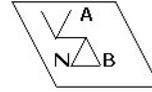




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OKAVANGO INTEGRATED RIVER BASIN MANAGEMENT PROJECT

CONSERVATION OF BIODIVERSITY IN KUANDO KUBANO PROVINCE

REPORT ON TRAINING OF TREE IDENTIFICATION, VE- GETATION ASSESSMENTS AND MAMMAL INVENTORIES (MARCH 2007)

Overview

The training on *tree identification, vegetation assessments and mammal inventories* was part of a program to support implementation of the National Biodiversity Strategy and Action Plan (NBSAP) in Kuando Kubango, as approved by the Ministry of Urban Affairs and Environment (MINUA). Natural resources in Kuando Kubango are important to regional, national and local level systems. The province contains Angola's largest block of forested protected areas, namely two nature reserves and four hunting reserves. This block of protected areas border Zambia and Namibia, encompass transboundary migration corridors of large mammals, and is dedicated to the future Kavango-Zambezi Transfrontier Conservation Area (KAZA-TFCA). Kuando Kubango also contains the vast majority of the Okavango River Basin's catchment area. Long-term protection of its forest cover is important to maintaining healthy sediment flows to the Okavango Delta over time.

Objectives of the Kuando Kubango biodiversity program include:

- I. To improve an understanding of the resource base and resource use patterns that will inform protection and management decisions, particularly in one reserve that borders the Kavango and Cuito rivers (the Mucusso reserve), and
- II. To develop capacity and systems for locally engaged protected areas monitoring and management planning.

The training was held in Mucusso Angola and the Kavango region of Namibia. The Mucusso Game Reserve is the focus reserve for an overall information collection and management planning process. The Mucusso reserve encompasses approximately 21,300km² of land, bordering the Cuito, Kavango and Longa rivers.

Training Objectives

- A. To develop skills of natural resource technicians who have a role in the management of Kuando Kubango resources, and of local Mucusso community residents, in identification and inventory methodologies for vegetation and mammals of Kuando Kubango.
- B. To prepare Angolan natural resource technicians and select Mucusso community

members to support a process for conducting basic ground inventories of vegetation, while raising awareness about the relationship between data and management planning. Promote participants' ability to:

- a) identify key tree species
- b) use a key for tree identification
- c) operate a GPS unit
- d) conduct a basic vegetation transects
- e) understand the relationship between vegetation data and management planning, and
- f) understand and support a program for collecting vegetation data of the Mucusso Reserve

C. To prepare Angolan wildlife officers, select Mucusso community members and select regional wildlife technicians to support a process of inventorying medium and large mammals, while raising awareness about the relationship between data and management planning. Promote participants' ability to::

- a) identify and understand the characteristics of larger mammals species that occur in Kuando Kubango;
- b) understand and implement a set of techniques for conducting mammal inventories;
- c) operate a GPS unit;
- d) understand the relationship between fauna data and management planning.

Approach

A combined field and classroom based approach was employed. Participants established a vision for why information is important to resource management, and learned how to identify species and understand their importance, and learned methodologies for conducting field surveys for vegetation and mammals.

For the first week of training, all participants attended courses related to mammals and tree species identification. This enabled all students to become familiarized with key tree and mam-

mal species that occur in Kuando Kubango, and how to identify these species. During the second week, participants separated into groups according to their area of focus. This division allowed students to spend more field time practicing methodologies relevant to their area of interest and/or responsibility. The student technical groups were: a) vegetation, b) mammals, and c) forestry and mammals. The training schedule followed can be found in Appendix I.

Participants profile

Participants represented institutions from a range of levels, all of which are positioned to play a role in managing the local, national and regional resource base as it pertains to Kuando Kubango. A detailed participants list can be found in Appendix 2. Participants included:

- Residents of the Mucusso Game Reserve who will participate in vegetation and mammal inventories in the Mucusso Reserve;
- Institute of Forestry Development (IDF) technicians from the Province of Kuando Kubango, who have a role in the management of Mucusso's forests;
- Kuando Kubango Provincial Department of Environment technicians;
- Select forest industry members, who have a role and responsibility in the sustainable use of Mucusso's forests;
- Angolan national Ministry of Environment and Urban Affairs technical managers who have a role in National-level management of Angola's Reserves;
- Non-government organization technicians from the Province of Kuando Kubango who can serve as a future linkage between government and non-government sectors in conservation activities; and
- Forestry and Wildlife technicians from Namibia and Botswana who work with the fo-

rests and mammals in other parts of the regional ecosystem in which Mucusso is located.

