

The Distribution Characteristics of Natural Caves and Tourism Linkage of Open Caves

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Abstract : This study is basic research to present the activation of cave tourism. So first of all for establishing of this study, we examined the distribution characteristics of natural caves and monument caves. The results of this study are as follows; First, monument caves concentrate upon Gangwon-do and Jeju-do. Second, open caves concentrate upon Gangwon-do and Chungcheongbuk-do. Third, typical linkage characteristics of tourism resources surrounding open caves are very high in natural tourism resources. Fourth, It is necessary to develop tourism route though the linkage with other tourism resources. But this study have been partial and fragmentary. In order to increase the number of tourists, we should make them curious about the specific region by presenting the unique characteristics of the region, for example its cultural, social, recreational etc. In other words, in order to attract the tourists open caves should differentiate from other open caves.

key word : cultural heritages, open caves, tourism resources, linkage

I. Introduction

In recently, tourism has been prosperous in our society. Thus the kind of tourism resources and peoples' choice of that has been various. Natural caves are heritages of Grand Nature's evolutionary cycles, and humans have always been part of the evolutionary process of nature. Natural caves are very important natural heritages and a place of ecology education because of the interior of these is mystic and has a good scenery.

Some of the natural caves are regards as local, national, ethnic, and world heritages for their historical, ethnical, scenic, and

academic significances. And natural caves are tourism resources for income enlargement of residents and method of region public relations.

There is an increase of the number of visitors to the caves for leisure and tourism activity with a large leisure time and income level. But these caves are developed as an independent separate tourism resources. It is need to develop tourism route though the linkage with other tourism resources.

This study is basic research to present the activation of cave tourism. So first of all for establishing of this study, we examined the distribution characteristics of natural caves and monument caves. In this paper I try to

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explore the methods of activating open caves as tourism resources by looking into the values of the open caves, by with other tourism resources and by actually linking them. The results of this study can use as a basic data for the development of tourism route and tourism marketing.

II. Values of Natural Caves

Natural caves are empty lightless underground spaces. Natural wonders, mystic beauties of speleothems, and cave fauna in a pitch-dark environment stir up a sense of curiosity in people. Natural caves also served as dwellings for primitive men, refuges for modern-day people, holy sites, and underground repository. Natural caves were also developed as tourism sites attracting tourists all year around.

Table 1. Values of caves

Type	Contents
ecological	- a treasury of ecology (geology, geomorphology, biology)
historical	- a residential sites - a base of operation and place of refuge in war - a religious site
academic	- an estimation of climate change - a biological origin and evolution of organism - an offer of gene
practical	- a storage house of special things - a garbage dump - a place of exploratory sports
tourism resource	- income enlargement of residents - a very important ecological resources

Natural caves are the treasury of nature because they offer beautiful formations such as stalactites, stalagmites, pillars and flowstones that have been created through secondary geological activity. Generally, values of caves are classify ecological, historical, academic, practical. and tourism resource value.

III. The Status of Natural Caves and Open caves

1. The Distribution Characteristics of Natural Caves

There are about 1,000 caves in our country. Caves were created at some point in certain areas during the 4.6 billion year history of the earth through a lengthy process of geological activities. These caves were naturally created as a result of geological actions over hundreds of thousands of years. The shapes and sizes of these caves are diverse. Some caves are so long as to be measured tens or hundreds of kilometers in length. Kinds of natural caves are the lava cave, limestone cave, sea(river) cave, joint cave, and erosion cave. Natural caves provides precious information about the formation and structures of caves, speleothems, and cave fauna, thus shedding light on the evolution and ecosystem of caves.

Caves in korea are distributed in limestone and lavastone zones. Most caves

Table 2. Natural monument caves in Korea

No.	Name of Cave	Location	Open/Not
98	Manjang-gul	Jeju-do Bukjeju-gun	◎
98	Kumneong-gul	Jeju-do Bukjeju-gun	×
155	Seongnyu-gul	Gyeongsangbuk-do Ulchin-gun	◎
177	Cheonho-gul	Jeollabuk-do Iksan-si	×
178	Whanseon-gul	Gangwon-do Samcheok-si	◎
178	Daeiree caven belt (Kwaneum-gul, Dukbacset-gul, Yangtermocset-gul, Kunjese-gul, Sadaribawibaram-gul)	Gangwon-do Samcheok-si	×
219	Gossi-gul	Gangwon-do Yeongwol-gun	◎
226	Chodang-gul	Gangwon-do Samcheok-si	×
236	Hyeopjae-ssangyong-gul	Jeju-do Bukjeju-gun	◎
236	Socheon-gul, Whanggum-gul	Jeju-do Bukjeju-gun	×
256	Gosu-gul	Chungcheongbuk-do Danyang-gun	◎
260	Baekryong-gul	Gangwon-do Pyeongchang-gun	×
261	Ondal-gul	Chungcheongbuk-do Danyang-gun	◎
262	Nodong-gul	Chungcheongbuk-do Danyang-gun	◎
342	Billemot-gul	Jeju-do Bukjeju-gun	×
384	Dangcheomul-gul	Jeju-do Bukjeju-gun	×
Total		21	

