Using Farmer Field Schools Approaches to Overcome Land Degradation in Agro-Pastoral Areas of Kenya

Land degradation assessment – Baseline survey on spatial analysis of land cover / degradation trends and Toolkit Development.

Training module created by Thomas Gumbricht, www.mapjourney.com

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TRAINING MODULE

Introduction

The training module is built using DIVA-GIS, a freeware Geographical Information System (GIS), developed by CIP (International Potato Center, Peru). DIVA-GIS works very much like commercial front-end GIS packages (e.g. ArcView, ArcGIS, MapInfo), and if you learn DIVA-GIS, you will easily also learn to use another GIS. DIVA-GIS uses the same data format as most other GIS, and has in-built functions to export data also for IDRISI and other GIS software. Hence you can in principle do the lessons in this training module using ArcView, ArcGIS or IDRISI, albeit all instructions are written for DIVA-GIS. If you have a license for ArcGIS or ArcView there are ready made project files available for each study site (Kenya, Mbeere, Mwingi and Mbeere) that you can just open (the respective project files are under \"site"\av\"sitename.apr".

The data for the training module is under the folder \data_spatial on the project CD. To see the data available you can use the web-catalogue for the included study sites, by clicking these links:
Kenya
Mbeere
Mwingi
Narok
By following this training module you will learn how the regional baseline land degradation assessment was done for Kenya, and how the more local assessment was done for the districts included in this study (Mbeere, Mwingi and Narok).

Lesson overviews

Lesson 0 - Install DIVA-GIS

In this lesson you will install and prepare DIVA-GIS.

Lesson 1 - DIVA-GIS basics

In this lesson you will learn about GIS data layers, and how to add and remove them from a DIVA-GIS project, how to turn layers on and off, and change the display order. You will also learn how to retrieve information about geographic features, and see the difference between vector and image data.

Lesson 2 – Symbolizing

In this lesson you will learn about different types of attribute data; nominal data like names, ordinal data that gives an order without numbers, interval data where a

number denotes a difference but the difference is not absolute, and ratio data which is data with absolute numerical values. The symbolization of attributes vary dependent on which type of data the attribute represents, and the lesson introduces symbolization of GIS data in DIVA-GIS.

Lesson 3 – Selecting features, labeling and designing maps

In this lesson you will learn how to select features in a layer and create a new vector layer from the selection; and how to label and design maps using DIVA-GIS.

Lesson 4 – Grid/raster data

In this lesson you will learn about the difference between vector and grid; to symbolize grid data, to work with stacks of multiple grid layers in DIVA-GIS, and the use map algebra to produce new grid layers. The lesson also introduces interpretation of data from multiple layers using both visualization and some built-in analysis tools in DIVA-GIS.

Lesson 5 – Vegetation and time series data

In this lesson you will learn about satellite derived vegetation data and how to analyze time series data using DIVA-GIS.