

**Capacity Building Needs for
Improved Utilization of
Earth Observation Data
for
Bangladesh**

Md. Mafizur Rahman

Bangladesh University of Engineering and Technology (BUET)
BANGLADESH

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GEOSS AP SYMPOSIUM
Tokyo, Japan

AWCI Contributing to GEOSS:

[integration of earth observation data] + [capacity development] programme

* GEOSS Implementing Agencies
(observations, predictions, data integration)

Integration and use of earth observation data

Satellite data, global network data, numerical forecasting model, assimilation of data

Area data / information

In-situ data

In-situ data

In-situ data

In-situ data

Capacity Building

use of satellite data

* Space Agencies

Research obs, Modeling and analysis

* UNU, universities Research Institute, etc.

In-situ observation River management

* ICHARM, MRC ESCAP, etc.

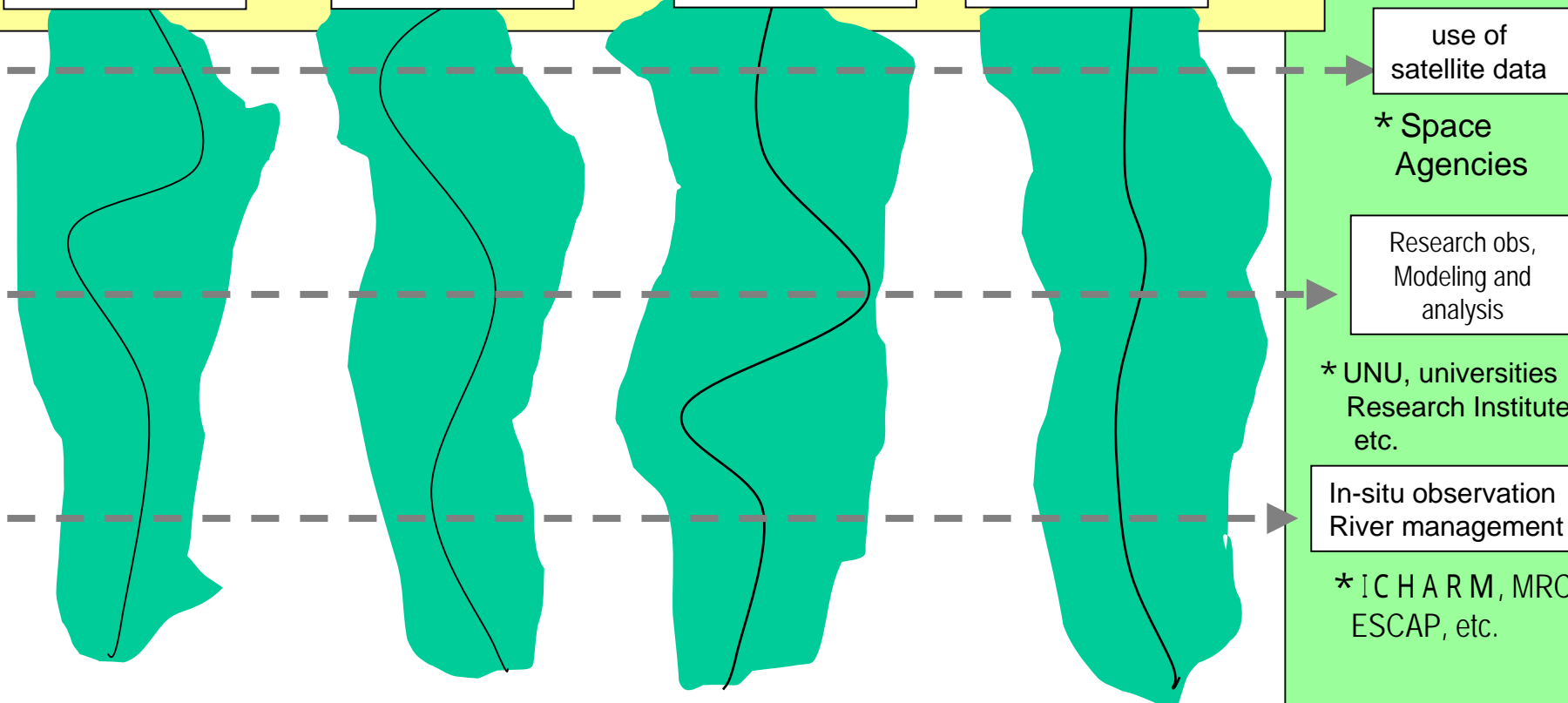
Common items

Basin 1

Basin 2

Basin 3

Basin 4



Requirement of Capacity Building for Bangladesh

- **Earth Observation Data (RS Data)**
- **On site Monitoring system**
- **Software**
- **Training**
- **Information dissemination system**
- **Miscellaneous**

