Geotourism" is allotted only 15% of the sum total, this category has the largest number of examined items. Table 9 shows an extract from the category.

Table 9 A part of Check list IV

IV. Geotourism	Marks Available
<b>4.1 Do information centres or exhibitions concerning the area exist in the Applicant's area? (SELF AWARDED total cannot exceed 100)</b>	
At least one information centre, managed by yourself or one of the partner members of your organization	30
No centre existing yet, but the Applicant is part of an exhibition in another facility (museums etc.)	10
Existing 'info points' or similar facilities throughout the area managed by yourself or one of the partner members of your organization	20
Information centre "meeting and starting" point for excursions	10
Is the Information centre accessible for wheelchair users and does it cater for individuals with other disabilities?	10
Personal and individual information offered to visitors about possible activities in the area	10
Do you offer tourist information at the centre?	10
Is the information centre accessible by public transport?	10
Centre open to the public at least 6 days a week, all year round weather permitting	10
<b>Maximum Total</b>	<b>100</b>

The first item in the category relates to the information center. Geoparks are geological sites which depend on 'onsite tourism' [Hirano, 2008], a form of tourism which people experience at first

hand. Since in many cases sites are spread over a wide area, preparing site infrastructure to ensure proper accessibility is necessary. Accessibility planning should consider both the ‘hard aspects’ such as access to building and sites and the soft aspect, such as access to information. This category has the largest number of examined items, but as the maximum available point is 1000, the weight of each separate item is comparatively small. However, those items are important in terms of safety concerns.

Tours and attractions provided in Geoparks projects are defined as ‘services’. Some keywords are extracted from this category are listed in Table 10.

Table 10 Keywords from category IV

No.	IV.Geotourism
4.1	Information center (Tourism information center, Information media)
4.2	Accessible business time & registration system
4.3	Accessibility for physical challengers
4.4	Transportation methods
4.5	Public transportation information
4.6	Variety of guide programs (regular tour, general tour for general visitors, tour for physical challengers, tour for specialists, tour for small scale alternative tour for bad weather)
4.7	Promotion of site tourism (services)
4.8	Variety of attractions (services) and maintenance (maintenance of trails, hiking maps, package tour, hiking/cycling tour)
4.9	Sustainable trails
4.10	methods to achieve the targets
4.11	Evaluation from visitors

‘Hard’ accessibility mainly concerns transportation to the project site and within the site. Availability of public transportation or provision of alternative transportation methods is covered in this category (item 4.4, 4.5 in table 10). For sustainable development, eco-friendly access methods, such as walking paths and cycling routes for visitors are required (item 4.9 in table 10). In addition to transportation, accessibility to building facilities for physically challenged individuals is also required (item 4.3 in table 10).

Regarding ‘soft’ accessibility, establishment of on-site information centers, collaboration with local

tourist information centers in the local area, promotion via an official website, is considered necessary to make information accessible for visitors. Information sharing via links to other collaborated organizations is also required (item 4.1 in table 10).

To transfer onsite information to various groups of visitors effectively, guide programs and a variety of tours are needed to transmit the information ways that are easy to understand. Moreover, activities, such as horseback riding, canoeing, and preparation of sustainable trails for walking, hiking, and cycling are also recommended to provide for visitors with access to onsite information about materials, culture, and to allow them to gain the most benefits from the experience (item 4.6 in table 10).

This category also asks about quality control of the services provided in the projects. The examined items about quality control include not only communication methods between tourism staffs to share their goal, but also methods to encourage better service practices among staff (item 4.10 in table 10).

To provide high quality tourist experience, it is necessary to prepare the environment to allow safe and easy access to the site and enjoyment of the facilities in the site. In addition it is also necessary to remove obstacles to information transfer, in order to avoiding situations where visitors lack for information or find it information difficult to understand. This is also important for other regional vitalization projects.

### 5.2.5 Sustainable regional economy

As clearly stated in GGN guidelines, Geoparks cannot succeed if they do not collaborate with the local community. Vitalization of local economy is one of the main strategic targets of the overall Geoparks initiative [Global Geoparks Network, 2010]. The weighting given to this category is the smallest in the evaluation form, and the number of

examined items is only six. However, the maximum available points is 1000, which is the same as other categories. Therefore, the weight for each item is relatively large. This indicates the importance that the organization attributes to this category. Table 11 shows an extract from this category.

