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RWANDA
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RWANDA NATIONAL COMMISSION FOR UNESCO (CNRU)
P. O. BOX 2502 KIGALI – RWANDA

TRAINING WORKSHOP PROGRAMME ON INTEGRATED GROUNDWATER RESOURCES MANAGEMENT AND BIODIVERSITY IN RWANDA

VENUE: UNIVERSITY OF RWANDA – COLLEGE OF ARTS AND SOCIAL SCIENCES (UR-CASS), HUYE, SOUTHERN RWANDA DATE: 10TH - 13TH DECEMBER, 2019.

Dates: 11-13 December 2019
(arrival on 10 December 2019)

Partners:

UNIVERSITY of RWANDA

CoEB

‘’Hands on capacity building on integrated groundwater resources management and mapping’’ 10th – 13th December 2019 University of Rwanda – College of Arts and Social Sciences (UR-CASS), Huye, Southern Rwanda

Biodiversity assessment and mapping

Introduction

Biodiversity is defined as the diversity of life from genes, species, populations, ecosystems to communities and landscapes, and the interactions between species. Biodiversity both supports and comes from functioning ecosystems. Biodiversity provides the ecosystem services upon which humans rely. These services include pollination services so that people can grow crops and obtain food security, seed dispersal services so that trees will continue to regenerate and provide carbon sequestration services and food for people and wildlife, and many, many other services. Biodiversity generates revenue in the form of nature-based tourism, clean water provisioning, erosion control, carbon sequestration, pollution control, and many others. Biodiversity data are needed for achieving food security, resilience to climate change, sustainable nature-based tourism, climate smart agriculture, and multidimensional poverty indices, to name a few. The data are needed to map, monitor and model changes in biodiversity. This workshop will provide a foundation in biodiversity monitoring and mapping, and will also include a focus on biosphere reserves, as protected areas are the main tool we have to protect biodiversity.

Trainers:

Prof Beth Kaplin, Ag Director, Center of Excellence in Biodiversity and Natural Resource Management, College of Science and Technology, University of Rwanda and Professor in Conservation Science, Biology Dept, College of Science and Technology, University of Rwanda

Dr. Venuste Nsengimana, Deputy Director, Center of Excellence in Biodiversity and Natural Resource Management and Lecturer, College of Education, University of Rwanda

Dr. Apollinaire William, Research Fellow, Center of Excellence in Biodiversity and Natural Resource Management, University of Rwanda

Agenda of the Training - Biodiversity assessment and mapping workshop

Tuesday, 10 December 3:00 – 5:00 pm
Arrival of participants at the training venue in Huye

Day 1 of Training: Wednesday, 11 December 2019

8:00 – 9:00am Arrival/Registration of participants

9:00 – 9:40am Opening ceremony

Introduction of the participants by Ir Dominique Mvunabandi, Director of Sciences, Technology and Innovation, Rwanda National Commission for UNESCO (CNRU)

Welcome note by Mr Albert Mutesa, Secretary General, Rwanda National Commission for UNESCO (CNRU)

Post-2020 global biodiversity framework and capacity building and planning in Rwanda Mrs. Marie Laetitia Busokeye, Director of Research, Environmental Planning and Development, Chairperson of MAB National Committee and CBD Primary NFP

Welcome Address and presentation on training courses by Dr Jayakumar Ramasamy, Senior Programme Specialist & Regional Hydrologist, Head of Natural Sciences, UNESCO Regional Office for Eastern Africa

Speech and Official Opening remarks by Mrs Fatina Mukarubibi, Permanent Secretary, Ministry of Environment(MoE)

Group Photo 10:00 – 10:30

11:00 Welcome and Introductions to the Biodiversity training Prof Beth Kaplin

Session 1
Instructor: Prof Beth Kaplin
Topics:
What is Biodiversity?
Biosphere Reserves: what are they and how do they contribute to biodiversity conservation
What is participation & why is it important in biodiversity conservation?

Lunch

2:00am – 4:00pm Session 2
Instructor: Dr. Venuste Nsengimana
Topics: Introduction to Biodiversity sampling and monitoring techniques

4:00- 6:00pm Session 3

Instructor: Dr. Apollinaire William
GIS Training for Biodiversity research and Conservation

GIS is a powerful tool for conservation of biodiversity. Variables including water resources (RIVER), altitude (ELEV), distance from main roads (MAIN ROAD) and buildings (BLDG), climate, slopes, aspects, land cover, can be integrated into GIS to help explain the distribution of biodiversity. GIS also can tremendously contribute to effective use of resources while planning, monitoring and evaluating biodiversity research and conservation efforts.
The main goal for this training is to provide skills and knowledge about sampling designs for biodiversity inventory and management planning. In this training workshop, you will learn:
1. How to create parallel transects of a given direction and length with fixed offset distances between them and sampling reference points along transects at equal intervals, and how to load points into a GPS unit and orient oneself in the field.
2. Introduction to spatial analysis using raster and vector data for habitat suitability modelling.

Topics:
Sampling design for biodiversity inventory and preparation of a GPS receiver for field work.

Day 2 of Training: Thursday, December 12, 2019

8:00am – 10:00pm Session 4
Instructor: Dr. Venuste Nsengimana
Topics: Essential Biodiversity Indicators

The urgent need to reduce the rate of biodiversity loss and associated dangerous effects of biodiversity change on human wellbeing and ecosystem functioning are international goals, evidenced in the Aichi Targets for 2020 by Parties to the United Nations (UN) Convention on Biological Diversity (CBD). Essential Biodiversity Variables are measurements that can contribute to monitoring and assessing biodiversity change, especially status and trends in the elements of biodiversity. This biodiversity information is the link between monitoring initiatives and management steps through decision makers and policy. Essential biodiversity indicators provide the first level of information and understanding between direct observations and high-level indicators of biodiversity change and status.

Tea break

11:00am – 12:00pm Session 5
Visit National Herbarium of Rwanda – Dr. Venuste Nsengimana

2:00-5:00pm Session 6
Instructor: Dr. Apollinaire William
GIS Training for Biodiversity research and Conservation (continued)

Topics:
Raster calculator and spatial
Analysis for habitat suitability modelling

5:00pm – Workshop closing

PREREQUISITES for GIS sessions

- Basic knowledge on how to display GIS Data in ArcMap and to perform basic geoprocessing tools.
- Familiarity with GPS receiver handling

Hardware/Software requirements:
Laptop computer with Windows Operating System
The laptop should have ArcGIS Desktop installed (ArcGIS 10X)

Day 3 of Training: Friday, December 13, 2019

8:00 – 10:00am – Wrap up material from previous two days

Tea break

10:30am – 12:30pm - Evaluation of the training by Ir Dominique Mvunabandi, Director of Sciences, Technology and Innovation, Rwanda National Commission for UNESCO (CNRU)

Vote of thanks by participants representative and way forward by Dr. Venuste Nsengimana, Deputy Director of the Center of Excellence in Biodiversity and Natural Resource Management, University of Rwanda

Issuance of certificates

Closing remarks by Ir. Marc Manyifika, Director General of Land, Water Department, Ministry of Environment (MoE) &
Dr Jayakumar Ramasamy, Senior Programme Specialist & Regional Hydrologist, Head of Natural Sciences, UNESCO Regional Office for Eastern Africa

Closing remarks by Ir. Marc Manyifika, Director General of Land, Water and Forestry Department, Ministry of Environment(MoE)

12:30pm - Lunch

2:00pm - Departure