Participatory Development of Training Material for Agricultural Water Use in Homestead Farming Systems for Improved Livelihoods

WRC - Project: (K5/1575/4)

Draft Training Material

2007/2008

Prepared by:
Deliverable 8: Progress Report on Development and Testing of Training Material

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Document overview

This document provides an overview and summary of the process for development of training materials, for farmer learners as well as facilitators. Brief descriptions will be provided of how these learning materials fit into the training processes designed to date. This report should be read with the reports for Deliverable 7 (Refinement of Practices and Technologies) and Deliverable 9 (Effectiveness of the Training Methodology and Implementation). The present document provides the learning materials themselves; not the process of how their content was developed (7) or how they are used during training sessions (9).

Farmer Learning Materials

Development of training material for farmer learners has been in keeping with the concept of producing a toolkit, rather than a manual; thus enabling facilitators to select content in accordance with the specific needs of any particular learning group and situation.

These learning materials/handouts are content based and written in easy to read English as well as the prevalent local language of the farmers themselves. Such the complete set of handouts is presently available in English and isiZulu (Z). A fair number of the handouts are also available in seSotho(S).

The handouts have been designed to support the learning process for each session/ workshop/ theme that can be covered during and intensive homestead food production process. Obviously, the handouts are not attempting to provide an exhaustive list of contents for any possible situation; the intention is rather to provide as much information as would be required to provide a solid basis for initiating intensive homestead food production. These handouts cover some of the basic concepts and practices from which farmer learners are likely to see immediate and positive results in their gardens and upon which they can build.

The handouts have been designed to be used as part of a workshop or facilitated process, but can be used as stand alone contents for literate farmers. Many line drawings and photographs are included to increase the visual appeal and descriptions. Below is a listing of the farmer learning materials that have been produced thus far and broadly where they would fit into the workshop themes:

<table>
<thead>
<tr>
<th>No</th>
<th>Name of handout</th>
<th>Language</th>
<th>Workshop/ learning theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Living and Eating Well</td>
<td>E,Z,S</td>
<td>Nutrition (go, grow and glow foods)</td>
</tr>
<tr>
<td>2</td>
<td>The Ten Food Based Dietary Recommendations</td>
<td>E,Z</td>
<td>Nutrition (Food based nutrition)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Nutrition monitoring</td>
</tr>
<tr>
<td>3</td>
<td>On my plate: What I should eat every day</td>
<td>E,Z</td>
<td>Seedling production</td>
</tr>
<tr>
<td>4</td>
<td>What did we eat today?</td>
<td>E,Z</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Crop planting Chart</td>
<td>E,Z</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>How to make a trench bed</td>
<td>E,Z</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Seedling production</td>
<td>E,Z,S</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Mulching</td>
<td>E,Z,S</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Tower Gardens</td>
<td>E,Z</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>Name of handout</td>
<td>Language</td>
<td>Workshop/ learning theme</td>
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<tr>
<td>10</td>
<td>Saving and using water</td>
<td>E,Z,S</td>
<td>Garden layout and design</td>
</tr>
<tr>
<td>11</td>
<td>Soil types</td>
<td>E,Z,S</td>
<td>Soil fertility</td>
</tr>
<tr>
<td>12</td>
<td>Plant and animal liquid manures</td>
<td>E,Z,S</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Nutrient fixing plants</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Farmer Experimentation</td>
<td>E,Z,S</td>
<td>Farmer Experimentation</td>
</tr>
<tr>
<td>15</td>
<td>A list of plant brews; preparation and uses</td>
<td>E,Z,S</td>
<td>Pest and Disease Control</td>
</tr>
<tr>
<td>16</td>
<td>Mixed cropping; companion planting</td>
<td>E,Z, (S)</td>
<td>Diversified production</td>
</tr>
<tr>
<td>17</td>
<td>Crop rotation</td>
<td>E,Z,S</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Wind and Frost protection (LIRAPA)</td>
<td>E,S</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Seed production</td>
<td>E,Z</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Planting fruit trees</td>
<td>E,Z</td>
<td>Fruit production</td>
</tr>
<tr>
<td></td>
<td>Pruning fruit trees</td>
<td>E,Z</td>
<td></td>
</tr>
</tbody>
</table>

These handouts follow at the end of this section.

**Facilitator Learning Materials**

The basic premise for developing these materials has been to ask the question: “*What will a facilitator need to know and be able to do, to teach/ facilitate this content for farmer learners?*”

The learning areas for the WRC Facilitators’ Learning Toolkit has been divided into eight units, which

- firstly, follows the same logic as with the household learning content areas; and
- secondly, provides sufficient structure to eventually allow for accreditation.