Table 11 A part of Check list V

<b>5.4 What efforts are undertaken to promote links between the Applicant and local businesses? (SELF AWARDED total cannot exceed 100)</b>	
A label for regional services/products has been developed the applicant or in partnership with others.	50
Direct marketing of regional products is undertaken by your organization.	50
Tourism offers include tours of collaboration with local businesses	20
<b>Maximum Total</b>	<b>100</b>
<b>5.6 What kind of contracts are regularly offered to businesses in your area?</b>	
Services (repair, management)	50
Design, Print	50
Other equipment and services to support geotourism and interpretation, e.g. transport, display cabinets etc. (GIVE DETAILS)	80
<b>Maximum Total</b>	<b>150</b>

This category asks how the project organization can actively participate in local economic activity via collaboration with local producers, enterprises, and municipalities. Some important keywords are extracted and listed in Table 12.

Table 12 Keywords from category V

No.	V. Sustainable development of regional economy
5.1	Local food menu (Promotion of eco-products, eco-restaurant)
5.2	Promotion of local crafts
5.3	Corroboration with local industries (souvenir, bland, tour development, support of direct marketing)
5.4	Network of local enterprises (Promotion of local enterprises, Partnership, Corroboration projects)

It is recommended to cooperate with local enterprises in prosecuting project activities. In addition, systems which actively collaborate with local industries to support new products such as eco-products or eco-restaurant are required (item 5.1, 5.2 in table 12). Active cooperation with local producers and industries are important and can be a starting point for successful regional vitalization projects (item 5.3, 5.4 in table 12).

(Keywords in this chapter are adapted and modified from Nagano, 2010.)

## 6. DISSUCUTION AND CONCLUSION

### 6.1 Concept of Geoparks management

Since natural resources vary in each place, a method that worked well in one place might not work in another place. However, the key elements extracted from the self-evaluation form in last chapter are all basic and essential examined items for regional vitalization projects that deal with local resources. Therefore, those key elements can be used as a basic tool for initiation and checking the potential of the project during the preparation phase. Furthermore, this tool can also be used as a reference check at any time during the project period.

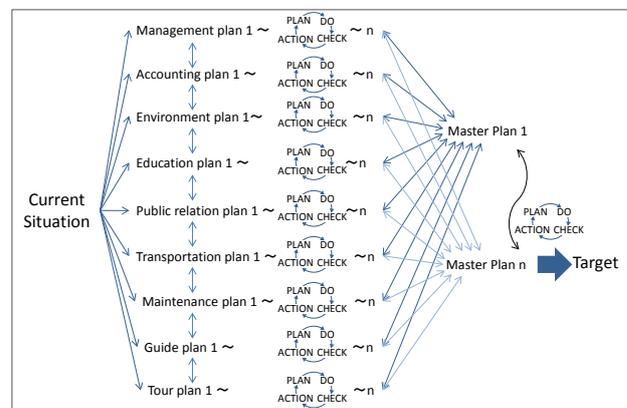


Figure 6 Target achievement process with PDCA cycle (Nagano, 2010)

Any kind of project should proceed according to its master plan. As shown in Figure 6, the typical master plan of projects consists of various kinds of sub plans used to formulate a complete project. These sub plans are formulated based on inputs from current situation, and revised constantly using PDAC cycle as current situation changes over the project timeline. As sub plans are revised, the master plan must be revised as well using the PDAC cycle. This self-evaluation form can also be used as a tool in each planning and revising process to straighten the plans, which leads to the achievement of final project target.

In many cases, regional vitalization projects are supported and funded by government. The concept

of Geoparks is totally different, in that Geoparks allow conservation of resources, education, and sustainable development to coexist, by creating new value for local resources. The profit from Geopark activities is used in quality maintenance and development of materials, which enables Geoparks to maintain their self-sustainability. Hence, the Geoparks concept provides a model for development of regional economy through encouragement of local development and by involving the local economy (Figure 5).

