A research on recognition and demand of urban residents about introduction of mountain ecotourism

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ABSTRACT

The survey on urban residents’ recognition and their demands was conducted in order to set the direction of mountain ecotourism as a new mountain village policy project of Korea Forest Service. This survey consists of the current situation, the demand, intention of participation, and the expected effects of mountain ecotourism. From 24th July to 15th August 2015, an online survey was conducted targeting 1000 adults over 18 residing in 16 urban and provincial areas. As a result of the major analysis, 75% of respondents answered that they visited mountain and rural villages for tourism and 88% intended to participate in mountain ecotourism. They revealed their intended times of participating: 46% of them intended to visit once a year and 32% twice a year. The respondents were willing to pay USD 122 on average for total travel expenses. Regarding the demand for mountain ecotourism, 83% asked for improvement of accommodations and convenience facilities, 78% public relations and information offering, and 76% development of local tourism products. For the expected effects of mountain ecotourism that were perceived high, 80% expected natural healing and health care. This research is expected to be utilized as baseline data for future mountain ecotourism policies reflecting urban residents’ demand.

Introduction

Recently, the public’s interest in forest recreation and increase of leisure time derived from five work days per week has been rising and it had made the urban residents’ demand of visiting mountain areas increase (Kwon and Park 2014; Yu and Jang 2014). The number of natural recreational forests visitors has steadily increased from 5,000,000 in 2005, to 9,400,000 in 2010, to 12,560,000 in 2015 (Korea Forest Service 2016), and is expected to keep rising in the future. On the other hand, according to one study, the mountain areas’ incomes from the primary industry have already reached its limit owing to Free Trade Agreement (FTA) deals (Roh et al. 2006). Under this circumstance, a new method should be sought to generate non-farm income, based on high-valued services, not only depending on the income from the primary industry. Thus, with a view to increasing income and activating the mountain villages, we need to seek for a new way, called mountain ecotourism, to attract the urban residents’ demand toward mountain villages, by utilizing both ecology resources and neighboring recreation, culture, tourism resources and the existing accommodations and experience facilities in the mountain areas.

Mountain ecotourism is a narrower concept of ecotourism, which is applied only within mountain areas. Ecotourism has appeared as an alternative tourism that directly counters the traditional concept of tourism while criticizing its negative impacts in the economic, socio-cultural and environmental aspects. In this study, the concept of mountain ecotourism is defined as “a sustainable tourism that associates with recreation, culture, tourism resources of adjacent areas focused on the mountain communities which have splendid mountain ecological environments and scenery, and improves the lives of local residents by efficiently conserving and utilizing mountain resources” (Kim et al. 2016b).

First of all, looking into previous studies, mountain experience tourism studies have been conducted prior to mountain ecotourism research with the purpose of activating local communities and increasing their income in rural and mountain areas. Kim et al. (2007a, 2007b) performed a survey upon rural and mountain village visitors sorted by the accommodation type and the visiting purpose and analyzed their satisfactions. Jeon et al. (2007) analyzed domestic and foreign rural experience tourism portal sites through the evaluation index, carried out a comparative analysis, and then suggested revisions on mountain village websites. Also, Kim et al. (2007a) investigated the awareness of the villagers who have lived various kinds of rural and mountain villages: mountain development villages, green rural experience villages, rural traditional theme villages, and mixed type villages. However, as the law for balanced national development was revised in 2010, mountain village development project by the Korea Forest Service (KFS) was integrated into general development projects of agricultural, mountain and fishery areas and development projects of special situation areas, which has led to the slowdown of the experience-tourism research with regard to mountain communities since 2007.

