

# JAXA/AIT Collaboration for Capacity Building in Asia-Pacific

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## *Content*

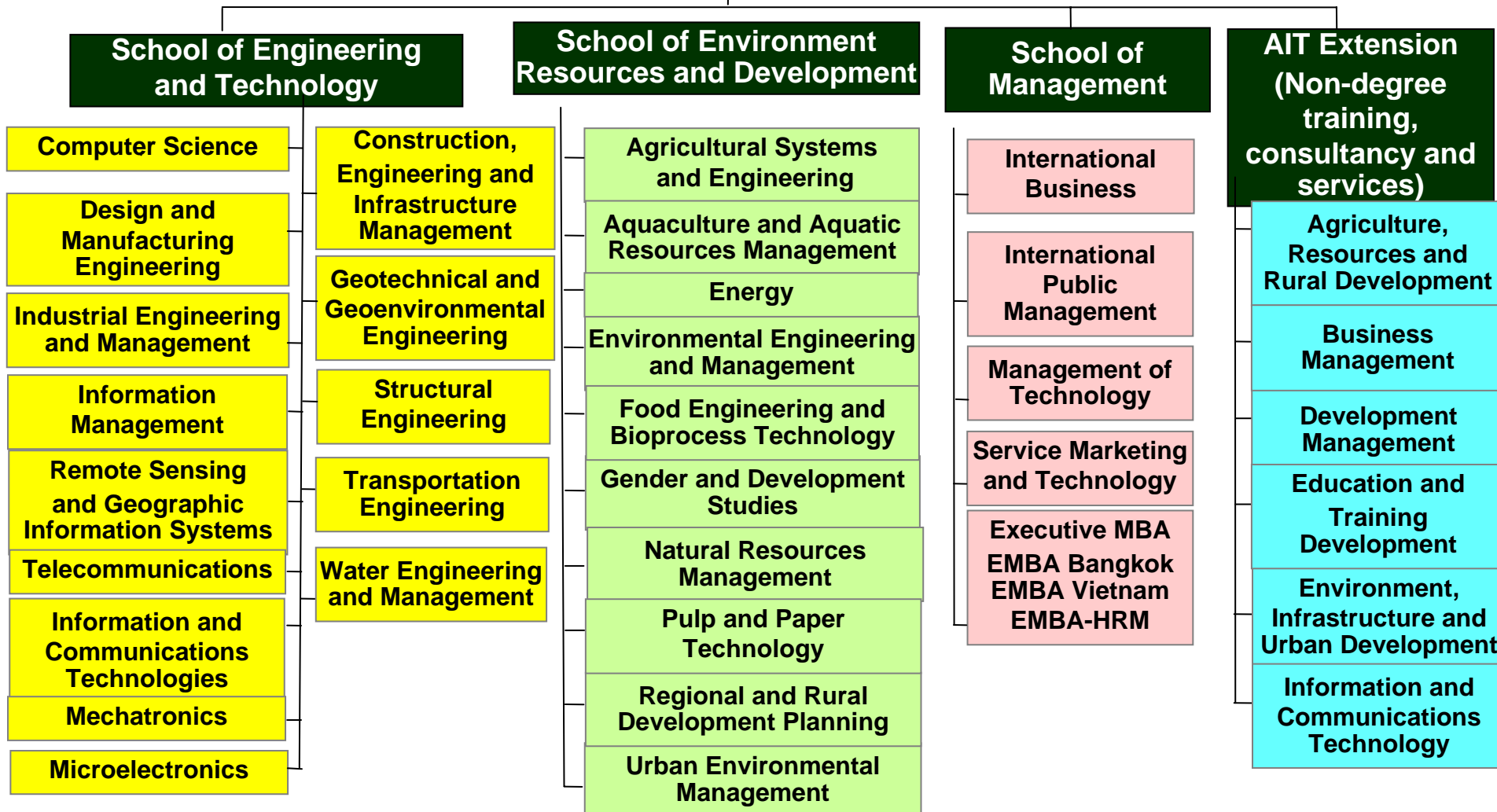
- **Education and training for capacity building (JAXA collaboration)**
- **Infrastructure for capacity building (Keio University collaboration)**



**Establish in 1959**

**Post Graduate School - Establish in 1959**

## AIT Academic Structure Schools and Extension



# Key Numbers - 2005

- 1983 Students from 46 Countries
- 13268 Alumni from 74 Countries/Territories
- 19000 Short-term Trainees from 71 Countries/Territories
- 200 Faculty from 29 Countries
- 1000 Research and Support Staff from 30 Countries
- 270 Sponsored projects
- 30 Board of Trustee members from 25 Countries
- Consolidated Budget: 33 Millions US \$
- Operating Budget: 15 Millions US \$