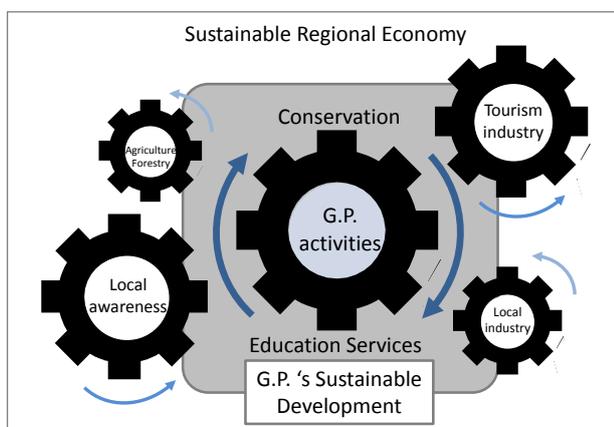


Figure 5 Sustainable regional developments

As stated in section 2.1, it is not necessary to achieve a full (100%) score to submit a Geoparks membership application. The applicant organization needs to score more than 50% in each category, but on acceptance needs to improve on each score incrementally as each periodical review comes up, the first of which comes within 4 years after acceptance. Therefore, the check list sets practical target to achieve, and provides a project with ways to make continuous improvement.

When a regional vitalization project is established according to the Geoparks model, the last stage is not seen as the end point of the project (as for example, in a construction project) but its beginning. In this system, projects must be continuously developed and improved. One of the most effective methods to achieve continuous

improvement is the periodical reviews system, which is quite similar to stakeholder's meeting in a regular business. Not only for stakeholders but also managers and staffs, this periodical review is an effective way of evaluating the current situation. The self-evaluation form could be useful as a tool for evaluating project development, for example, the planning process or execution process.

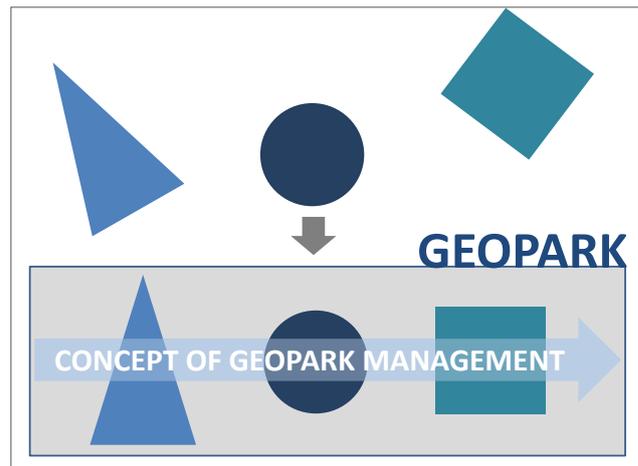


Figure 7 Concept of Geoparks management

Some tangible resources such as geological sites are available in complete (or partially complete condition), while other resources such cultural value or historical value are intangible. These problems make such resources difficult to evaluate individually. This is one of the main reasons that resources that are valuable enough to be protected, but not valuable enough to qualify as world heritage, are ignored in many places. However, Geoparks concept can help make available overlooked resources. Although the resources have various characteristics (geological, biological, archeological, historical, cultural values, scale, quality, and so on), by utilizing the Geoparks management concept, and trying to fulfill the evaluation requirements as a whole, some positive result might ensue (Figure 7).

## 6.2 Songshan Geopark, China

One example is Songshan Geopark in China.

Songshan Geopark is located 150km west from Zhengzhou. Within this Geopark, there is a Shaolin temple that has global fame both as a cradle of *Shaorinji kempo*, and geologically significant cliffs. This project successfully combines those two different in one Geopark, which in consequence makes for a more effective project (Figure 8).



Figure 8 Songshan Geopark

Since it became a member of GGN in 2004, the number of visitors has almost doubled, from 0.6 million in 2003 to 1.1 million in 2004. In 2007, the number of visitors reached over 2 million (Nagano, 2010). Taking Songshan Geopark as the example, although the available resources in an area may vary, Geoparks concept can give them holistic value.

### 6.3 Conclusion

According to Nagano (2010), since natural resources are difficult to evaluate, regional vitalization projects that utilize them must have a tangible preparation plan (Nagano, 2010). The key elements and concepts extracted from the Geoparks management system are fundamental for preparing and checking the potential of regional vitalization projects that utilize local resources. They can be used as a basic tool and should be adjusted to the situation and condition of each place - not only in the preparation process, but also as a tool for reviewing in the execution and development process, which can increase project sustainability.

### 7. FUTURE STUDY

For future study, the planning and evaluation of projects in various disciplines utilizing key elements and concept extracted from Geoparks self-evaluation form would be beneficial.

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