◎: Opened, ×: Not opened

Table 3. Local monument caves in Korea

No.	Name of Cave	Location	Open/Not
19	Cheondong-gul	Chungcheongbuk-do Danyang-gun	◎
23	Yongdam-gul	Gangwon-do Yeongwol-gun	×
24	Whasoon-gul	Jeollanam-do Whasun-gun	×
27	Mosan-gul	Gyeongsangbuk-do Munkyeong-si	×
31	Yeonha-gul	Gangwon-do Yeongwol-gun	×
32	Daeya-gul	Gangwon-do Yeongwol-gun	×
33	Biryong-gul	Gangwon-do Jeongseon-gun	×
34	Whaam-gul	Gangwon-do Jeongseon-gun	◎
35	Dongdae-gul	Gangwon-do Gangneung-si	×
36	Miri-gul	Gyeongsangbuk-do Andong-si	×
36	Seodae-gul	Gangwon-do Gangneung-si	×
37	Okgye-gul	Gangwon-do Gangneung-si	×
38	Bisun-gul	Gangwon-do Gangneung-si	×
39	Yongyeon-gul	Gangwon-do Taebaek-si	◎
40	Jeosung-gul	Gangwon-do Samcheok-si	×
41	Whalki-gul	Gangwon-do Samcheok-si	×
41	Masan-gul	Jeollabuk-do Muju-gun	×
52	Baengdui-gul	Jeju-do Bukjeju-gun	×
53	Bukchon-gul	Jeju-do Bukjeju-gun	×
58	Woldun-gul	Gangwon-do Taebaek-si	×
70	Baeti-gul	Gyeongsangnam-do Hapcheon-gun	×
Total		21	

