

Asian Maps in Area Informatics : Collection and Utilization

Mamoru SHIBAYAMA

Kyoto University

sibayama@cseas.kyoto-u.ac.jp

Maps which play the important role in Area Studies vary in type of map such as topographic map, thematic map, demographic, and so on together with the satellite images and aerial photos. The utilization of maps differs in purpose of use not only for georeferencing spatial object and recording events, but also for analysis of events and phenomena, visualization and communicating geospatially.

Center for Southeast Asian Studies, Kyoto University (CSEAS) has the facility of map repository, which allows users to be referenced with about 28,000 maps including a rare collection “Gaiho-zu”, with emphasis on Asian maps. In this report, the map digitalization and the utilization of maps in CSEAS and in Area Informatics project are introduced and discussed based on the following points.

1. Map Collection and Preservation

(1) Asian Maps and Digitization

Map repository in CSEAS covers South Asia, China, Korea Peninsula, and the periphery of Japan as well as Southeast Asia including the “Gaiho-zu” which produced by the old Japanese army in about 1945. The digitalization for around 1,700 maps has been done with geo-referencing.

(2) Web Site: ARIS (Asia Africa Regional Information System)

Asian topographical maps can be referenced online : <http://www.cseas.kyoto-u.ac.jp/>

(3) Map Collection in Area Informatics Project

Hanoi historical maps more than 300 images as digital form have been collected from Vietnam and France under the project on Area Informatics supported by the grant-in-aid, Scientific Research (S) by JSPS.

2. Map Utilization in Area Informatics : Hanoi Urban Transition in 19-20c.

(1) Analysis of Events and Phenomena on Historical Maps using GIS/RS

Social changes and urban development of Hanoi in French colonial period have discovered based on maps from 1873-1936. Key point was that the vectorization of paper historical maps that afforded analyzing of urban changes. Using several GIS techniques such as overlay, buffering, Voronoi diagram, and so on, new insight were obtained on the development of Hanoi City through time.

(2) Creation of 3D Land Surface Model and its Application for Historical Studies

3D land surface model was built by extracting the elevation data from the maps in 1950 and 2005, and the changes and comparison among both models have been studied. New findings on urban topography were obtained through building 3D model. It also can be applied to the sustainable urban development.

3. Importance of Standardization for Meta Information

It is important and necessary to consider standardization for sharing map resources in area studies. Meta

data searching systems for map information were also developed as a part of this study.