## Education

- ✓ Master and PhD Programs
- ✓ Diploma and Certificate Programs
- ✓ 3 Permanent Faculties and more than 10 adjunct faculty members
- ✓ Around 80 students (2006)

## *Research/Training Center*

- ✓ ***Geoinformatics Center for carryout outreach activities***

Multidisciplinary Programs (SET & SERD)

- ✓ Disaster Management Engineering



## Characteristics

**Self-funded outreach center for dissemination geo-spatial technology, specifically in Asia**

## Major Activity Areas

- ✓ **Carryout Training courses at AIT**
- ✓ **Conduct Training Locally (Caravan)**
- ✓ **Pilot Projects (Training/consulting)**
- ✓ **Receiving & Distributing satellite data**
- ✓ **Conduct Workshops and Conferences**
- ✓ **Applied Research**

## Composition of GAC Trainees 1995-2004

<i>Country</i>	<i>Trainees</i>	<i>Country</i>	<i>Trainees</i>
Bangladesh	95	Malaysia	17
Bhutan	5	Mongolia	14
Brunei	3	Myanmar	35
Cambodia	46	Nepal	73
China	13	Pakistan	20
Ethiopia	1	Papua New Guini	1
Fiji	7	Philippines	69
Hong Kong	3	Singapore	4
India	29	Sri Lanka	86
Indonesia	110	Taiwan	1
Iran	2	Thailand	132
Japan	9	UK	2
Korea	2	Vietnam	91
Lao PDR	47	<b>Total</b>	<b>917</b>

## Capacity Building Activity at GIC/AIT

- 1. Local Training through Caravan Training Programs**
- 2. Training through Mini-Projects on RS/GIS/GPS data usage in real-world applications on various topics**

### **Other Activities**

- 1. Development of Digital Asia platforms and training on Internet Web Mapping (Keio University Support)**
- 2. Map Products Development**
- 3. Tsunami disaster mitigation project (USAID)**
- 4. Poverty Mapping (ASEAN)**

# Caravan Training – Characteristics

- ✓ ***Locally conducted***
- ✓ ***Opportunity to larger audience***
- ✓ ***Generally for one-week & for about 20-30 participants***
- ✓ ***Organized and coordinated by local partner***
- ✓ ***Address a Sentinel Asia topic relevant to the country***
- ✓ ***Case study develop at GIC with most suitable satellite data including JAXA archived and ALOS***
- ✓ ***30% lectures and 70% hands-on***
- ✓ ***Target integration of RS/GIS in selected topic***

# Caravan Training - Plan

## **Plan for 2006**

- ✓ October 23-27, Flood Disaster Mitigation (Cambodia)
- ✓ November 27-1, Multi Hazard Mapping (Philippines)

*(Initial discussions are completed with Geography Department and Dept of Hydrology & River Works of Cambodia and PHIVOLCS and NAMRIA of Philippines)*

- ✓ ***Training and capacity building through real-world projects such as flood, landslides, etc.***
- ✓ ***Involve data/service provider agencies and services/products user agencies,***
- ✓ ***Develop theoretical aspects and identify most appropriate data analysis and integration technique***
- ✓ ***Calibration/validation through field observations***
- ✓ ***Generate products with participation of both users and service providers***
- ✓ ***Develop case studies to share in the region***

# Mini-Projects - Implementation

- ✓ Submit proposal at Asia Pacific Regional Agency Forum (APRSAF) **or to JAXA, JAXA-Bangkok Office, or to GIC/AIT**
- ✓ Select proposal considering the field of application and relevancy in satellite data usage. Number of supporting projects depend on funds availability
- ✓ Sponsor two participants from participating **agency or agencies**
- ✓ Initial 2 weeks training at GIC on Basics of RS/GIS/GPS
- ✓ Followed by 2 weeks on the job training at GIC
- ✓ 1-2 week field work and working at local offices by GIC staff
- ✓ 4 week on the job training finalizing output and and annual reports
- ✓ Support for presentation at ACRS/APRSAF for sharing the wealth with others

**Consider a Mini-Project to run for 1-2 years depend on participation and output**

## Mini-Projects - conducted in 2004-05

1. Urban changes – Nepal (Survey Dept)
2. Coastal land use – Cambodia (Ministry of Land)
3. Shifting Cultivation – Laos (Forestry Dept.)
4. Flood Mitigation – Bangladesh (SPARRSO)
5. Paddy Area mapping – Philippines (PhilRice)
6. Mangrove Monitoring – Vietnam (STAC)