◎: Opened, ×: Not opened

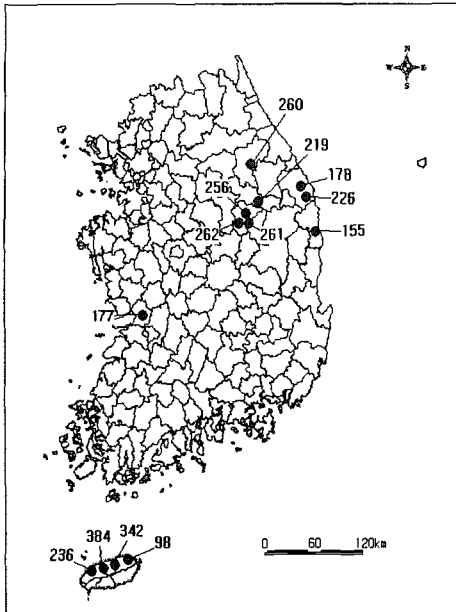


Figure 1. Distribution of national monument caves in Korea

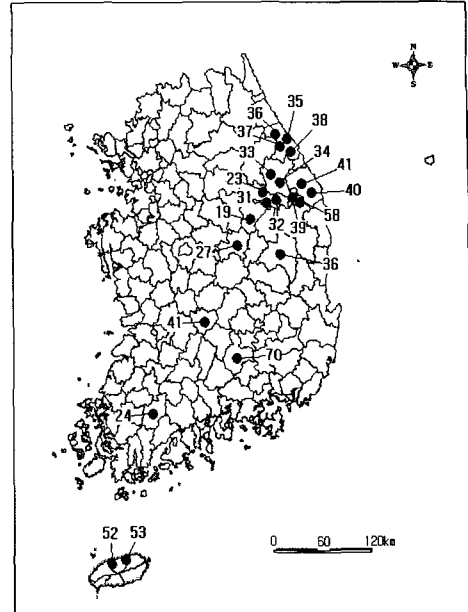


Figure 2. Distribution of local monument caves in Korea

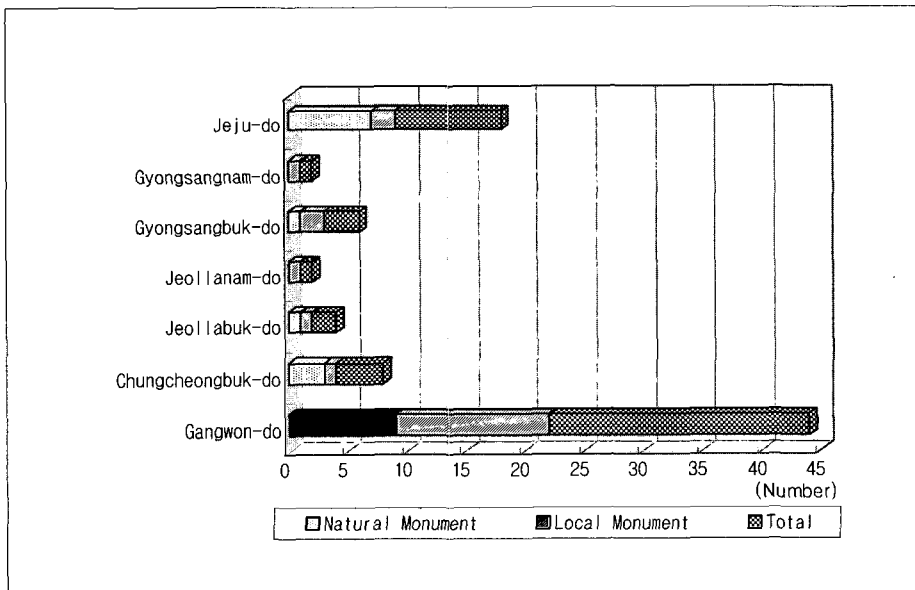


Figure 3. Regional distribution of monument cave in Korea

on the mainland are made of limestone, whereas most of the caves on Jeju-do are volcanic in origin. The caves on Jeju-do, in particular are internally renowned for their huge size and scientific value. By contrast,

the caves on the mainland are not as big, but their unique shapes and formations still attract the attention of international speleologists(Hong, 1990).

21 caves are designated for natural

Table 4. Open caves in Korea

Name of cave	Location	Open time	Monument designation
Manjang-gul	Jeju-do Bukjeju-gun	1969. 8	National Monument No.98
Gossi-gul	Gangwon-do Yeongwol-gun	1974. 5	National Monument No.219
Seongnyu-gul	Gyeongsangbuk-do Ulchin-gun	1976. 1	National Monument No.155
Gosu-gul	Chungcheongbuk-do Danyang-gun	1976. 9	National Monument No.256
Cheondong-gul	Chungcheongbuk-do Danyang-gun	1978.10	Local Monument No.19
Hyeopjae,ssangyong-gul	Jeju-do Bukjeju-gun	1983. 1	National Monument No.236
Nodong-gul	Chungcheongbuk-do Danyang-gun	1990. 1	National Monument No.262
Cheongok-gul	Gangwon-do Donghae-si	1996. 5	-
Whanseon-gul	Gangwon-do Samcheok-si	1997.10	National Monument No.178
Yongyeon-gul	Gangwon-do Taebaek-si	1997.10	Local Monument No.39
Ondal-gul	Chungcheongbuk-do Danyang-gun	1997.11	National Monument No.261
Whaam-gul	Gangwon-do Jeongseon-gun	2000. 6	Local Monument No.34

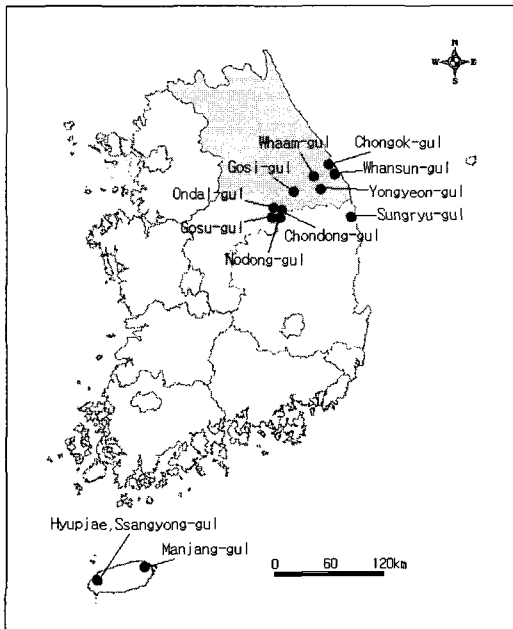


Figure 4. Regional distribution of open caves in Korea

monument. The distribution characteristics of natural monument caves would be Gangwon-do and Jeju-do; Natural monument caves are distributed at 21 si or gun, and regional distributions of them are Samcheok-si in Gangwon-do and Bukjeju-gun in Jeju-do which has each 7 caves, Danyang-gun in Chungcheongbuk-do 3 caves, Iksan-si in Jeollabuk-do, Ulchin-gun in Gyeongsangbuk-do, Yeongwol-gun and Pyeongchang-gun in Gangwon-do each 1 caves.

