UNIVERSITY OF DAR ES SALAAM
INSTITUTE OF RESOURCE ASSESSMENT

TWO WEEKS SHORT COURSE TRAINING ON GIS AND REMOTE SENSING FOR SUSTAINABLE DEVELOPMENT FROM 18TH TO 29TH SEPTEMBER 2023

INTRODUCTION

The Institute of Resource Assessment (IRA) formerly Bureau of Resource Assessment and Land Use Planning (BRALUP) was established in July 1982. The University of Dar es Salaam (UDSM) through the Institute of Resource Assessment (IRA) is implementing short course training as part of its responsibilities toward promoting better education to the people of Tanzania, Africa and around the globe, reaching out to the international community. Short courses trainings are designed to enhance knowledge and skills development among practitioners and professionals who are working on the ground. The trainings are meant to improve technical understanding and developing competency-based practitioners. From these perspectives, the UDSM through IRA has developed short course training on **GIS and Remote Sensing for sustainable development** to enhance skills training in relevant industries and sectors toward achieving high levels of skills, knowledge and professional development among practitioners.

OBJECTIVE OF THE COURSE

To introduce the concept and practical uses of GIS and Remote sensing in mapping and spatial analysis using Tanzania data sets.

TARGET PARTICIPANTS

The target participants are District Councils/municipal staff, researchers in agricultural research institutions, practitioners in forest, wildlife and tourism, land use planners and administrators, environmental officers and researchers, practitioners in energy and water fields, students in Engineering, Natural and Social Science Fields, Archaeology and any other relevant degree are particularly encouraged to apply.

PROJECT DEVELOPMENT

During the course, participants will develop a project using real data available at the Institute of Resource Assessment. Each participant will be given data from her/his own district to take after the course.

MODULES OF THE COURSE

1. GIS and its application
   - Introduction to GIS and its application areas
   - Data types, Data input, processing and manipulation
   - •Introduction to Coordinate Systems, map projection and geo-referencing
   - GIS Database Creation (GIS Functions, Input of geospatial data-Digitizing etc.)
   - GIS Analysis (Single Layer/ Multi-Layer Analysis, DEM generation, 3-D Analysis etc.)
   - Map output generation

2. Global Positioning Systems (GPS)
   - Basic concept of GPS
   - Sources of GPS signal errors
   - How it works
   - Using GPS for data collection and input into GIS

3. Remote Sensing & its applications
   - Overview of remote sensing and its application
   - Sensor types and platforms
   - Remote Sensing Data Types and Formats
   - Image Enhancement and Interpretation
   - Feature Extraction from Remotely Sensed Imagery
   - Techniques for Image classification
   - Data analysis based on classified image

4. Data processing and analysis techniques on land cover/ use changes
   - Data Capture and Preparation (Image acquisition and Processing)
   - Data Manipulation (interpretation, digitization)
   - Data analysis
   - Data Presentation (Map production, Charts, Tables)

SCHEDULED DATE AND DURATION

The training will be for two weeks (Monday to Friday) from 18TH to 29th September, 2023.

MODE OF DELIVERY

The course will be delivered through theoretical and practical knowledge/ experience sharing through a mix of lecturers/ presentations, case studies discussions, and group activities. ArcGIS software will be used during the course and the participants should indicate whether they will bring their own computers (Laptops) or will use those available at the Institute of Resource Assessment GIS/Remote Sensing laboratory.

NOTE: Participants are encouraged to bring their own laptops for software installations and practices.

VENUE

Institute of Resource Assessment (IRA), University of Dar es Salaam Mwalimu Nyerere Main Campus

FEE

Training fee for participants: Local Non-Students 1,500,000 TZS, Local Students 800,000 TZS, Foreign Students 400 USD and Foreign Non-Students 750 USD covering tuition, course materials, a certificate of attendance, lunch and mid-session tea/refreshment only. Fee payment MUST be done before the commencement of the training. Participants will be responsible for their travel costs and upkeep (including accommodation, but upon request, IRA can provide recommendations for affordable accommodation at or close to the training venue). Kindly make payments through the following modes:

For TZS payments use the following account:

Account name:	University of Dar es Salaam
Bank:	National MicroFinance Bank PLC (NMB)
Account number:	20801100001
Swift code:	NMEJTZTZ

For USD payments use the following account:

Account name:	UDSM NBC Samora Ave
Bank:	National Bank of Commerce (NBC)
Account number:	012105005554
Swift code:	NLCBTZTX

AWARD

Certificate of Attendance

HOW TO APPLY

Please fill the online registration form found at the link https://bit.ly/455OlVP. The course will involve a limited number of 50 participants only. The first come first served principle will apply. The application should reach us at least **ONE WEEK** before the commencement date.

Contact Person: Ms. Olipa Simon – Course Coordinator, Tel: +255 754375721

For more details please contact:
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