Meanwhile, the research related to ecological tourism has been actively conducted until recently, addressing a wide range of topics. Considering the revitalization of local communities, resource conservation, and value enhancement, this research can be divided into three categories based on characteristics that ecological tourist attractions possess: rural eco “experience” tourism, rural ecotourism and eco-marine
tourism, etc. The studies carried out over the last 3 years showed that there were certain characteristics among their contents as follows; first, the studies such as tourist motivation (Kim and Kim 2015; Lee and Park 2015; Lee et al. 2015) and tourist behavior (Park and Ahn 2014; Kim 2015; Kim et al. 2016a) were conducted mainly focusing on tourists who have taken part in the ecotourism. Second, the studies about tourism resources (Yeo and Seo 2016; You and Lee 2016) analyzed the characteristics of resources which can be used as ecotourism resources. Third, the studies regarding ecotourism strategy (Choi et al. 2014) and developing the management system for eco-tourists and natural resources (Jeong and Choi 2014) were conducted as related to the overall operational procedures during the implementation of tourist policies and projects. Furthermore, as one of the studies on the mountain villages, Yoon and Kim (2008) surveyed the local residents’ awareness about developing mountain areas for ecotourism sites, and An and Kang (2009) analyzed the Japanese cases to find a way for revitalizing the hilly and mountain areas. Kim et al. (2016b) performed a research on the introduction of mountain ecotourism, by analyzing the ecotourism policies of Japan. However, studies focusing on mountain areas are still in their early stage. In order to confirm the possibility of mountain ecotourism as a tool for revitalizing mountain areas, it is required for us not only to conduct case studies and policy analyses, but also to carry out in-depth studies on the recognition and demand in the perspective of those consuming the mountain ecotourism.

Moreover, in terms of improving the income safe net which is the keynote of the present state affairs, facilitating and developing mountain ecotourism are being required to create sustainable high value-added income for activating mountain villages. Therefore, we investigated the urban residents’ demand and needs for mountain ecotourism and assessed the feasibility of ecotourism business from the standpoint of its consumers. This survey on the urban residents’ recognition and demand for mountain ecotourism was conducted in order to establish policy directions for mountain ecotourism in the future and to suggest the effective guidelines to enforce policies that are suitable for the demand of mountain ecotourism consumers.

**Research methods**

In this study, we performed a survey over residents across the country, both male and female, who are over the age of 18, to figure out the urban residents’ awareness and their demands for mountain ecotourism and to set future policy directions for mountain ecotourism. If we had assigned the questionnaires according to the population ratio of cities and provinces, only fewer than 30 samples would have been allocated to the individual region, meaning that the results can not be statistically significant. Thus, we first divided the regions and allocated the samples that were adjusted to the regional population ratio (based on the statistics of resident registration population). Within cities, we sampled according to the ratio of gender and age. Based on gender, age, and regionally allotted population ratio, we selected 1000 urban residents, who were over 18 years and living in 16 metropolitan cities, and carried out an online survey with a structured questionnaire from 24th July 2015 to 15th August 2015. To make respondents understand the concept of “Mountain Ecotourism,” we suggested the actual ecotourism’s figures with the concept description in online survey.

We also went over precedent studies related to rural and mountain experience and the visitors’ demand (Jeon et al. 2007; Kim et al. 2007a, 2007b; Jeon et al. 2008; Kim et al. 2012), statistical analysis on ecotourism (Hwang et al. 2010) and so forth. This study set five categories as key contents of our mountain ecotourism survey: the urban residents’ current situation of visits, their preference type, their demand, their requirements, and the expected effects. We set sub-categories for each category as well. As for the current situation of visits, we asked visit experience, frequency, visiting areas, and their preference among agricultural, mountain and fishing villages, and their preference type category consisted of their preferred destinations, transportation, length of stay, their tour season, their visiting time, companion type, and the number of the companions (including themselves). In addition, as for urban residents’ demand, we questioned about their willingness to participate and their intended budgets, and their preferred activities during mountain ecotourism, and we also made inquiries about KFS’s support and the expected effects. The derived questions were surveyed by utilizing 5-Likert scale and nominal scale and the collected data were analyzed by means of SPSS Windows 20.0, Statistical Package for Social Sciences.

**Results and discussion**

**Demographic characteristics of urbanite respondents**

Considering the demographic characteristics of respondents, the percentage of respondents’ residential areas was highest in Gyeonggi/Incheon (29.3%), followed by Seoul (20.5%), and then Busan/Ulsan/Gyeongnam (15.9%). The percentage of male respondents was 50.5%, whereas that of female was 49.5%, both of which were almost the same percentage, and 34.6% of respondents were in their 50s, 21.4% were in their 40s, and 18.5% were in their 20s. As for the occupation, white collars, including office workers, managers, administrators, professionals, public servants and teachers, accounted for 41.6%, housewives for 17.7%, and blue collars who have technical post or production job accounted for 12.5%. Considering the academic background, 62.8% answered that they had graduated from university and 20.8% from high school. For the average monthly family income, 21.1% of the respondents earned more than 4,000,000 won, 19.3% earned 3,000,000 won and 18.7% earned 6,000,000 won. The 66.7% of the respondents appeared to be married (Table 1).

