Center for Environmental and Geographic Information Services [CEGIS]

Mission Statement

CEGIS' mission as a scientifically independent center of excellence is to support the management of natural resources for sustainable socio-economic development using integrated environmental analysis, geographic information systems, remote sensing, and information technology.

The Organization

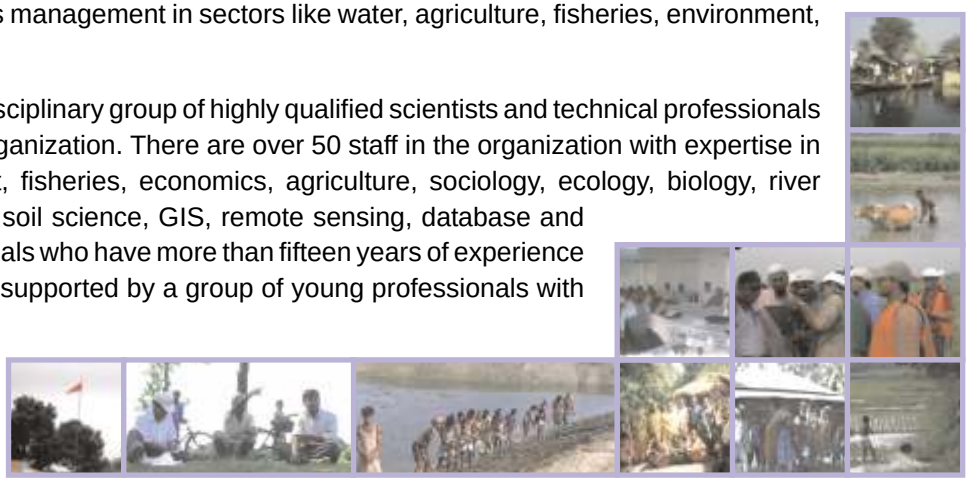
CEGIS was established as a public Trust in 2002 by the Government of Bangladesh and has been functioning under the aegis of the Ministry of Water Resources and a Board of Trustees (BoT). The Chairperson of the BoT is the Secretary, Ministry of Water Resources. Other members are:

- The Bangladesh Water Development Board (BWDB), represented by its Director General (ex-officio)
- The Water Resources Planning Organization (WARPO) represented by its Director General (ex-officio)
- The Department of Environment (DoE), represented by its Director General (ex-officio)
- The Department of Fisheries (DoF), represented by its Director General (ex-officio)
- The Local Government Engineering Department (LGED), represented by its Chief Engineer (ex-officio)
- The Roads and Highways Department (RHD), represented by its Chief Engineer (ex-officio)
- The Department of Public Health Engineering (DPHE), represented by its Chief Engineer (ex-officio)
- Space Research and Remote Sensing Organization (SPARRSO), represented by its Chairperson (ex-officio)
- The Bangladesh Inland Water Transport Authority (BIWTA), represented by its Chairperson (ex-officio), representing the Ministry of Shipping (MoS)
- The Bangladesh University of Engineering and Technology (BUET), represented by an expert in the field of environment and water resources, nominated by the Vice Chancellor of BUET and accepted by the Board.
- University of Dhaka (DU), represented by an expert from the Department of Geography and Environment, nominated by the Vice Chancellor of DU and accepted by the Board.
- A Non-Governmental Organization (NGO) nominated by the GOB, represented by an official of the NGO who is accepted by the Board.
- International Union for Conservation of Nature and Natural Resources (IUCN) represented by its Bangladesh Country Representative.

Expertise

CEGIS performs integrated environmental analysis using technology such as geographic information system (GIS), remote sensing (RS), databases and information technology (IT). It conducts activities to provide solutions to challenges related to natural resources management in sectors like water, agriculture, fisheries, environment, transportation and engineering.

The major strength of CEGIS is its multidisciplinary group of highly qualified scientists and technical professionals who bring a wide range of skills to the organization. There are over 50 staff in the organization with expertise in hydrology, water resource management, fisheries, economics, agriculture, sociology, ecology, biology, river morphology, engineering, ground water, soil science, GIS, remote sensing, database and programming. The senior level professionals who have more than fifteen years of experience in their respective fields of expertise are supported by a group of young professionals with postgraduate degrees. A highly efficient administration and accounts unit supports the activities with a fully computerized financial and project management system.



Sphere of Activities

Environment:

- Environmental and Social Impact Assessment
- Environmental and Social Monitoring
- Integrated Planning
- Socio-Economic and Institutional Analysis
- Specialized Services (river morphology, agriculture, fisheries) etc.
- Training on Environmental Impact Assessment (EIA)

GIS/RS:

- Mapping and Image Processing
- DGPS and GPS Survey
- Spatial Modeling
- Disaster Monitoring and Damage Assessment
- Natural Resources Assessment and Land Use Monitoring
- Assistance for setting up GIS and RS Lab
- Training on GIS and Remote Sensing

Database/IT:

- Design and Development of Database and MIS
- Development of Data Repository
- Design and Implementation of IT Solutions
- Development of WEB Portal
- Development of Data Quality Standard and Guidelines
- Database and IT Training

Facilities

CEGIS maintains up-to-date computer hardware and software. It has a unique hardware base consisting of Windows 2000 based servers with more than 100 computers running under Windows 2000 workstations. It also has specialized hardware for GIS and remote sensing including plotters, digitizers, and a range of laser printers. CEGIS uses the latest version of GIS and RS software, and database and programming including ArcGIS, Erdas Imagine, ArcView, Visual Basic and ORACLE.

Research and Development

CEGIS has a strong systematic research and development (R&D) program. The R&D activities aim to develop new analytical tools, investigate new approaches and methodologies to address existing problems, and research applications of new satellite images. The positive outcomes of the research are later implemented in different projects.

Community Participation in CEGIS Projects

Community participation is one of the most important inputs that make CEGIS projects effective. The organization conducts various activities which involve communities through local level and focus group discussions as well as rapid/participatory rural appraisal, in-depth studies, case studies and household surveys.

CEGIS considered and investigated the Tidal River Management (TRM) identified by the local people as a sustainable solution to the drainage congestion problem. The Water Management Organizations were encouraged to develop an integrated water resources management (IWRM) plan followed by the preparation of an Operations and Maintenance Plan.

Community participation is also integral to the Environmental Monitoring Information Network (EMIN) Project for water sector. EMIN ensures access to information on flood and erosion for the stakeholders on pre-, during and post-event situation.

Active participation of stakeholders was the key to success in the Kopotaksho River Re-excavation Project. Motivation campaigns helped in securing community participation in removing barriers that aggravated drainage congestion in the Kopotaksho River and its adjacent areas.

The Community Flood Information System (CFIS) Project seeks to achieve its goal of reducing vulnerability to flooding in the floodplains through community participation. Several surveys have been conducted using the Participatory Rural Appraisal (PRA) method.

CEGIS initiated intensive public consultation to find out the root causes of the failure of the submersible embankment projects in the haor basins in Sunamgonj, Sylhet, Moulavibazar and Habigonj districts. The stakeholders develop maps that show the damage sites and suggest measures required to revive these projects which would form the basis of the rehabilitation plan.

CEGIS
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