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Climatological data

- Rainfall
- Temperature
- Humidity

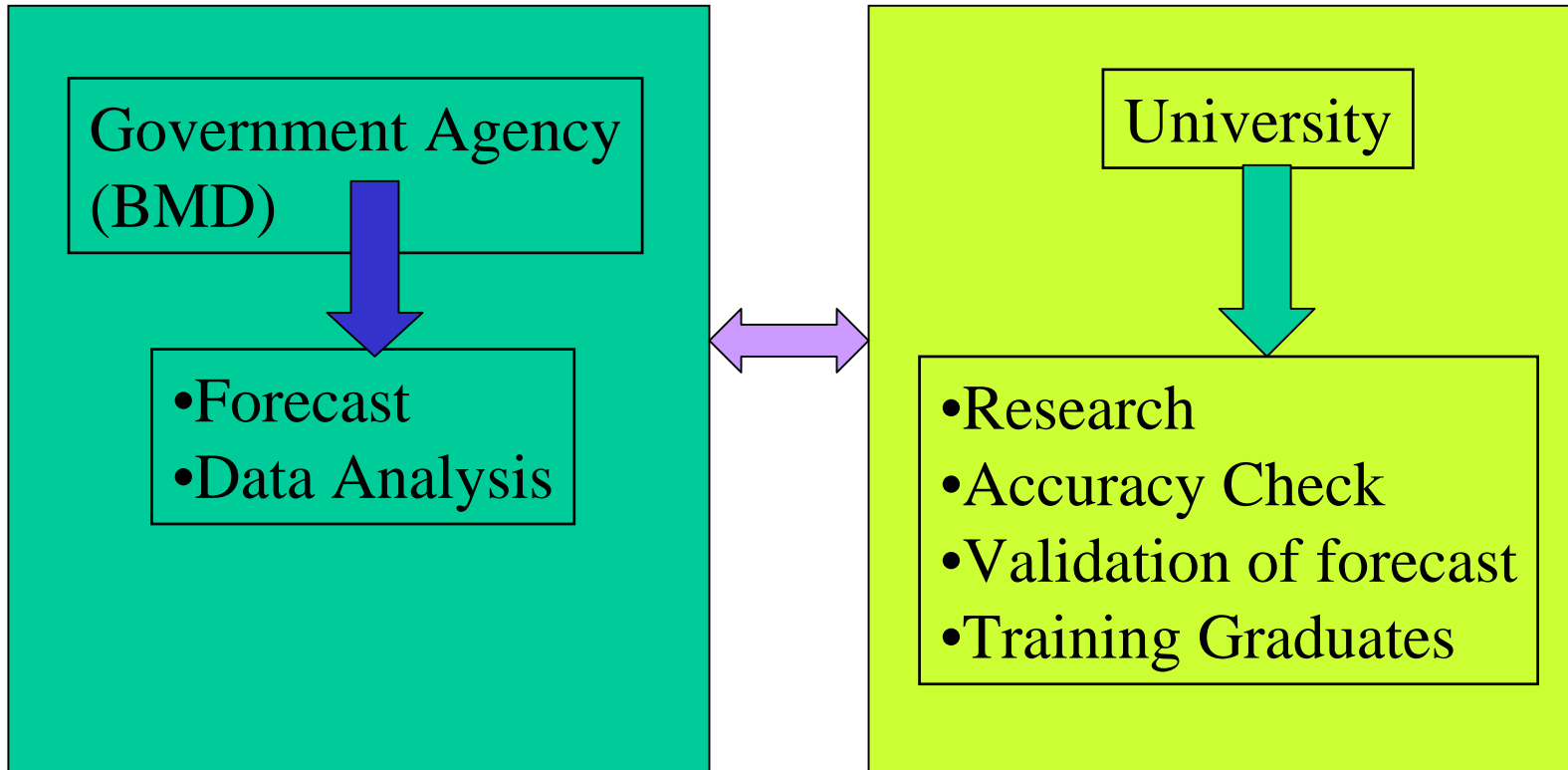
Land Information

- Ground Topography
- Crop Map
- River Course
- Inundation map
- New Urban areas
- Deforestation
- Water Quality

Receiver of Data At Bangladesh Side

- Bangladesh Meteorological Dept.
(BMD)
- Bangladesh Univ. of Engg. & Tech
(BUET)

- B'desh Water Dev. Board
(BWDB)
- BUET
(Bangladesh Univ. of Engg. & Tech)



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Water Quality

River WQ:

Sedimentation, Salinity,
Temp, BOD, TC, FC, EC,...