**Urban residents’ status of visits to rural and mountain areas and their preference types for mountain ecotourism**

We also conducted a survey on the current situation of urban residents’ visit to rural and mountain areas and their preference types for mountain ecotourism. With regard to the current situation of visits, the questionnaire was composed of visit experience, frequency, visiting areas, their preference among agricultural, mountain and fishing villages. The preference type category consisted of their preferred destinations, transportation, lengths of stay, their tour season, their visiting time, companion type, and the number of the companions! The results are as follows.
The status of visits to rural and mountain areas

The results of visit status of rural and mountain areas showed that 75.4% of the respondents have visited rural and mountain villages on the purpose of tourism. From January 2014 to December 2014, which was the target year of the survey, the percentage of those who have visited once for tourism was 35.4% and the percentage of those who have visited twice was 34.2%. When they were asked to choose all the rural and mountain areas they have travelled, the top-ranked province was Gangwon (56.6%), followed by Gyeongsang (22.8%) and then by Jeolla (17.5%). Among agricultural, mountain and fishing villages, the respondents’ most preferred one was mountain areas, which marked 39.3%, next was fishing villages (35.2%) and the last was agricultural villages (25.5%; Table 2). The survey revealed that the mountain area was the most preferred region by urban residents for tourism destinations, and that the likelihood of their visiting turned out to be fairly high if mountain ecotourism is introduced.

The preferred mountain ecotourism type

Concerning the preferred mountain ecotourism type, we obtained the following results. Respondents replied that the preferable tourism destinations were Gangwon (55.3%), Jeolla (10.4%), and Gyeongsang (9.7%) province and that the preferable transportation was their own cars (70.2%), intercity and express buses (12.3%), and trains (11.4%). Concerning the length of one’s visit, 50.2% preferred one night and two days trip, 33.6% preferred two nights and three days trip and 9.8% preferred one day trip. About tour seasons, respondents’ favorite season was 57.1% autumn, 24.8% summer, and 16.3% spring. They wanted to visit rural and mountain regions on weekends (41.5%), on holidays/public holidays (23.8%) and during weekdays (19.0%). The tourists would like to enjoy their journey with family/relatives (65.7%), friends/partners (23.3%), and alone (5.8%) and when asked how many companions they like to go together, 55.5% of the respondents answered they prefer 2–3 persons and 32.2% answered 4–5 persons, including themselves (Table 3).

Urban residents’ demand for mountain ecotourism

Intention to participate in mountain ecotourism

Table 1. Demographic characteristics of the respondents.

| Section                  | Sample size | Rate (%) |
|--------------------------|-------------|----------|
| Total (1000)             | 100.0       |          |
| Province                 |             |          |
| Seoul                    | (205)       | 20.5     |
| Gyeonggi-Incheon         | (293)       | 29.3     |
| Daejeon/Chungcheong     | (100)       | 10.0     |
| Daegu/Gyeongbuk         | (105)       | 10.5     |
| Busan/Ulsan/Gyeongnam   | (159)       | 15.9     |
| Gwangju/Jeonnam/Jeonbuk | (100)       | 10.0     |
| Gangwon                  | (30)        | 3.0      |
| Jeju                     | (8)         | 0.8      |
| Gender                   |             |          |
| Male                     | (505)       | 50.5     |
| Female                   | (495)       | 49.5     |
| Age                      |             |          |
| 20s                      | (185)       | 18.5     |
| 30s                      | (183)       | 18.3     |
| 40s                      | (214)       | 21.4     |
| 50s                      | (346)       | 34.6     |
| Over 60s                 | (72)        | 7.2      |
| Occupation               |             |          |
| Agriculture/Forestry/Fishery | (5)   | 0.5      |
| Self-employment           | (108)       | 10.8     |
| Blue-collar               | (125)       | 12.5     |
| White-collar              | (416)       | 41.6     |
| Housewife                 | (177)       | 17.7     |
| Student                   | (78)        | 7.8      |
| Others                    | (91)        | 9.1      |
| Academic background       |             |          |
| Below high school graduate| (213)     | 21.3     |
| Undergraduate             | (77)        | 7.7      |
| More than college graduate| (628)      | 62.8     |
| More than graduate school | (62)       | 8.2      |
| Income (average monthly family income) | | |
| Less than 2,000,000 won   | (116)       | 11.6     |
| 2,000,000 won             | (126)       | 12.6     |
| 3,000,000 won             | (193)       | 19.3     |
| 4,000,000 won             | (211)       | 21.1     |
| 5,000,000 won             | (167)       | 16.7     |
| More than 6,000,000 won   | (187)       | 18.7     |
| Marital status            |             |          |
| Married                   | (667)       | 66.7     |
| Single                    | (316)       | 31.6     |
| Other                     | (17)        | 1.7      |