Results

Participants gained:

- Improved understanding of the tree and mammal species of Kuando Kubango, including characteristics, relevance, and overall conservation importance for the healthy balance of the regional ecosystems;
- Improved awareness of the role of mammal conservation in Angola, particularly with respect to species that are threatened or critically endangered;
- Exposure to important methodologies for vegetation and mammal data collection, and improved understanding of the use of tools such as GPS, compass and binoculars; and

- Exchange of ideas and experiences between technicians from Angola, Namibia and Botswana, and between resource managers from the Angolan national, provincial and local levels, particularly when conducting field work and discussing Reserve management implications.

Program advances:

- Allowed for the identification and capacity development of persons to be involved in continued mammal and vegetation work; and
- Inspired the preparation of a Field Guide to the Trees of Kuando Kubango, and a Field Guide to the Mammals of Kuando Kubango, which will be used during the inventory program and beyond.

Appendices

Appendix 1 Training Schedule

Appendix 2 Participants list

Appendix I. Training Schedule

Week I training schedule: Tree Identification, Vegetation Assessment and Mammal Inventories

| Date | Group A | Group B |
|---------------------------------------|--|--|
| Sunday March 11 | Arrive | |
| Monday March 12 - Morning | Welcome and Basics of Resource Management Planning for Conservation | |
| Monday March 12 - Afternoon | Tree terms | Mammal key aspects and terms |
| Tuesday March 13 - Morning | Identifying a tree, using field guides, how to use a key | Field Guide introduction. Kuando Kubango Mammal species characteristics (I) |
| Tuesday March 13 - Afternoon | Mammal key aspects and terms | Tree Terms |
| Wednesday March 14 - Morning | Field Guide introduction. Kuando Kubango Mammal species characteristics (I) | Identifying a tree, using field guides, how to use a key |
| Wednesday March 14 - Afternoon | Introduction to the important trees as presented in our field guide | Kuando Kubango Mammal species characteristics (II) |
| Thursday March 15 - Morning | Trees: collecting and pressing specimens – with field practice | Kuando Kubango Mammal species tracks and scats and other signs. Their importance and interpretation |
| Thursday March 15 - Afternoon | Kuando Kubango Mammal species characteristics (II) | Introduction to the important trees as presented in our field guide |
| Friday March 16 - Morning | Kuando Kubango Mammal species tracks and scats and other signs. Their importance and interpretation | Trees: collecting and pressing specimens – with field practice |
| Friday March 16 - Afternoon | Tree Field exercises: how to use a key, collecting and pressing specimens, meeting the important trees | Mammal field inventory methodologies and data collection |
| Saturday March 17 - Morning | Mammal field inventory methodologies and data collection | Tree Field exercises: how to use a key, collecting and pressing specimens, meeting the important trees |
| Saturday March 17 - Afternoon | Rest or break-out groups to practice techniques studied, according to sign-up sheet | |

Week 2 Training schedule: Tree Identification, Vegetation Assessment and Mammal Inventories

| | Group Vegetation | Group Mammals | Group Forest and Management |
|---------------------------------------|--|--|---|
| Monday March 19 – Morning | Overview of vegetation cover mapping | | |
| Monday March 19 – Afternoon | GPS and Quadrats | Mammal field inventory methodologies and data collection – scat stations and walking transects | Compass and Orienteering |
| Tuesday March 20 - Morning | Review of transect procedures | Mammal tracks, scat and other signs | |
| Tuesday March 20 – Afternoon | Vegetation transect and GPS field work | Mammal field inventory, walking transects | Forest measurements, including measuring tree diameter |
| Wednesday March 21 - Morning | Transect practice at the Caprivi | Mammal Monitoring Exercise: Caprivi | Forest Inventory: Delineating forest stands, making data sheets, citing plots |
| Wednesday March 21 - Afternoon | Review of data sheets and discussion | Mammal Monitoring Exercises at Mahongo | |
| Thursday March 22 - Morning | Vegetation transect and GPS field work in Angola | Mammal Monitoring Exercise: Caprivi | |
| Thursday March 22 - Afternoon | Review of data sheets and discussion | Mammal Monitoring Exercise at Mahongo | |
| Friday March 23 - Morning | Establishing a 6-month program for inventories, Oversight and management of an inventory program | | |
| Friday March 23 – Afternoon | Framework for simplified management plan | | |
| Saturday March 24 - Morning | Awards, Certificates and Goodbye | | |
| Saturday March 24 – Afternoon | Departure | | |

