

## STAFF EDUCATION FOR NATIONAL MAPPING IN JAPAN IN THE CONTEXT OF NSDI

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### BACKGROUND

It is clearly deduced that the education of the staff of national and local governments in charge of production, preparation and distribution of geospatial information has become more important in the era of NSDI. However, it seems that such education has been attached little importance under the pressure of the curtailment of the governmental expenditure. In the paper, the author reviews the history and the present status of the staff education for national mapping in Japan.

### HISTORY OF STAFF EDUCATION FOR NATIONAL MAPPING IN JAPAN

In Japan, modern surveying technology was rapidly introduced after Meiji Restoration (1868) by the government. Several surveying/mapping/cadaster agencies were founded, which were merged into Army Land Survey Department in 1888. In the same year, the Technology Training School was founded in the Department. They provided two one-year training courses, Primary Course for the newly employed technical staff and Advanced Course for the staff with approximately ten-year work experience. This training system has been continued after the abolition of the Japanese Military after the World War II. The work, staff and technology of the Army Land Survey Department were transferred into the newly established Geographical Survey Institute (GSI; renamed the Geospatial Information Authority in 2010), as well as the Technology Training School was reorganized as a part of the College of Land, Infrastructure, Transport and Tourism (CLIT). The curricula of training courses of CLIT has been changed reflecting the progress of the technologies and the development of the policies, including not only the traditional skills for surveying and mapping but also up-to-date issues such as the development of NSDI, digital photogrammetry, web mapping and the location based service technology.

### PRESENT TRAINING SYSTEM FOR YOUNG STAFF

At present, CLIT provides two long-term training courses for young GSI staff.

#### 1) *Land Surveying Course*

This course is for the newly employed technical staff of the GSI. Total term is 328 days (1,459 hours). This is mandatory for newly employed technical staff of GSI (who passed the level 2 recruitment examination). It is qualified to give national Assistant Surveyor license to students who completed the course. The lecturers of CLIT mainly teach lectures and practices.

#### 2) *Advanced Land Surveying Course*

This is for the technical staff of GSI with five to eight years work experience. Total term is 80 days (395 hours). All the young technical staff of GSI are expected to participate in. Lectures are mainly taught by the lecturers invited from outside (professors of universities, senior GSI staff, executives of private surveying and mapping companies etc.).

#### 3) *Why such education system has been adopted?*

In higher education in Japan, surveying is mainly taught in civil engineering department, faculty of engineering or forestry department, faculty of agriculture in many universities, and cartography is taught in geography course. There is no surveying department at universities in Japan. GSI is a part of the Government of Japan. Candidates for employment of GSI should be the passers of the common recruit examination operated by the National Personnel Authority. Newly hired GSI staff is not necessarily specialized in earth science nor geography, much less surveying and mapping. Therefore, GSI should train the staff as the specialists in surveying and mapping by itself after the employment. Surveying and mapping technology is so special that it is necessary to train the staff through not only on-the-job training but also concentrated training at specially equipped facility under experienced lecturers.

### NSDI ACT AND NURTURING OF HUMAN RESOURCES

In 2007, the Basic Act on the Advancement of Utilizing Geospatial Information (NSDI Act of Japan) was enacted, whose purpose is to advance policies concerning the utilization of geospatial information in a comprehensive and well-planned manner by establishing basic principles and clarifying the responsibilities of the national and local governments. One of the most important provisions of this act is that the national government should provide free large-scale (1:2,500) seamless fundamental geospatial framework data

through Internet by collecting the geospatial data produced by the local government. Thus, local governments should act an important role for the promotion of utilizing geospatial information by preparing large-scale geospatial data under this Act. Therefore, the staff of the local governments should possess the certain knowledge and technology of NSDI as well. In this context, CLIT has started to provide various training courses for the local government staff concerning such as applications of GIS in policy making, ecological city planning and disaster mitigation, production of the fundamental geospatial data and the geographic information standards.