Land Information

- Ground Topography
- Crop Map
- River Course
- Inundation map
- New Urban areas
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Hydrological Data

River Flow

Water Level

Target Institutions in Bangladesh

Climatological data

- BMD
- BUET

Water Quality

- DoE
- BUET

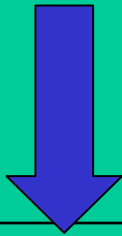
Land Information

- Land Ministry
- BUET

Hydrological Data

- BWDB
- BUET

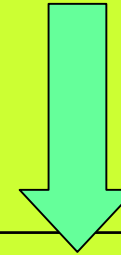
Government Agency



- Forecast
- Data Analysis



University



- Research
- Accuracy Check
- Validation of forecast
- Training Graduates

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- **RS data conversion (Image processing)**
- **GIS**
- **Climatological Forecast**
- **Hydrological forecast**
- **River flood routing**
- **Rainfall runoff models**
- **Water Quality Models (SW and GW)**

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Emphasis on **Training of the Trainers**

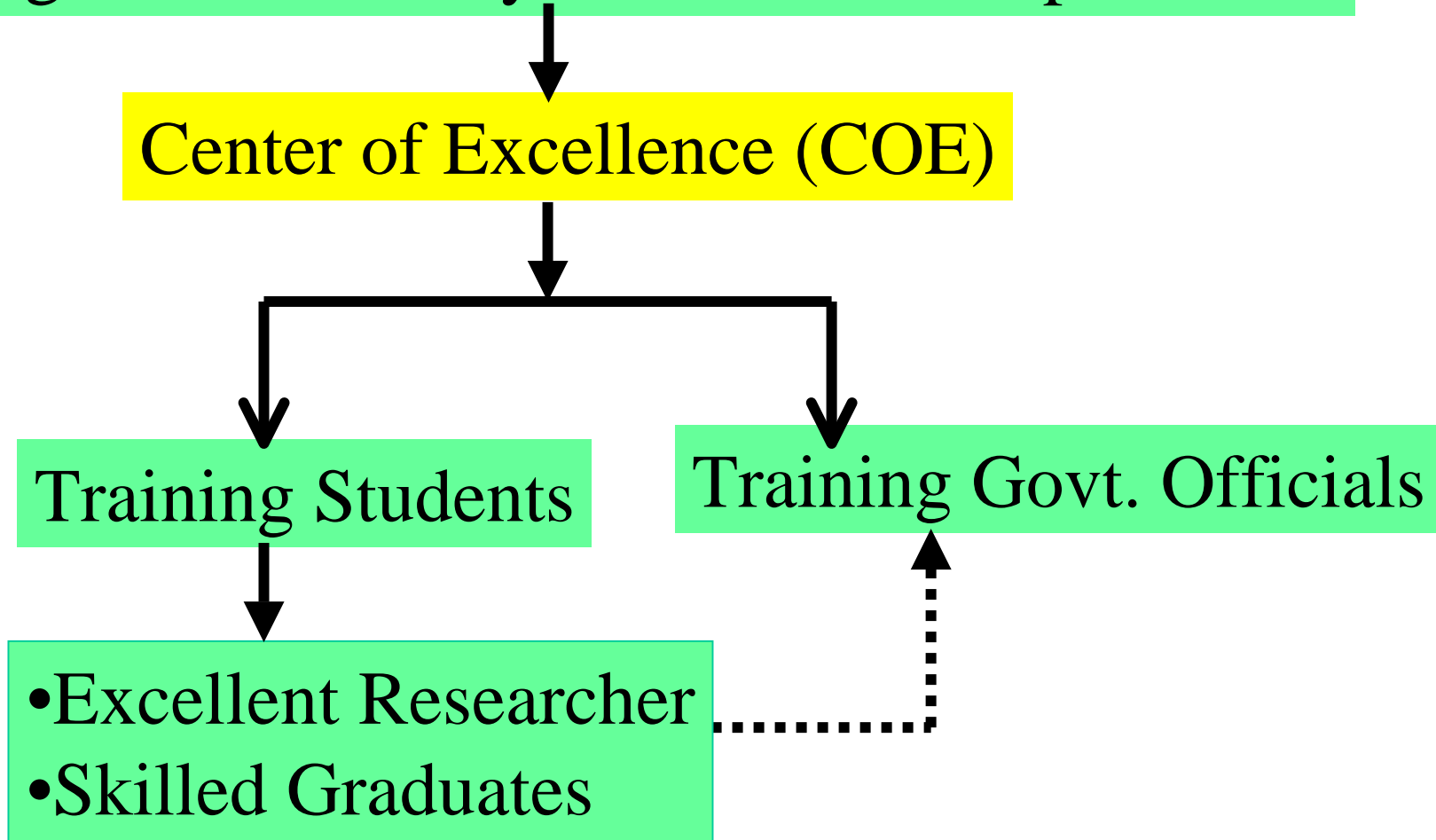
Training The University Faculties/BMD personnel

Center of Excellence (COE)

Training Students

Training Govt. Officials

- Excellent Researcher
- Skilled Graduates



Analysis of RS data

Management of collected data

Automating on site monitoring system

Central data logging system of onsite data

Data management

Data Analysis

Training on the Software(s) (mentioned earlier)

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Utilizing the IT for dissemination of

Information to **respective Govt. Agencies**

Information to **electronic media**

Information to **print media**

Information to **proper area of concern**

Information to **Disaster Management Bureau**

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- **Scholarship for the students (100 per year)**
- **More access to books, literatures, updated**
- **published materials**
- **Infrastructure for high speed Internet**

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Updates may be needed
during/after the
demonstration project