

**Paper Title**

Study on Survey and Management of Rural Resource

**Author's name**

Sang-bum Kim, Sang-Young Rhee

**Paper Abstract**

The aim of this study is to suggest how we can preserve and manage the rural resource efficiently. Rural resource information system consists of survey, database, and management. Survey: We accepted GPS and used PDA to increase mobility. We used recording function and camera installation and Tablet PC as tools. Database is composed of characters like scale, form, location, distance, resident's opinion and image of resources. Management: It should be easy to input and output surveyed information and to get reports in any kind of form (especially final result is a map which can be used in local planning). We applied the system in 50 districts and got a total of 4,709 resources data. As a result, the system not only saved money but also time and minimized errors by simplifying the work. It also provides the present condition of the resource shown in the map and details information.

**Paper body****I . Introduction**

Sustainable rural development is to form healthy and agreeable environment and to preserve rural resources. Rural resource is build up from a long period. But once it is collapsed, it will be difficult to restore and will need a lot of time and attention in administrative side. Usually, city extension plan damages natural environment, and fades away the regional characteristics and cultural heritage. This study wishes to suggest how we can make healthy and agreeable environment in rural area by preserving and managing rural resource.

**II . Rural resource information system****1. Meaning of rural resource**

Rural resource tells us all themes that gives affection and agreeable feelings that exist in rural area whether it is natural or artificial.

In this study, we extract all list of rural resource through literature investigation and two times inquiring by experts and established 37 rural resources. Then we

classified 37 rural resources into 'Natural resource', 'Cultural resource', and 'Social resource' again.

Natural resource divided into 'Environment resource' and 'Natural, cultural resource divided into 'History resource' and 'Spectacle resource'. Social resource also divided into 'Facilities resource', 'Community activity resource' and 'Economic activity resource'. Summarizing, total 37 rural resources has been divided into 10 natural resources, 12 cultural resources and 15 social resources. (Supplement Appendixes)

## 2. Investigation system

In this study, we introduced GIS's concept that is preferred by the latest urban planning and as an information administration tool to investigate in front referring 'Natural resource', 'Cultural resource' and 'Social resource' of 37 rural resources. As we considered mobility and accuracy as a very important element in this research, we used PDA and Tablet PC as an investigation tool. To extend the function in PDA, We added recording voice function, digital camera and GPS on PDA & Tablet PC. Also, we standardized the contents of questions and methods in the research.



Figure 1. Input data step by step using PDA



Figure 2. PDA & Tablet PC synchronization of investigation data



Figure 3. Comparison and confirmation of investigation data

To verify rural resource investigation system, we test the system in Chungchong-bukdo Jincheon for 7 days. (From September 16 to September 22, 2003). Then we applied the system in 50 districts and got a total of 4,709 resource data.



Figure 4. One and one survey (Chungchong-bukdo Jincheon)

### 3. Database

Database constructed by standardized guideline of 37 resources. Database is composed of existing rural resource data, Base Map data, thematic map data, text data and integration data. DB construction plan is as following;