Table 2. The status of visits to rural and mountain villages.

| Category | Sample size | Experience (%) | Frequency* (%) | Preference (%) |
|----------|-------------|----------------|----------------|---------------|
| Urbanite | 1000        | 75.4           | 24.6           | 34.2          |
|         |             | 12.3           | 13.7           | 16.7          |
|         |             | 56.6           | 22.8           | 17.5          |
|         |             | 14.8           | 13.1           | 3.6           |
|         |             |                |                | 39.3          |
|         |             |                |                | 35.2          |
|         |             |                |                | 25.5          |

*It was analyzed only with the respondents who answered they have had mountain ecotourism experiences.
to the 881 people who were intended to participate showed about the frequency of travelling, and 46.1% answered they would travel once a year, 32.1% twice a year, and 11.2% once in 2–3 years (Table 4).

**Willingness to pay for mountain ecotourism**

According to the survey results of the total travel expenditure per capita, 28.4% of the respondents answered that they are willing to pay 100,000–130,000 won, and 17.9% can pay 40,000–70,000 won. Also, the average travel cost per capita that the respondents expect was 138,000 won (Figure 2). This figure was about 10% lower than the average willingness to pay of mountain visitors (152,000 won). On the contrary, they had less preferences in experiencing mountain sports (29.7%), nature conservation voluntary work (38.9%) and forest conservation education (40.1%; Figure 3). The result demonstrates that static activities such as recreation will bring the greater urban residents’ satisfaction when they go to mountain villages and choose favorable activities for mountain ecotourism.

To analyze correlation between willingness to spend money for mountain ecotourism and degree of interest in preferred activities, we set the means of consumption expenditure (138,000 won) as reference point and categorized them into two groups: those who spent less than mean value (average monthly family income: 3,712,000 won) and those who spent more than mean value (average monthly family income: 4,030,000 won). Then we performed a t-test in order

### Table 3. Preferred mountain ecotourism types.

| Category          | Sample size | Preferred type     | Rate (%) | Preferred type     | Rate (%) |
|-------------------|-------------|--------------------|----------|--------------------|----------|
| Urban residents   | 1000        | Destinations       |          |                   |          |
|                   |             | Gangwon            | 55.3     | Weekend            | 41.5     |
|                   |             | Jeolla             | 10.4     | Holiday/Public holiday | 23.8     |
|                   |             | Gyeongsang         | 9.7      | Weekdays           | 19.0     |
|                   |             | Jeju               | 9.4      | Short break/vacation | 14.9     |
|                   |             | Gyeonggi           | 8.4      | Other              | 0.8      |
|                   |             | Chungcheong        | 6.6      | Family/relatives   | 65.7     |
|                   |             | Other              | 0.2      | Friends/partners | 23.3     |
|                   |             | Transportation     |          |                   |          |
|                   |             | Car                | 70.2     | Alone              | 5.8      |
|                   |             | Intercity or express bus | 12.3 | Group tour with club members | 2.0 |
|                   |             | Train              | 11.4     | Coworkers          | 1.8      |
|                   |             | Tourist bus        | 5.6      | Group tour with agency | 0.7 |
|                   |             | Others             | 0.5      | School excursion   | 0.6      |
|                   |             | Length of stay     |          |                   |          |
|                   |             | 1 day              | 9.8      | Other              | 0.1      |
|                   |             | 1 Night/2 days     | 50.2     | 1 Person           | 8.0      |
|                   |             | 2 Nights/3 days    | 33.6     | 2–3 People         | 55.5     |
|                   |             | 3 Nights/4 days    | 6.1      | 4–5 People         | 32.2     |
|                   |             | Other              | 0.3      | More than 6 people or group | 4.3 |
|                   |             | Tour season        |          |                   |          |
|                   |             | Autumn (Sep.–Nov.) | 57.1     |                   |          |
|                   |             | Summer (Jun.–Aug.) | 24.8     |                   |          |
|                   |             | Spring (Mar.–May)  | 16.3     |                   |          |
|                   |             | Winter (Dec.–Feb.) | 1.8      |                   |          |
to look into the differences of preferred activities between two
groups. In general, we could identify that the group who
spent more than the mean value tends to be more interested
in participating preferred activities than the group who spent
less than the mean value. The sub-categories that revealed
the most difference were “forest conservation education” and
“nature conservation voluntary work.”

