INTRODUCTION OF DIGITAL ASIA NETWORK (DAN)

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ABSTRACT

Digital ASIA is an initiative to provide people and communities with easy access to geo-spatial information over the Internet through open sharing of GIS and Remote Sensing Data among all the countries of Asia. Digital ASIA will strive to provide technological support and know-how for delivery of up-to-date information from various countries and regions promptly and cost effectively, and thus speed up the implementation of Spatial Data Infrastructure for sustainable social and economic development. Digital ASIA will form Digital ASIA Network (DAN) to bring together all concerned participating people and agencies, and to provide a place where they can obtain useful information for developing their applications and demonstration systems. As a three year activity, DAN would support participants efforts to link these systems to demonstrate the usefulness of data availability and data sharing to society. This paper describe the overview of DAN concept as well as three years plan.

1. INTRODUCTION

Digital ASIA concept was originally proposed by Prof. Honda, AIT and Digital Asia is an initiative to provide people and communities with easy access to geo-spatial information over the Internet through open sharing of GIS and Remote Sensing Data among all the countries of Asia. Digital ASIA will strive to provide technological support and know-how for delivery of up-to-date information from various countries and regions promptly and cost effectively, and thus speed up the implementation of Spatial Data Infrastructure for sustainable social and economic development. Digital ASIA will form Digital ASIA Network (DAN) to bring together all concerned participating people and agencies, and to provide a place where they can obtain useful information for developing their applications and demonstration systems. As a three year activity, DAN would support participants efforts to link these systems to demonstrate the usefulness of data availability and data sharing to society.

2. OBJECTIVE OF DIGITAL ASIA NETWORK

The main objectives of Digital Asia are (1) to develop a mechanism for data sharing, so that partners can participate easily, (2) to provide a guideline for developing applications and demonstration systems, (3) to help any agencies who would like to open their data, through sharing technical

knowledge and training, (4) to stimulate development of demonstration systems which will be the basis of a future operational system , (5) to develop common tools which are useful to open data to the public easily if needed and (6) to share experience and "lessons learned" through developing demonstration systems among participating agencies.

The main contribution of Digital Asia will be to provide individuals and communities with easy access to geo-spatial information over the Internet through open sharing of RS and GIS data among all the countries of Asia, and support them to utilize RS/GIS resources for sustainable socioeconomic development in the Asian region.

3. CONTENT OF DIGITAL ASIA NETWORK

There are three main activities in Digital Asia Network. First activity is to organize the Digital Asia Network (DAN) to coordinate each agency initiative for data sharing. Second activity is to stimulate Open GIS compliant DAN Web Map Server demonstration system development by participant agency in cooperation with a DAN technical support team. Final activity is to hold a workshop, training and education program for capacity building of information technology (Web technology), GIS technology and remote sensing technology.
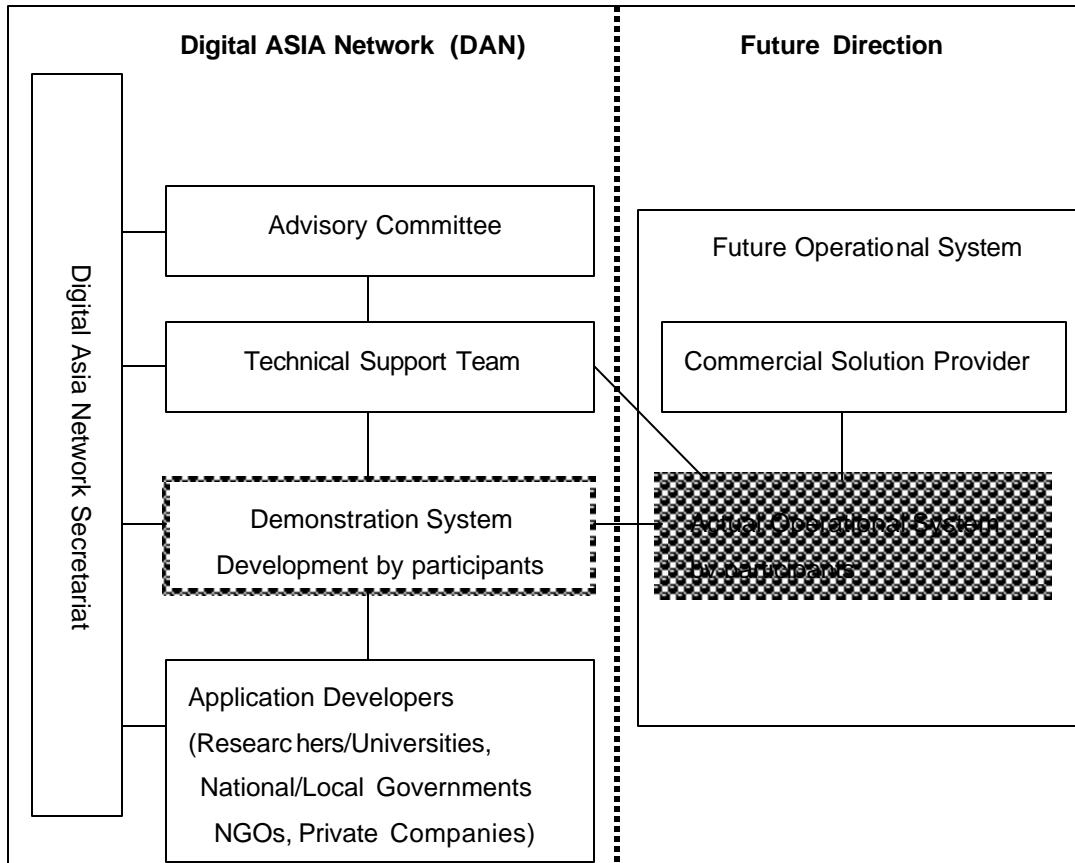
4. DAN STRCUTRE

The DAN club consists of advisory committee, voluntary technical support team, application developer and secretariat.

