

Data Management System at Research Institute for Humanity and Nature (RIHN)

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¹RIHN

Research Institute for Humanity and Nature (RIHN) is an inter-university research institute affiliated with National Institutes for Humanities (NIHU), and conducts fourteen research projects. The mission of RIHN is to conduct integrative and cooperative research that examines and clarifies the interactions between human and biophysical systems. Therefore, above mentioned projects gather various data by using interdisciplinary methods. Indeed, this accumulated data is not only from natural science fields but also from humanities and social sciences by utilizing questionnaire methods in sociology, statistical data collection in economy, interview records in cultural anthropology and document cataloguing in historical sciences. Hence, data management at RIHN includes both accumulation and utilization of various data.

(1) How to accumulate various data?

Initially, there are problems caused not only by extensive variability of the data, but also by temporary position of the researchers, who are responsible for the data collection, at RIHN. After completion of a project, related researchers have to move to other institutions or universities. Therefore, information about the research data of any project including objectives, methods and accuracy of the data are often lost.

Today, projects' research data is accumulated into a storage system named "RIHN Archives". This system provides an access to any data related to projects including members' list, history and publication list of the projects. The objective of this system is to archive related data with metadata instead of just searching for them. Although documents, such as research reports, have been mainly accumulated into this system, further research data will be accumulated according to newly developed metadata and procedures.

(2) How to utilize various data?

RIHN has tried to develop a comprehensive mechanism of databases between RIHN and other research institutes and/or universities. It is expected that this work can increase data availability and discovery of new relationship among different data. For example, RIHN's database for environmental study was experimentally linked with databases developed for area studies of the Center for Integrated Area Studies, Kyoto University (CIAS) using SRW/U (Search/Retrieve via the Web or URL) search protocol. Metadata used in RIHN's and CIAS' databases are based on EML (Ecological Metadata Language) and MODS (Metadata Object Description Schema) respectively. Additionally, RIHN has attempted to link two kinds of metadata, MARC (MACHINE-Readable Cataloguing) for libraries and ISO-19115 for Geographic Information Science (GIS). The aim is to reveal seamless utilization between old maps stored in libraries and electric geographic data for GIS. RIHN also tries to develop fundamental datasets under a NIHU project "Resource Sharing System for the Humanities". For example, ontology dictionaries are datasets describing relationship between subjects and can be useful to find research data among various scientific fields. Gazetteers are datasets to relate place names with latitudes and longitudes, and allow to link records in historical documents with scientific data, using GIS.

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