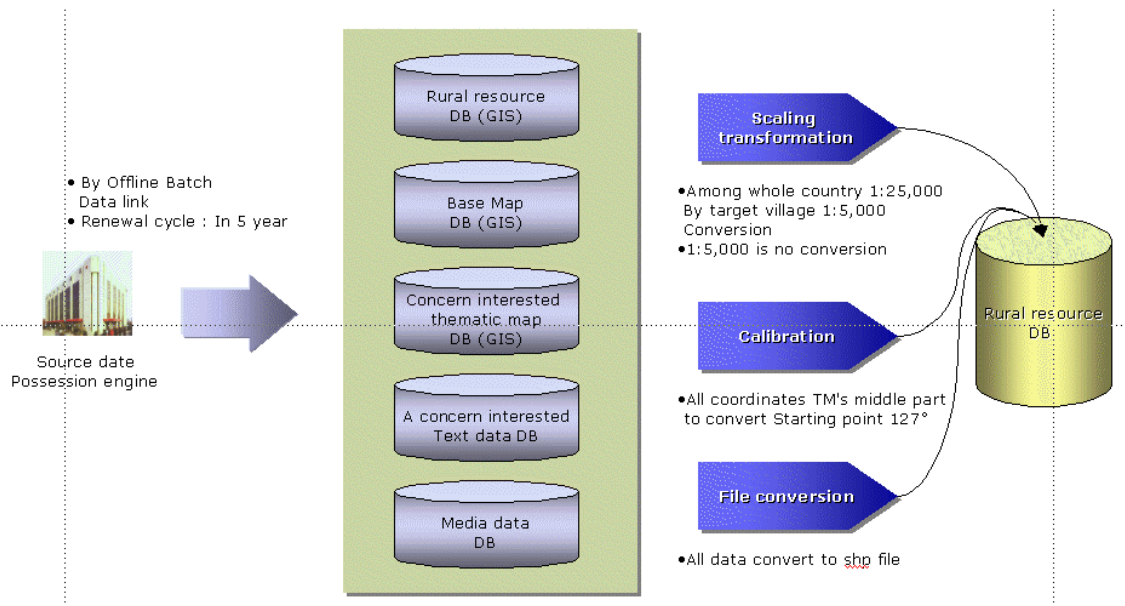


Figure 5. Rural resource new regulation data DB construction plan

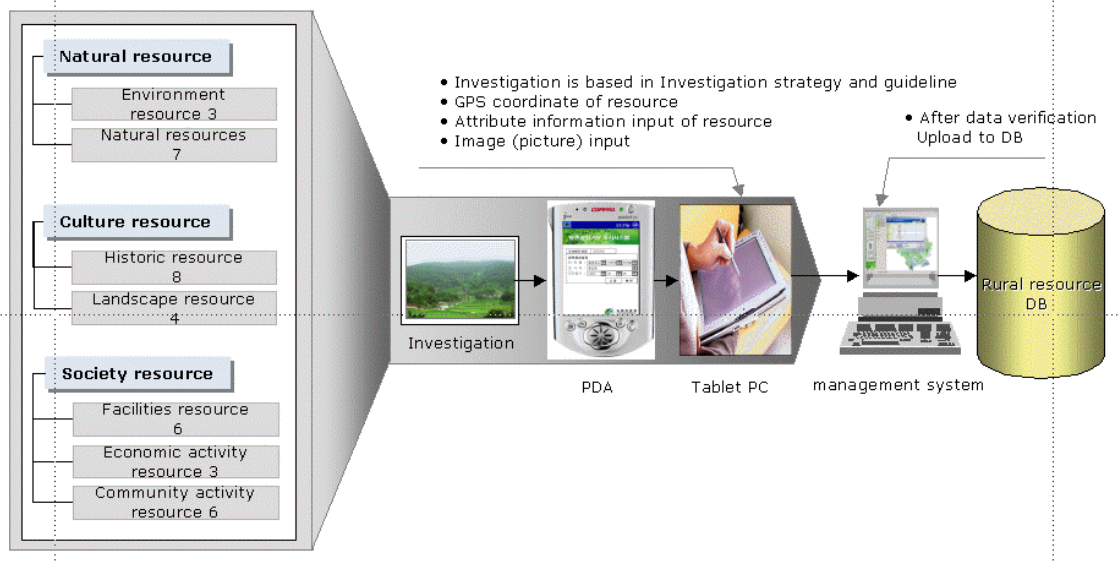


Figure 6. Concern interested existing data DB construction plan

#### 4. Rural resource management

Rural information system is consisted of integration system, management system and analysis systems. Integration system used to investigate and collect rural resource data in rural area. Management system has an administrative function of integration DB. Analysis system is an active search, as users handle business that is connected with rural benefit.





Figure 7. Rural information system function

### III. Conclusion

The main features of rural resource information system are the mobility of PDA, the accuracy of GPS and the heightened utilization of GIS map.

If we can efficiently use rural resource, it can be enjoyable to descendants and present generation as well.

### Acknowledgments

This study assigned by the 2003 to 2007 rural public benefit function information system development project propelling in agriculture KAIST rural exploitation of resources research institute

### Appendixes

#### I . Rural resource investigation item

##### 1. Natural Resource

##### 1) Environment resources

- ① Air quality ② Quality of water (clear water) ③ Noise do not exist

##### 2) Natural resources

- ④Fattesses soil ⑤Microclimates ⑥Topographies ⑦Animals ⑧Water resources ⑨Vegetations ⑩ biotope



## 2. Cultural Resource

### 1) History resources

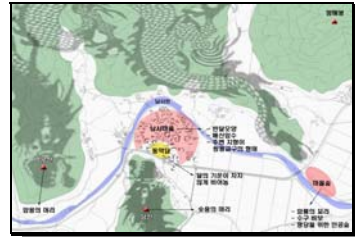
- ① Cultural assets ② historic building ③ folk belief area



- ④ tradition housing ⑤ a country lane(Maeulangil) ⑥ Village symbol (totem pole)



- ⑦ historic person ⑧ geomancy(Pungsujiri) or legend



### 2) landscape resources

- ⑨ Agricultural landscape ⑩ riverside landscape ⑪ forest landscape ⑫ village landscape





### 3. Social Resource

#### 1) Facilities resource

- ① public Facilities ② Infrastructures ③ welfare facilities ④ environmental control system



- ⑤ communication facilities ⑥ Agricultural buildings ⑦ Economic activity  
⑧ special product ⑨ special farm product



#### 3) Community activity resource

- ⑩ social public activity ⑪ agricultural activity ⑫ family activity



- ⑬ festival ⑭ folk-customs ⑮ village management and public relations



### End Notes

If you are interested in this research and would like to work with me or want to cooperate, you can reach me through below personal information.

## **References**

1. Construction and Transportation Ministry, 2001, GIS high technology trend induction plan and International Cooperation base construction, Construction and Transportation Ministry.
2. Sumi Kim a translation, 2001, GIS and cultural asset management (Written by Paul Box), Cultural Properties administration
3. Ministry of Agriculture & Forestry, 2002, a study of rural village planning for efficiently preservation and using of ecological and cultural resource, Ministry of Agriculture & Forestry
4. Ministry of Health-Welfare, 2003, Move mode medical examination and treatment information system development by using PDA: Mobile Med, Ministry of Health-Welfare.
5. Huiyeon lee, 2003, geography informatics, Beopmunsa.
6. Electronics and telecommunication research institute, 2001, GPS Electronics and telecommunication research institute, Electronics and telecommunication research institute.
7. Ministry of Environment, 1997, the second natural environment whole country basis investigation guideline, Ministry of Environment
8. Tsutomu Dakayama, koukan kimura, 2001, introduction GIS mining, Japan, toyokeizaishinmonsa
9. Japan nature environmental assessment study group, 1998, nature environmental assessment technology manual, Japan natural environment effect center

## **Author information**

Primary Author: Mr. Sang-bum Kim

Rural Development Administration 88-2 SeoDun-Dong, KwonSun-Ku Suwon, Kyunggido 441-853 KR 82-31-299-0511 kimsb@rda.go.kr

Co-Author: Mr. Sang-Young Rhee

Rural Development administration 88-2 Seodun-dong, KwonSun-Ku, Suwon, Kyunggido 441-853 KR 82-31-299-0530 rsy@rda.go.kr