The logic for this development and how it is progressing both with UKZN (University of Kwa-Zulu Natal and UNISA is provided in the report for Deliverable 5 (Training Needs Assessments). Further progress with UNISA is that our team are now a part of the curriculum development process for the *Higher Certificate in Food and nutrition Security*, under the auspices of the Human Ecology Division in their Department of Agriculture, Animal Health and Human Ecology. This work is being done in conjunction with SAIDE (South African Institute of Distance Education). This Certificate, a Diploma and a Bachelor’s degree with content developed through this process have gone through the preliminary registration procedures and will be piloted at UNISA in 2008.
The units at NQF level 5 that are being developed are as follows:

<table>
<thead>
<tr>
<th>UNIT</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1: Introduction to water and food production management options</td>
<td>First draft</td>
</tr>
<tr>
<td>Unit 2: Participatory planning and design of water management in a household farming system</td>
<td>Final draft</td>
</tr>
<tr>
<td>Unit 3: Fertility; Optimising efficiency of soil and water resources</td>
<td>First draft</td>
</tr>
<tr>
<td>Unit 4: Nutrition &amp; Health</td>
<td>Final draft</td>
</tr>
<tr>
<td>Unit 5: Irrigation</td>
<td>First draft</td>
</tr>
<tr>
<td>Unit 6: Storage</td>
<td>To be developed</td>
</tr>
<tr>
<td>Unit 7: Diversified Production</td>
<td>To be developed</td>
</tr>
<tr>
<td>Unit 8: Economic incentives</td>
<td>To be developed</td>
</tr>
</tbody>
</table>

Experimentation and monitoring is woven into the material throughout units 1 - 8.

For those units that have already been designed and put together in draft form, the contents pages are presented below. The Units themselves will follow in this section.

**Unit 1: Introduction to water and food production management options**

Introduction

Aims

Learning Outcomes

1. **The Role of Water: A General Introduction**

   Water Scarcity
   Policy Goals

2. **The Rural Context**

   Introduction
   Where are the Homesteads?
   Rural Population
   Agriculture and Income

3. **Farming Systems**

   Elements of sustainability
   Three Approaches to Farming
   LEISA Principles

4. **A Homestead as a Farming System**

   Systems Thinking
Introduction
Aims
Learning Outcomes

1. **Situation analysis**

   Introduction
   The Sustainable Livelihoods Approach (SLA)
   Doing a situation analysis
   Some participatory techniques

2. **War on Hunger through mind mobilisation and water for food**

   2.1 **Mind Mobilisation and Visioning**
   - Introduction
   - Why Is Mind Mobilisation Necessary?
   - How Does Mind Mobilisation Work?
   - Overview of Community and Individual Facilitation Processes For Mind Mobilisation

   2.2 **Village Level Facilitation Processes**
   - Introducing The Idea To The Community

   2.3 **Individual Mind Mobilisation Processes**
   - Mind Mobilisation: Introduction
   - Household Present Situation Analysis
   - Visioning (‘Helicopter Planning’)
   - Practical Demonstration: Deep Trenching
   - Seed/Seedling Sharing

   2.4 **Further Follow-Up Trainings**
   - Garden Layout Design
   - Family Nutrition
   - Planting Calendar
   - Harvesting Calendar With Harvest Estimates
   - Monitoring Tools

   2.5 **Summary Of Principles For Mind Mobilisation**

3. **Physical Planning aspects**

   Location and maps
   Natural resources
   Sketch plan of the immediate vicinity of the plot and the plot itself
   Measuring contours
   Garden layout: water flow, aspect, topography, soils, bed design, irrigation
   Estimating water requirements
Unit 3: Fertility - Optimising efficiency of use of soil and water resources

Introduction
Aims
Learning Outcomes

1. Understanding soils

   Introduction
   Soil Texture and Soil Components
   Soil Structure
   The Living Soil
   How To Tell Your Soil Type
   Soil Structure
   Farming Practises Affecting Soil Structure

2. Soil fertility

   Soil Nutrients
   Nitrogen
   Phosphate
   Potassium
   Soil Acidity
   Experimentation
   Soil Biology
   Nutrient Fixing Plants

3. Soil building techniques

   Mulch
   Composting and Liquid Manures
   Manure
   How to Make Compost
   Plant and Animal Liquid Manures
   Using Legumes and Cover Crops
   Introduction to Worm Farms

4. Bed Design

5. Summary of Principles for Sustainable Soil Management
Unit 4: Health and Nutrition

Introduction
Aims
Learning Outcomes

1. Food habits and preferences
   The theory and practice of how to work with these in a participatory manner

2. Food groups
   Basic understanding of nutrition, the present debates and useful food groups, to use in community discussion

3. Food as medicine
   Introduction of how this concept can be used in community

4. Food security
   The present debates and theoretical positions, interventions that make sense and food security through intensified production

5. Diversification
   Diversification of production and of livelihoods to ensure social and environmental continuity and sustainability; concepts and examples.

Further Development of the Facilitator Learning Materials

The rest of the Units mentioned above will be developed in the next 6 months. Most of the content will be designed so that it can also coherently fit into the UNISA – SAIDE Higher Certificate in Food and Nutrition Security. There is a large percentage of overlap with those of the research project.

Presently the modules for the UNISA - SAIDE process are as follows:

<table>
<thead>
<tr>
<th>Module 1:</th>
<th>Integrated Household Food Security in a Development Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module 2:</td>
<td>Participatory facilitation Processes for Household Food Security</td>
</tr>
<tr>
<td>Module 3:</td>
<td>Sustainable Natural Resource Use</td>
</tr>
<tr>
<td>Module 4:</td>
<td>Food Resource Management</td>
</tr>
<tr>
<td>Module 5:</td>
<td>Food Behaviour and Nutrition</td>
</tr>
<tr>
<td>Module 6:</td>
<td>Intensified Household Food Production</td>
</tr>
<tr>
<td>Module 7:</td>
<td>Optimizing production and Value Adding</td>
</tr>
</tbody>
</table>