Likewise 21 caves are designated for local monument. The distribution characteristics of local monument caves would be

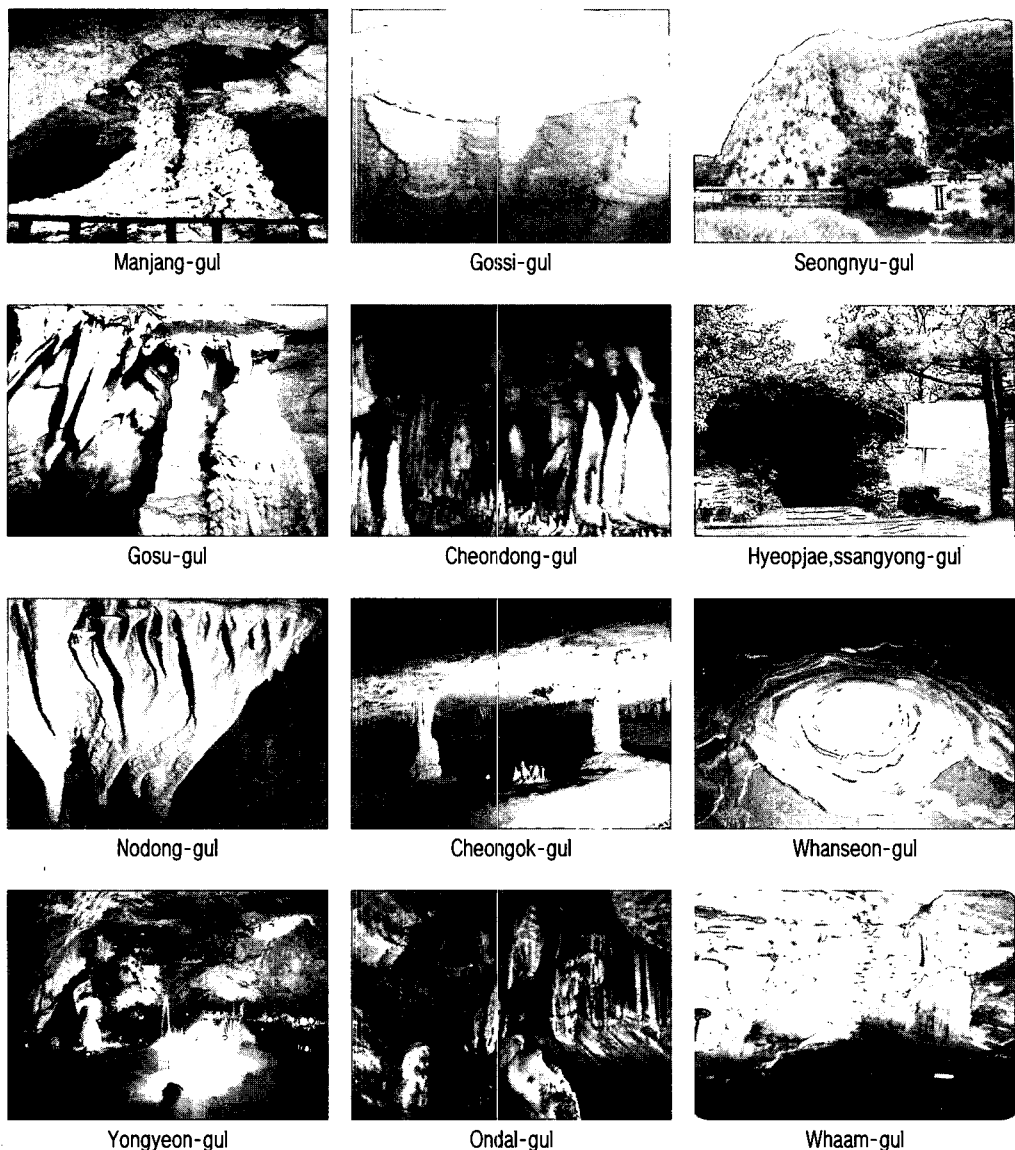


Figure 5. Image of open caves on KNT0 homepage

Gangwon-do; Local monument caves are distributed at 21 si or gun, and regional distributions of them are Gangneung-si in Gangwon-do which has 4 caves, Yeongwol-gun in Gangwon-do 3 caves, Samcheok-si, Taebaek-si and Jeongseon-gun in Gangwon-do and Bukjeju-gun in Jeju-do

each 2 caves, Andong-si and Munkyeong-si in Gyeongsangbuk-do, Danyang-gun in Chungcheongbuk-do, Whasun-gun in Jeollanam-do, Muju-gun in Jeollabuk-do, Hapcheon-gun in Gyeongsangnam-do each 1 cave.