## Mini-Projects - conducted in 2005-06

1. Urban changes+Disaster – Nepal (Survey Dept/Urban Plan.)
2. Land use mapping/flood – Cambodia (Ministry of Land)
3. Flood Mitigation – Bangladesh (BDPC/LGED/FFWC)
4. Paddy Area mapping – Philippines (PhilRice)
5. Mangrove Monitoring – Vietnam (STAC/VAST)
6. Landslides Vulnerability – Sri Lanka (CECB/Survey Dept.)
7. Landslides Vulnerability – Philippines (NAMRIA/PhiVolcs)
8. Flood mitigation – Nepal (Survey Dept./DWIDP)
9. Flood mitigation – Vietnam (DMC/RS Center, MONRE)

1	Bangladesh	LGED, FFWC, BDPC	Floods
2	China	NDMC, BNU	Floods
3	Cambodia	Geography Dept, Dept Hydro & River works	Floods
4	Lao PDR	STEA, Dept. Meteorology & Hydrology	Floods
5	Nepal	DWIDP, Survey Dept	Floods
6	Vietnam	MONRE, VAST	Landslides
7	Sri Lanka	NBRO and SD	Landslides
8	Philippines	PHIVOLCS & NAMRIA	Landslides
9	Philippines	PhilRice	Drought
10	Various		Forest Fire



## Current Mini-Project Topics



<b>Bangladesh</b>	<b>Development of optimal flood map using satellite data and MIKE11 model</b>
<b>China</b>	<b>Flood risk assessment using remote sensing and hydrological model in Xiang Jiang river</b>
<b>Cambodia</b>	<b>Flood hazard mapping in three provinces of Mekong river basin</b>
<b>Lao PDR</b>	<b>Application of RS/GIS for flood study of Champhone district of Savanakheth province of Lao PDR</b>
<b>Nepal</b>	<b>Flood forecasting and early warning system in Bagmati flood plain - Nepal</b>
<b>Vietnam</b>	<b>Application of RS/GIS for landslide hazard mapping in a mountainous region of Vietnam</b>
<b>Sri Lanka</b>	<b>Use of deterministic slope stability predicting tools for landslides vulnerability assessment</b>
<b>Philippines</b>	<b>Deterministic Modeling of Rain- and Earthquake-Induced Landslides in Mountainous Environments Transected by an Active Fault</b>
<b>Philippines</b>	<b>Detection of drought prone areas using RS and meteorological approach in Iloilo province - Philippines</b>
<b>Various</b>	<b>Forest fire investigation and field verification</b>

# Current Mini-Project Work Plan

	Step -1	Step -2 (Field)	Step -3
Bangladesh	August - AIT		January - AIT
China	August - AIT	November	January - AIT
Cambodia	August - AIT	October	January - AIT
Lao PDR	August - AIT	October	January - AIT
Nepal	August - AIT	December	January - AIT
Vietnam	August - AIT	November	January - AIT
Sri Lanka	August - AIT	December	January - AIT
Philippines	August - AIT	November	January - AIT
Philippines	August - AIT	November	January - AIT

# Digital Asia Platform project

- Develop a network of Servers in the region for data and information sharing
- Provide technology to establish servers capable of delivering information on the Web
- Convey – sharing is gaining knowledge not losing information
- Strategy – Local to Regional. Regional to Global
- It acquires and disseminates multi-resolution and multi-date geographical information
- Finally, serves as a hub for spatial data infrastructure in Asia

Collaborator: SLAB (WHO, UNESCAP, UNOCHA) for acquire administrative boundary and statistical data

# Summary

## ***Summary of AIT/JAXA collaboration includes;***

- ✓ ***Mini-Project based training for real-world applications including data handling, field verification to product generation***
- ✓ ***Caravan Training conducted locally, on local objectives to larger audience to increase awareness***
- ✓ ***Web Mapping technique training to provide state-of-art of the most discussed technology***
- ✓ ***Converting data into products integrating various GIS data***
- ✓ ***Developing a Human Network for information sharing***
- ✓ ***Share experiences through publications (Web and CD)***

- 1. GIC/AIT could collaborate for Geoinformatics activities in the region. Share your vast experience & knowledge with us.***
- 2. Could offer to host your regional nodes and regional research activities at GIC/AIT with logistics, facilities and staff***
- 3. Look for collaboration in real-world application, specifically in disasters & environmental applications.***
- 4. Join the network of collaborators***
- 5. Collaboration with on-going Mini-Projects for developing space technology and water management applications***

***For info: [www.geoinfo.ait.ac.th](http://www.geoinfo.ait.ac.th)***