The results of the t-test are out of 10 preferred activities,
viewing scenery, education for nature conservation, and
nature conservation voluntary work displayed statistically
significant differences in $p < 0.01$ levels, while the category
for interaction with residents was identified as statistically
significant difference in $p < 0.05$ levels (Table 5). The group
who has stronger willingness to spend money for mountain
ecotourism than the mean value showed stronger preference
in mountain scenery, forest conservation education, nature
conservation voluntary work, and interaction with residents,
all of which were commonly in-depth ecotourism activities.

Taking these results into consideration, to carry out busi-
nesses related to mountain ecotourism in the future, we
should first establish hardware aspects to revitalize local
economies and to improve mountain scenery that can pro-
vide more satisfactory experience for the visitors. Moreover,
not only hardware itself, but also software aspects should be
considered such as education for forest conservation and
nature conservation voluntary work. In addition, it seems
plausible to target the visitors who are more willing to spend
on mountain ecotourism than the average by developing and
offering local food experiencing programs or programs that
connect visitors to different tourism attractions together.

**Urban residents’ requirements for mountain ecotourism**

According to the survey, the following results revealed that
what KFS should support for urban residents when mountain
ecotourism is introduced in the future (Figure 4). Among the

![Figure 2. The average travel costs per capita that people are willing to pay.](image)

![Figure 3. Preferred activities of mountain ecotourism.](image)
positive responses (strongly agree, agree), respondents answered that KFS should prioritize its support for improvement of accommodations and convenient facilities (82.6%), development of facilities and programs (80%) and public relations and information offering (77.9%). However, the request for supporting education part to strengthen the capabilities of local residents accounted for only 64.1%, which was relatively lower than other requests. This implies that urban residents pay more attention to the facilities and programs they would engage in while staying at mountain villages than the local residents’ capability of providing educational/guide programs.

**Urban residents’ expectation effects for mountain ecotourism**

To understand what urban residents anticipate when mountain ecotourism is implemented, we divided the survey into five items: natural healing and health care, education effects, conservation of nature, local culture understanding, and local revitalization. After analyzing the positive responses (strongly agree, agree), we discovered that the most anticipated effect of mountain ecotourism was natural healing and health care (80.4%), followed by the local revitalization (74.5%) and the education effects (71.6%). Also, the lowest expectation was the conservation of nature (66.3%; Figure 5).

**Conclusions**

The survey results on recognition and demand of urban residents about introduction of mountain ecotourism can be summarized as follows.

About the questions on what KFS should support if mountain ecotourism is introduced, the urban residents answered improvement of accommodations and convenient facilities (82.6%) as a top priority, followed by development of facilities and programs (80%) and public relations and information offering (77.9%). Finally, through mountain ecotourism, urban residents expected the effects of natural healing and health care (80.4%) the most. Based on these answers, we propose three policy suggestions for implementing mountain ecotourism.

First, it is necessary to develop a new program of mountain ecotourism to differentiate from the existing program of

![Figure 4](image-url). The areas that need supports from Korea Forest Service.

| Category                                      | Means                      | Standard deviation | t-Value | p-Value |
|-----------------------------------------------|----------------------------|--------------------|---------|---------|
| Viewing mountain scenery                       | Below means of expenditure (n = 546) | Above means of expenditure (n = 333) |         |         |         |
|                                               | 3.63                       | 3.84               | 0.906   | 0.781   | -3.619  | 0.000** |
| Visiting culture, recreation, tourism attraction| 3.96                       | 4.01               | 0.697   | 0.703   | -1.027  | 0.304   |
| Experiencing farm/forest harvest              | 3.52                       | 3.61               | 0.903   | 0.900   | -1.533  | 0.126   |
| Experiencing mountain sports                  | 2.88                       | 2.97               | 1.103   | 1.064   | -1.249  | 0.212   |
| Participation in the explanatory program on forest | 3.71                       | 3.74               | 0.819   | 0.767   | -0.713  | 0.476   |
| Experiencing local food                       | 4.09                       | 4.09               | 0.759   | 0.771   | -0.041  | 0.967   |
| Experiencing traditional crafts and culture   | 3.57                       | 3.61               | 0.835   | 0.856   | -0.620  | 0.535   |
| Forest conservation education                 | 3.25                       | 3.47               | 0.846   | 0.863   | -3.803  | 0.000** |
| Nature conservation voluntary work            | 3.22                       | 3.44               | 0.870   | 0.818   | -3.718  | 0.000** |
| Interaction with local residents              | 3.32                       | 3.43               | 0.811   | 0.860   | -2.003  | 0.045*  |