2. The Distribution Characteristics of

Open Caves

Limestone caves and Lava caves are very typical in Korea. Open caves developed as tourism resources are twelve, these were opened to the public for tourism. Limestone caves are ten, Lava caves are two.

The distribution characteristics of open caves would be Gangwon-do and Chungcheongbuk-do; Open caves are distributed at 12 regions, and regional distributions of them are Gangwon-do which has 5 caves, Chungcheongbuk-do 4 caves, Gyeongsangbuk-do 1 caves, Jeju-do 2 caves.

The open time to the public of open caves were 1970s and 1990s which had 4 caves, 1980s 2 caves, 1960s and 2000s 1 caves. Manjang-gul was first opened in 1969, the most recently, Whaam-gul in 2000.

IV. The Typical Characteristics of Tourism Resources Surrounding Open Caves

I tried to classify characteristics of tourism resources surrounding open caves. A data used for analysis were tourism information of open caves providing in KNTTO homepage. Generally, tourism resources are divided into the natural tourism resources, cultural tourism resources, social tourism resources, recreational tourism resources.

The characteristics of tourism resources

linked open caves is very high in natural tourism resources as mountain and beach. Secondly, cultural tourism resources, thirdly, social tourism resources and recreational tourism resources. In cultural tourism resources, Gossi-gul, Seongnyu-gul, Hyeopjae-ssangyong-gul, Whanseon-gul, Ondal-gul and Whaam-gul are high. In social tourism resources, Seongnyu-gul and Yongyeon-gul are high. In recreational tourism resources, Hyeopjae-ssangyong-gul and Whaam-gul are high. Accordingly, Seongnyu-gul, Hyeopjae-ssangyong-gul and Whaam-gul showed high linkage surrounding tourism resources than the other open caves.

V. Conclusion

I tried to examine the distribution characteristics of monument caves and the linkage characteristics of tourism resources surrounding open caves. The results of this study are as follows;

First, monument caves concentrate upon Gangwon-do and Jeju-do.

Second, open caves concentrate upon Gangwon-do and Chungcheongbuk-do.

Third, typical linkage characteristics of tourism resources surrounding open caves are very high in natural tourism resources.

Fourth, It is necessary to develop tourism route though the linkage with other tourism resources.

Table 5. Tourism resources linkaged open caves

Name of cave	Natural	Cultural	Social	Recreational
Manjang-gul	Seongsanilchulbong Hamdeok beach Gimnyeong beach Bijarim			
Gossi-gul		Cheongnyeongpo Jangreung		
Seongnyu-gul	Mangyang beach Buryeongsagyegok Mangyangjeong	Buryeongsa	Minmulgogi jeonsigwan	
Gosu-gul	Cheondong-gul Nodong-gul Dodamsambong Seokmun			
Cheondong-gul	Dodamsambong Seokmun Gosu-gul Nodong-gul			
Hyeopjae-ssangyong-gul	Myeongwoldae Hyeopjae beach, Seoninjangsaengji	Bunjaeyesulwon		Hallim park
Nodong-gul	Sobaeksan national park Dodamsambong Seokmun Cheondong-gul Gosu-gul Ondal-gul			
Cheongok-gul	Yongchu pokpo Mureung gyegok Mangsang beach Chuam beach			
Whanseon-gul	Samcheok beach	Jukseoru Sin-ri neowajip Yeonggyeongmyo Jungyeongmyo		
Yongyeon-gul	Hwangjiyeonmot Geumdaebong Samsuryeong Hambaeksan Geomnyongso		Chujeon station	
Ondal-gul	Ondalsanseong Bukbyeok Namcheon gyegok	Yeongchunhyanggyo Guinsa		
Whaam-gul	Hwaamyaksu Auraji Gwangaegok Gariwangsan	Jeongamsa		Kangwonland

But this study have been partial and fragmentary. In order to increase the number of tourists, we should make them curious about the specific region by presenting the unique characteristics of the region, for

example its cultural, social, recreational etc. In other words, in order to attract the tourists open caves should differentiate from other open caves.

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