- **Advisory Committee** will propose and coordinate concepts, direction, future plans, and fund raising issues.
- **Technical Support Team** will support the development and implementation of demonstration systems and application systems by participating agencies as well as develop common tools for data sharing as a freeware with voluntary base.
- **Application Developers (participating agencies)** will include researchers, institutions, government organizations, private companies, etc. Application Developers will open their data to the public and share their data under the Digital ASIA Network concepts in order to promote the utilization of the data among DAN partners. Further, it is recommended that Application Developers also develop a practical demonstration system of spatial database and related applications.
- **Secretariat** will support overall management of DAN and its activities (e.g. training, educational activities and DAN home page operation). A workshop will be held every year to promote DAN activities. AIT/ACRORS plays a role of DAN secretariat.

ACRoRS, AIT, CCOP, Chiang Mai Univ., Chulalongkorn Univ., GISIDEAS, GISTDA, KhonKean Univ., Osaka City Univ., RESTEC, SEASTART, Thai Royal Forest Department, NASDA, UNEP-GRID, UNESCO, and UN-ESCAP are possible participant agencies for DAN. NASDA already commits to

support to hold a workshop and some training to promote DAN activity and tries to coordinate DAN activity with relative activity such as CEOS (Committee on Earth observation satellites) and APAN (Asia Pacific Advanced Network).

Digital ASIA Network (DAN)	Future Direction

Digital Asia Network Secretariat

Advisory Committee

Technical Support Team

Demonstration System
Development by participants

Application Developers
(Researchers/Universities,
National/Local Governments
NGOs, Private Companies)

Future Operational System

Commercial Solution Provider

Actual Operational System
by participants

5. THREE YEAR PLAN

Digital ASIA will form Digital ASIA Network (DAN) to bring together all concerned participating people and agencies, and to provide a place where they can obtain useful information for developing their applications and demonstration systems. As a three year activity, DAN would support participants efforts to link these systems to demonstrate the usefulness of data availability and data sharing to society. Three year plan for DAN is already defined as below;

3 Year Plan (Apr 2002 - Mar 2005)

	2002	2003	2004
Advisory Committee	Workshop (ACRS, GMS meeting (TBD))	Workshop/Committee	Workshop/Committee
Prototype/Demonstration System Development by participating agencies	Preliminary development of prototype demonstration system	Demonstration system development	Evaluation of demonstration system (lessons learned)

DAN Secretariat	Develop/update HP, mailing list, organize workshop	Update HP, mailing list, organize workshop, tool uploads	Update HP, mailing list, organize workshop, tool uploads

6. DEMONSTRATION SYSTEM

DAN would like to stimulate the development of many demonstration systems by participating agencies. As a three year activity, DAN would like to link these systems developed by participating agencies to demonstrate the usefulness of opening data and data sharing to society.

- Search Engine system for Remote Sensing Images - NOAA/MODIS data received at the ACRoRS and Vietnam receiving station (AIT).
- Sea/Coastal Zone data (SEA-START).
- Ton Le Sap environmental information database shared by stake holders (AIT).
- Urban geological information system from the Asian region (CCOP).
- PLANET (AIT, NESDB-JICA).
- Vietnam Flood Map (TBC).
- Cultural heritage map in Ayuttaya (AIT).
- Livestock management (Chulalongkorn Univ.).
- Laos national resource database (Laos).
- Digital Mekong (TBC).

7. Standard Software Environment for DAN Technical Support

In order to improve technical support for implementing DAN demonstration systems, the DAN technical team can support the following system environment.

Server: LINUX (Mandrake 8.2), Windows 2000

WMS: Minnesota Map Server or other OGC compliant servers as the situation requires

SQL: PostgreSQL/mySQL or SQL92 Compliant SQL

8. NEXT STEP

To promote DAN activity to invite agency participation from Asia, we will plan to hold the following workshop by AIT and NASDA.

- DAN special session @ ACRS at Nepal 11/25-29, 2002
- Joint session of DAN with GOFC SE Asia as APAN Earth Monitoring WG @ APAN at Fukuoka, 1/25-28, 2003 including CEOS GISD demonstration
- DAN special session @ GMS (Great Mekong Subregion) workshop at AIT, February 2003

9. CONCLUSION

The key of successful implementation of DAN is to increase a number of data sharing under the

mutual agreeable cooperation among Asian agencies, universities and commercial entities. To do that, in this phase, it is very important to outreach the content of DAN with a benefit to join DAN. Thus, NASDA and AIT will continue to hold DAN special sessions and have IT technology training and education course.