*p < 0.05, **p < 0.01.
Mountain ecotourism is one kind of rural tourism. Mountain ecotourism is one kind of rural tourism, yet we should note that the main purposes of mountain ecotourism are both conserving forest resources and utilizing them efficiently. To achieve these purposes, the value and the goal of mountain ecotourism should be clearly set and, at the same time, software aspects like regulations for users, and programs and promotion for mountain ecotourism should be developed as well. Rather than introducing the existing programs of rural tourism on the superficial level, it is important to utilize the resources which only the mountain villages and their neighboring areas uniquely possess, to connect distinctive ecological features of mountain villages with recreational, cultural, tourism resources in the neighboring areas, and to develop different types of programs such as one day, one night and two days, or two nights and three days, etc. tour programs, considering seasonal changes and length of stay. Simultaneously, what the urban residents want in general, such as experiencing local food and visiting tourist attractions, should not be overlooked. Adopting only theoretical approach in mountain ecotourism may impose negative impacts on users’ satisfaction. So it is crucial to fully reflect current urban residents’ demand aspects as developing programs holding unique values of mountain ecotourism and promoting them in order to draw urban residents’ engagement.

Second, Korea Forest Service should provide urban residents with open information and customized support tailored to the conditions of mountain eco-villages. Urban residents chose improvement of accommodations and convenience facilities as the top priority that KFS should give support, which presumably reflected the urban residents’ previous visiting experiences to rural and mountain areas. There have already been excellent mountain eco-village cases that have good accommodations, experience facilities and amenities supported by both local governments and KFS. Hence, it is desirable to build cooperation between the central and local government and to set a customized support for each local area by undertaking the detailed investigation on the existing facilities and programs, not just applying the one-way-fits-all-like standardized plan and support for the whole area. Also, the necessity of promoting mountain villages and mountain ecotourism seems to come from the lack of public awareness on a newly coined term, mountain ecotourism, and the lack of its information access. Accordingly, it is required to provide information of mountain eco-villages established by KFS and nearby tourist attractions available through online websites or mobile services and to provide comprehensive information on mountain ecotourism to the public after its initiation.

Third, a pilot project of mountain ecotourism should be preceded, directly reflecting urban residents’ preferences, and then the range of the project should be expanded to other mountain villages across the country after its examination and supplementation for the successful implementation of mountain ecotourism project. This study has made analysis on the urban residents’ preferences for the mountain ecotourism. In order to successfully implement mountain ecotourism policies, it is desirable that relevant departments run the pilot project of mountain ecotourism, taking the results of this survey into consideration: the types of destinations, length of stay, visiting time, and companions. KFS should not design one standardized project that targets the whole country but select a specific target area for the pilot project, prioritize resource allocation for relevant infrastructures and programs first, and also offer training session which is needed for local residents when implementing mountain ecotourism businesses. Thus, it is a necessary process that KFS first visits target sites for projects, and looks into the urban residents’ visiting experiences of mountain ecotourism through conducting surveys on the facilities in need, support, requirements, improvements and satisfaction. Those survey results can be used to revise the pilot project. Through this process, the feasibility range of mountain ecotourism project would be gradually expanded from a certain mountain eco-village to the whole country. Moreover, while implementing mountain ecotourism projects, we also need to consider hardware approach such as improving scenery of mountain villages to increase project effectiveness with a view of activating local economies. Given the fact, with regard to software approach, such as training on forest conservation and volunteer activities for nature conservation, it is thought that we should organize and offer local food experience programs and programs that connect different tourist attractions together, targeting visitors who have stronger willingness to spend than the average.
It is expected that the outcome of our research can be utilized as baseline data for establishing effective mountain ecotourism policies that closely reflect urban residents’ awareness and demand.