Appendix II: Participants List

| Name | Surname | Organization | Position | City&Country |
|-----------------|--------------|---|-------------------------------------|-------------------|
| Afonso | Dala | IDF | Provincial Director | Menongue-Angola |
| Alexander | Mwenyo | Local resident | Community member | Divundu-Namibia |
| Amos | Kandere | Community member | Mammals and Plants field technician | Mucusso-Angola |
| Antonio | Tchicuva | IDF/KK | Technician | Calai-Angola |
| Augusto | Gameia | Communal Administration | Administrator Communal | Mucusso-Angola |
| Barbara | Curtis | IRBM | Trees Specialist | Windhoek-Namibia |
| Basilus | Madjeke | Community member | Vegetation field technician | Mucusso-Angola |
| Bathusi | Batsile | Dept Wildlife&Natnl parks | Wildlife Warden | Maun-Botswana |
| Brenda Gail | Bergman | IRBM | Biodiversity Coordinator | Gaborone-Botswana |
| Carlito | Andre | ACADIR | Area Administration | Menongue-Angola |
| Carmo | Mafuta | Sociedade Uniao (impresa) | Supervisor | Rundu-Namibia |
| Cornelius | Vanderpost | HOORC | Vegetation Specialist | Maun-Botswana |
| Dave | Lombardo | USFS | Forester | USA |
| David | Kawika | ACADIR | Coordinator | Menongue-Angola |
| Diamantino | Domingos | Nicominas(impresa) | Bookkeeper | Rundu-Namibia |
| Elizeth | Godinho | Ministry of Environment | Senior Technician | Luanda Angola |
| Eusébio | dos Santos | Sociedade Uniao (impresa) | Manager | Mucusso-Angola |
| Fernando | Shamingana | Community member | Mammals field technician | Mucusso-Angola |
| Firmino | Tutipepe | IDF | Civil Servant | Menongue-Angola |
| Frans | Kazenjile | Micromina (impresa) | Logger | Kuando-Angola |
| Hugh | Safford | USFS | Forester | California USA |
| Isabel | Segunda | Seteko comercial LTD (impresa) | Secretary | Rundu-Namibia |
| Isabella | Kalunga | ACADIR | Community member | Diriku/Angola |
| João | Chamba | Department of Env | Conservationist | Menongue-Angola |
| Joaquim | Manuel | Ministry of Environment | Head of Department | Luanda Angola |
| Jonas | Hausiku | Namibia Nature Foundation | Intern | Windhoek-Namib |
| J | Cainga | IDF | Technician | Calai-Angola |
| Jorge | Sinate | IRBM | Trainee | Gaborone-Botswana |
| Jose | Katava | IDF | Inspector | Calai-Angola |
| Jose | Zeka | ACADIR | Trainee | Menongue-Angola |
| José | Canivete | Jimi Logging Company | Technician | Mucusso-Angola |
| Josephine | lipinge | Ministry of Environment | Warden | Rundu-Namibia |
| Julio | Bravo | Provincial Director of the Environment | Provincial Director | Menongue-Angola |
| Kutlwano | Mukokokumani | IRBM | Support | Gaborone-Botswana |
| Lisias | Tjaveondja | Ministry of Agriculture, Water and Forestry | Forester | Windhoek-Namibia |
| Luís | Verissimo | IRBM | Mammals field technician | Lisbon-Portugal |
| Lukas | Kafuna | Community member | Mammals field technician | Mucusso-Angola |
| Michael D | Osub | Ministry of Agriculture, Water and Forestry | Forester | Windhoek-Namib |
| Molaakgosi | Mafhoko | Forestry Dept | Forester | Maun-Botswana |
| Mukosho Alberto | Kavindja | Community member | Mammals field technician | Mucusso-Angola |

| | | | | |
|------------|-------------|--------------------------------|-----------------------------|-----------------|
| Natalia | Gungo | IDF | Head of Division | Menongue-Angola |
| Pelotshweu | Galebotswe | Dept of Wildlife & Natnl parks | Wildlife Biologist | Maun-Botswana |
| Rosario | Teixera | IDF | Inspector | Luanda Angola |
| Salomão | Chaiuto | IDF | Division Chief | Menongue-Angola |
| Samuel | Herculano | Seteko commercial LTD | Head of Personnel | Rundu-Namibia |
| Silvano | de Oliveira | Inst of Envr &Forestry | Civil Servant | Menongue-Angola |
| Simon | Mukosho | Community member | Vegetation field technician | Mucusso-Angola |
| Steven | Mukoya | Community member | Vegetation field technician | Mucusso-Angola |
| Susan | Ringrose | HOORC | Vegetation field technician | Maun-Botswana |
| Thidhimbo | Kaveto | Community member | Mammals field technician | Mucusso-Angola |
| Thomas | Kumushamba | Frans Dimbare | Manager | Divundu-Namibia |
| Victor | Samuel | Department of Environment | Technician | Menongue-Angola |
| Wilbard | Mukena | Environment &Tourism | Game Ranger | Rundu-Namibia |
| Zissala | Pululu | IDF | Head of Division | Luanda Angola |