3-3 Transmitting Image of Disaster Area and Offering Image Analysis Technique

3-3-1. Sentinel Asia

(1) Objective

The Asian Disaster Reduction Center (ADRC) continues to participate in the Sentinel Asia project. The project was launched in 2006 with an objective of establishing a disaster risk management system by making the use of satellite images in Asia. ADRC functions as the focal point to receive emergency observation request in the framework of the Sentinel Asia. Upon receiving a request, ADRC decides whether the request is appropriate and whether the emergency observation should be utilized mainly for the assessment of damages and casualties. Based on its own judgment, ADRC will forward the request to five space agencies, namely, ISRO (India), JAXA (Japan), GISTDA (Thailand), KARI (Korea), NARL (Taiwan) that are participating in the Sentinel Asia Project.

In accordance with the Cooperation Agreement between the United Nations Office for Outer Space Affairs (UNOOSA) and ADRC signed on 4 June 2009 ADRC UN-SPIDER Regional Support Office was established, for the purpose of UN disaster management and immediate response, within ADRC premises and operated by ADRC staff members as coordinators of the ADRC UN-SPIDER RSO.

ADRC, as a UN-SPIDER RSO, should work towards ensuring the successful completion of the UN-SPIDER Work Plan thereby facilitating countries in Asia to have access to and develop the capacity to use space-based information to support the full disaster management cycle.

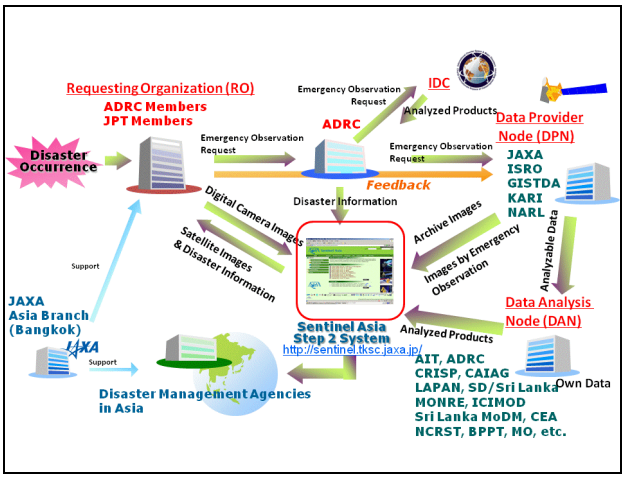

Fig. 3-3-1-1 Flow of emergency observation

(2) Activities for this year

① Emergency observation

From January to December 2012, twenty-five (25) emergency observations were requested, and nineteen (19) were undertaken.

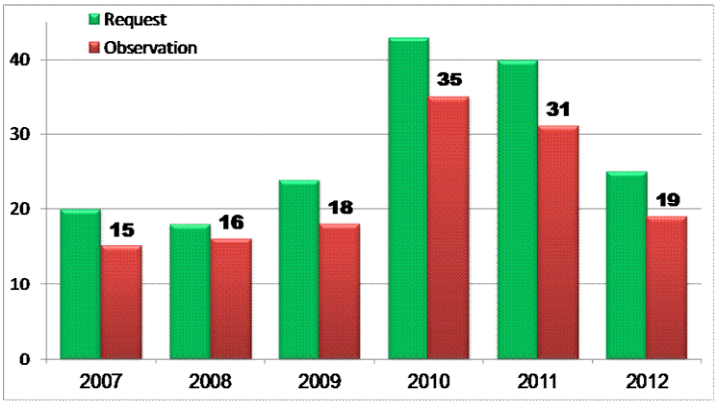

Fig. 3-3-1-2 Changes in the number of emergency observation 2007-2012

② Capacity building

The Sentinel Asia project conducted training seminars twice last year. The training seminars aim at providing those who work for disaster management with the information on how to utilize the Sentinel Asia System, for instance, visualization or interpretation of satellite data obtained through the Sentinel Asia. On February 2012, first training seminar was implemented in Bangkok, Thailand. And on October 2012, second seminar was done in Jakarta, Indonesia.

ADRC gave a lecture consisting of three themes titled "ADRC Activities", "ADRC's role on Sentinel Asia Activities" and "Requests by disaster management organizations towards the Sentinel Asia Step 3".

Fig. 3-3-1-3 State of the training seminar

3-3-2. Research on the Utilization of Satellite Image in Asia-Pacific Countries

(1) Objectives

The ADRC under contract with the Japan Aerospace Exploration Agency (JAXA), visited various organizations to conduct research on the utilization of satellite images in Asia-Pacific countries. The purpose of this project is to ascertain present needs concerning the utilization of satellite images in the field of disaster mitigation and to consider strategies for improving management of the Sentinel Asia Project.

(2) Outline

We have investigated the following:

1) Current situation survey
2) Needs Assessment
3) Development of research results (Presentation at International Conferences)
4) Proposals towards Sentinel Asia Step 3

(3) Progress

ADRC gave a status update on the Sentinel Asia Project and shared ideas about specific ways that satellite images can be (or are being) used in disaster mitigation activities in each country. Needs resulting from the study can be divided into the following three items.

[Capacity Building]

- ✓ It is difficult to understand the range of the flood from satellite imagery.
- ✓ It is difficult to request emergency observation using the web system.
- ✓ Lack of personnel and equipment for analyzing satellite images.
- ✓ Need training in order to use satellite imagery in an emergency.

[Operating Systems Revision]

- ✓ Need for satellite images immediately after the occurrence of disaster.
- ✓ Need to observe before a disaster occurs.
- ✓ Need to shorten operation hours from EOR to observation.

[Expansion of facilities]

- ✓ Need to observe by SAR (Synthetic Aperture Radar) sensor.
- ✓ Need for equipments to download large amounts of satellite imagery.