



भारत सरकार
GOVERNMENT OF INDIA
भारतीय भूवैज्ञानिक सर्वेक्षण प्रशिक्षण संस्थान
GEOLOGICAL SURVEY OF INDIA TRAINING INSTITUTE



आईटेक कार्यक्रम के अंतर्गत
भूवैज्ञानिकों हेतु भौगोलिक सूचना प्रणाली पर दशम पाठ्यक्रम
(10 जनवरी, 2019 से 6 फरवरी, 2019)

**TENTH TRAINING COURSE ON GEOGRAPHIC INFORMATION SYSTEM FOR
GEOSCIENTISTS UNDER ITEC PROGRAM
(10th January, 2019 to 06th February, 2019)**

पाठ्यक्रम प्रतिवेदन / COURSE REPORT

The Tenth Course on Geographic Information System for Geoscientists under the aegis of the ITEC and SCAAP program of the Ministry of External Affairs, Government of India, New Delhi was inaugurated on the 10th January, 2019 by Shri Ch. Venkateswara Rao, DDG & Head Mission-V, GSITI, Hyderabad in the august presence of Shri P.S., Anil Kumar, DDG, RTD & FTC, GSITI; Dr. Taraknath Pal, Director (P & P) and other faculty members of the GSI TI. The training programme was conducted at CGMT, GSI TI, Hyderabad from 10th January, 2019 to 06th February, 2019.

The course was attended by 18 participants from 18 countries from Africa, Asia Pacific and Latin America. The programme was funded by the Ministry of External Affairs under The Indian Technical and Economic Cooperation (ITEC) of the Government of India. The main goal of this program is the transfer of technology and generation of skilled manpower and experts with the view to promote social and economic advancement among the people of the developing nations from the different parts of the world. This program is an earnest attempt by the people of India to share the fruits of their socio-economic development and technological achievement with other developing nations.

Shri Ch. Venkateswara Rao, Dy. Director General, Geological Survey of India Training Institute & Head Mission – V emphasized the importance of GIS-based data integration studies in various spheres of scientific domain and advised the participants to be interactive in the theory classes / laboratory, as interaction alone could enhance the quality of teaching and in turn accentuate the level of learning.

पाठ्यक्रम विषयसूची / COURSE CONTENT

The GIS course for International participants included basic as well as advanced techniques in raster and vector geoprocessing. Due consideration was given to the previous feedback, suggestions and professional background of the present participants in designing the curriculum for the ongoing course. The trainees were briefed about the basic concepts of different topics through lectures and demonstrations in the forenoons and they were given exhaustive hands on practice (each provided with one computer system) on different exercises in the afternoon sessions. Course material consisting of handbook on the different GIS topics along with steps for the practice sessions was provided to the participants.

The course was customized to cater to the needs of the participants from different domains, such as, geography, geology, land use / urban planning, surveying, environmental science, agriculture, forestry, natural resources, hydrogeology, etc. The course started with introduction to GIS, followed by spatial data concepts and data models, projection and coordinate systems, georeferencing, GPS & Mobile mapping, capture of point, line, and polygon data, DBMS, advanced editing, topology, domains and subtypes, data and coordinate transformations, spatial data analysis and modeling using Boolean, Index Overlay and Fuzzy Logic, Deterministic and geostatistical interpolation, visualization, map composition and cartography, DEM and its derivative thematic maps using Spatial Analyst, drainage extraction and digital morphometry, site-suitability analysis, and use of GIS in mineral exploration. A large number of exercises on geospatial analysis were done by the trainees independently. The program was formulated in such a fashion that lectures and demonstrations will be restricted to the forenoon sessions while the entire afternoon sessions would be devoted to practical hands-on exercises.

A comprehensive course material, presenting in detail, about the different topics in GIS along with the step-wise procedure for the hands-on practice has been prepared for the benefit of the trainees. A major part of the training will include the use of ESRI's Arc GIS which has developed into robust GIS software with user friendly interface.

परियोजना कार्य / Project Work

A project work was carried out at the end followed by evaluation and presentations as a part of the course using socioeconomic, topographic and remotely-sensed spatial datasets. Each trainee gave a short presentation outlining the utility of the application of Arc GIS in their respective field and in their area of interest. The trainee presented their work which they had been carrying out in their respective countries at the end of the course.