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References
An KW, Kang KK. 2009. A case study on the local revitalization in hilly and mountainous area – focused on the Ayacho, Miyazakihyun in Japan. J Korean Island. 21(1):113–136.
Choi YE, You SJ, Ham EK, Song KH. 2014. Sustainable management plan of eco-tourism resources using system thinking: a case study of Bamseom in Seoul. Int J Tour Hosp Res. 30:5–20.
Hwang YH, Kang MH, Je JG, Jang HC. 2010. The survey on eco-tourism. Seoul, Republic of Korea: Ministry of Culture, Sports and Tourism.
Jeon JH, Kim JH, Lee KH, Lee DJ. 2007. Improvement of internet portal sites for mountain villages by the comparison of the sites for rural tourism villages nationwide and overseas. J Korean Soc Rural Plan. 13:17–28.
Jeon JH, Yoo BI, Kim JH, Kim SI, Oh SH, Lee DJ. 2008. Mountain village experience tourism development. Seoul, Republic of Korea: National Institute of Forest Science.
Jeong C, Choi SM. 2014. Development of effect management model for small island eco-tourist. J Tour Sci. 38:127–150.
Kim JP. 2015. Characteristics study of ecotourists in Gangneung Kasiyeon wetland. J Tour Leisure Res. 27:59–75.
Kim HC, Chung KH, Shin JL. 2016a. The effect of perceived value on behavioral intention of eco-tourism in Tongyoung Jangsado: the moderating effect of environmentally responsible behavior. J Korean Island. 28:99–116.
Kim JH, Jeon JH, Lee DJ. 2007a. Analysis on visitor behaviour and satisfaction about green tourism in rural and mountain villages. J Korean Inst For Recreation. 11:7–14.
Kim JH, Jeon JH, Lee DJ, Lee KH, Kim SI, Kim TJ. 2007b. Awareness of local residents on the village development project according to the types of rural and mountain village development. J Korean For Soc. 96:714–723.
Kim YW, Kim YP. 2015. Eco-tourists motivation and their effect on environmental attitude and quality of life: focused on Gangneung Gyung-po Gasiyeon wetland. J Tour Leisure Res. 27:117–132.
Kim YJ, Kim SH, Kim JH. 2016b. An analysis of the Japanese ecotourism policy based on ecological policy network. J Korean Inst For Recreation. 20:103–113.
Kim YL, Ryu KS, Park SH. 2012. The survey on rural tourism for urban resident in 2012. Seoul, Republic of Korea: Korea Rural Economic Institute.
Korea Forest Service. 2016. Statistical yearbook of forestry. Daejeon, Republic of Korea: Korea Forest Service.
Kwon JW, Park CY. 2014. A study on the landscape plan for the Sambaeak agricultural theme Park. J Korean Soc Rural Plan. 20:147–159.
Lee R, Lee SH, Moon SJ. 2015. An empirical study of nature-based eco-tourism motivation on ecotourism destination image and satisfaction. J Environ Sci Int. 24:1451–1461.
Lee JD, Park I. 2015. A study on structural relations analysis and strategies between visitors’ motivation factors and loyalty for ecotourism destination. J Mark Stud. 23:47–65.
Park JC, Ahn DH. 2014. A study on the effects of ecotourism visitor’s perceived risk on the trust and satisfaction, revisit intention. Int J Tour Hosp Res. 28:75–89.
Roh YH, Cho KL, Rhee SY. 2006. Developing business performance indicator for a rural traditional theme village project: an application of analytic hierarchy program. J Tour Sci. 30:191–209.
Yeo YS, Seo JW. 2016. An exploratory study of whale watching as ecotourism: focusing on Ulsan whale festival. J Tour Stud. 28:79–106.
Yoon HY, Kim DS. 2008. A study on a residents’ consciousness and an attitude toward participation for development of ecotourism in a mountain villages-focused on the Mt. Ungil on Namhangi and Hwangdun-ri in Wonju. Korean J Environ Ecol. 22:280–288.
You YJ, Lee SG. 2016. A study on the activation plan of Taehwa river as ecotourism resource in Ulsan. J Korean Urban Geogr Soc. 19:71–83.
Yu CJ, Jang DH. 2014. An empirical analysis on the selection attributes for rural experience of city dwellers. J Korean Soc Rural Plan. 20:135–145.