

DEVELOPMENT OF THE KNOWLEDGE-SHARING SHEET SYSTEM FOR COLLABORATIVE CITY MASTER PLANNING

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1. Introduction

In recent years, citizen participation has begun to progress in administration plan development. However, preparations for argument are not enough so that the citizen who is non-expert participates to administration plan development. In addition, arguments among experts are not understandable to citizens. In sum, experts cannot explain to citizens plainly. They often show only a result and a conclusion of their argument. Therefore the result of their argument cannot obtain sympathy of citizens. As a result the effectiveness of the administration plan has been deteriorated. For citizen participation, it is necessary to represent the process of an argument by arranging the information and ranking them for an argument. The purpose of this research is to adopt the knowledge management in planning a city master plan and to develop the systematic tool for the consensus decision-making in planning a city master plan. This tool supports a resident group for making a city master plan.

2. Methodology

2.1. RESEARCH IN ACTUAL PROJECTS

Details of the decision details of the city master plan in Nagareyama-shi, Japan are clarified. And, the problem in the details is clarified. In addition, generated information and document are clarified. Details of making describe the problem by the text as follows.

- 1) Preparation period : It was appealed to the administration that the citizens volunteer combined with the citizens the administration and made it.
- 2) Holding of the citizens study association : Ten study association was held by the administration sponsoring.
- 3) Establishment and holding of the citizen's conference : The citizens conference was established through the preparation association, and the examination of the master plan making began.
- 4) Rough draft examination and rough draft making : It divided into four regions, and the examination of the rough draft making started.
From an example in Nagareyama-shi, Chiba, it was found that information generation of arguments is consisted of following four stages. i) Recognition between the persons concerned, ii) Policy, analysis for plan making, iii) Plan making, iv) evaluation, a stage of review.

2.2. DEVELOPING THE SHEET SYSTEM

A sheet is a card type data with hyperlink to other sheets. A presentation format and a printing format are prepared in the sheet system. The sheet system consists of six categories of sheet groups, which are a) total policy sheet, b) making policy sheet, c) fundamental plan examination sheet, d) record sheet e) relating tool instructions, and f) relating library sheet.

A sheet code is defined by the category of the sheet, the keyword in the category, and the version of each sheet, to store them into database with corresponding to a making plan process. Thus, the sheet can be searched according to a making plan process, and supports planning work efficiently.

The sheet system is the web-based tool, which runs with Internet Information Server on Windows platform. Therefore, participant needs only a web browser to review of their discussion.

There are four major functions of the sheet system to provide to the user. First, a user can access and browse each sheet from the index sheet with the problems of each sheet consolidated. Secondly, the full-text search function is contained in the index sheet. When a user input a specific keyword or sentence, the sheet with the keyword is displayed. Thirdly, a new sheet can be created from the same formatted existing sheet. When the content of the sheet

is edited, Base-XML file is updated automatically. Fourthly, the user can upload document file described with any application to the web-server. The links of the file displays on the sheet.

As a case study the participant in the workshop in Nagareyama-shi used the prototype to evaluate the system. They operated the prototype system by themselves as a testee. Then they answered the evaluation questionnaire. Moreover, the author operated the prototype, and the evaluation questionnaire was executed to the participant. In both evaluations the sheet system obtained high appraisals.

3. Conclusion

According to the result from the questionnaire of a system evaluation, the effectiveness of information rearranging function, information sharing function, and a planning support function were confirmed as a support system for collaborative city master planning. The period and the holding frequency decreased by this system adoption, and the result that the load of participation and management decreased were obtained.