सांस्कृतिक विरासत स्थलों के दर्शन / Cultural Heritage site visit

As indicated by MEA, Govt. of India three day visit to cultural heritage sites around Hyderabad was arranged for ITEC participants especially covering Golkonda fort, Shilparamam, Salarjung Museum, Charminar, etc. Along with these, the trainees had also visited the Nagarjuna Sagar Dam and interacted with the engineers at Dam site related to the electrical and civil components of the dam.

संकाय / Faculty

The faculty for the course comprised Shri R. Balaji, Director, CGMT; Smt. Nidhi Misra, Sr. Geologist, CGMT and Shri A.C. Patra, Sr. Geologist, CGMT as core faculties from GSITI and Dr. Sanjay Das, DDG, GSI, SR, Hyderabad as Guest faculty.

प्रतिभागियों की सूची / List of Participants

Sl. No.	Name	Country	Educational Background	Professional Experience
1	Hebert Parichi	ZIMBABWE	B.Sc. Honours in Civil Engineering	Principal Civil Engineer, Ministry of Local Government Public Works and National Housing
2	Joshua Mahwa	TANZANIA	M.Sc. in Petroleum Geosciences	Assistant Lecturer, University Of Dodoma
3	Moses Lomoro Alfred Babi	SOUTH SUDAN	Degree in Geography	Lecture, University of Juba
4	Bouhidel Said	ALGERIA	Stat Engineer in geodesic science and topographic work	Technical Expert in GIS, Agerian Space Agency
5	Eyasu Solomon Abebe	ETHIOPIA	Master's Degree in Geophysics	Compliance & Monitoring team leader, Ethiopian Energy Authority
6	Nursultan Aipov	RUSSIA	Postgraduate degree in oil and gas geology	Laboratory Technician, Tyumen State Oil and Gas University
7	Areej Mahjoub	SUDAN	GIS Diploma	River Navigation Authority
8	Muhammad A. A. Alfakhori	PALESTINE	B.E. Surveying and Geomatics Engineering (BSc.)	Lecturer, Palestine Polytechnic University
9	Rehema Jedidah Thombozi	MALAWI	Degree in Land Surveying	Drawing Office Supervisor, Malawi Housing Corporation
10	Rakotondrabe Miora Harivony	MADAGASCAR	PhD Student in Geosciences	PhD student and temporary teacher, University of Antananarivo - INGE
11	Etomi Bernard Odiaka	NIGERIA	Master of Science Geomatics	Principal Meteorological Technologist, Nigerian Meteorological Agency
12	Moussa Saddi	NIGER	Bachelor degree in Urban and Regional Planning	Land Manager, Ministry of Land and Housing, Niger
13	Sulakshi Uthpala Kahawala Pathirana	SRI LANKA	Reading Master of Science (Geoinformatics)	Central Environmental Authority
14	Krissan Robin Sade Meredith	JAMAICA	BSc Urban & Regional Planning	Kingston and St. Andrew Municipal Corporation

15	Khac Viet Ba Nguyen	VIETNAM	Master of Natural Resources Management	Lecturer, Vietnam National University of Agriculture
16	Mohamed Momoh Kamara	SIERRA LEONE	Degree in Geology	Trainee Hydrogeologist, Edal Drilling Company
17	Anwar Dhahi Jasim Al Mashhadani	IRAQ	Bs.c in Geology	Assistant Geology, Iraq Geological Survey
18	Faith Chelagat Kiprono	KENYA	Masters of Arts in Economics	Economist, Ministry of Agriculture Livestock Fisheries and Irrigation

प्रतिपुष्टि / Feedback

The trainees praised the efforts of the Government of India and GSI TI in organising this course. They felt that the GSI TI is well-equipped with the necessary hardware and software and possesses a competent and dedicated team of faculty to impart knowledge to the trainees. Overall the participants expressed their satisfaction towards the content, delivery and the cooperation extended by the faculty during the course. All the trainees recognised the utility of the training in their respective domains of activity such as in cadastral mapping, exploration, environmental studies, landuse planning, research and teaching, natural resource management, national geological and exploration database creation and maintenance and capture of GIS layers.



Inauguration of the 10th ITEC Course by Shri Ch. Venkateswara Rao, The Dy. Director General & Head Mission-V, GSITI, Hyderabad



Shri Ch. Venkateswara Rao, The Dy. Director General & Head Mission-V, GSITI, Hyderabad addressing and interacting with the participants of 10th ITEC Course



Certificate distribution to the participants after successful completion of the of 10th Training Course on GIS under the ITEC Program of MEA, GoI.



Group photograph of the 10th training course on Geographic Information System for Geoscientists under the aegis of the ITEC program of the Ministry of External Affairs, Government of India.