FAO LESOTHO

PRE & POST TRAINING ASSESSMENT

2013

Conservation Agriculture, Home Gardening, Nutrition and Armyworm Training for MAFS Extension Staff
Contents

ACRONYMS .......................................................................................................................... 4
EXECUTIVE SUMMARY ....................................................................................................... 5
I. Background .......................................................................................................................... 6
II. Methodology ...................................................................................................................... 8
III. Assessment Findings ....................................................................................................... 9
   1. Practice of Conservation Agriculture ........................................................................... 9
   2. Participant’s self-assessed knowledge before and after the training............................ 10
   3. Participants self-assessed capacity to train others ......................................................... 12
   4. Topics for future training sessions .............................................................................. 14
IV. Conclusions and Recommendations ............................................................................ 16
ANNEXES ............................................................................................................................ 17

Cover page: Extension officers from Quthing and Qacha’s Nek districts during the training in Mohale’s Hoek district
TABLE OF FIGURES

Fig. 1 – Percentage of resource centres practicing CA in Lesotho................................................................. 9
Fig. 2 – Percentage of resource centres practicing CA per district................................................................. 9
Fig. 3 – Participants working directly with CA farmers ...................................................................................... 10
Fig. 4 – Participants’ self-assessment on CA knowledge ................................................................................... 10
Fig. 5 – Participants’ self-assessment on keyhole knowledge ........................................................................... 11
Fig. 6 – Participants’ self-assessment on trench garden .................................................................................... 11
Fig. 7 – Participants’ self-assessment on armyworm knowledge ..................................................................... 12
Fig. 8 – Participants’ self-assessed capacity to train others on CA ................................................................. 12
Fig. 9 – Participants’ self-assessed capacity to train others on Home Gardening .......................................... 13
Fig. 10 – Participants’ self-assessment capacity to train others on armyworm ................................................ 14
Fig. 11 – Participants’ perceived needs for future training on CA .................................................................. 14
Fig. 12 – Participants’ perceived needs for future training on Home Gardening .......................................... 15
Fig. 13 – Participants’ perceived needs for future training on armyworm ...................................................... 15

TABLE OF TABLES

Table 1 – Number of respondents for Pre and Post training assessment ......................................................... 8

TABLE OF ANNEXES

Annex 1 – Pre-training assessment questionnaire ........................................................................................... 17
Annex 2 – Post-training assessment questionnaire ........................................................................................ 19
ACRONYMS

AAs – Agricultural Assistants

ATOs – Agricultural Technical Officers

CA – Conservation Agriculture

DFID – UK Department for International Development

ECHO – European Commission Humanitarian Office

FAO – Food and Agriculture Organization of the United Nations

Fig – Figure

HG – Home Gardening

MAFS – Ministry of Agriculture and Food Security

NCATF – National Conservation Agriculture Task Force

SPSS – Statistical Package for Social Sciences
EXECUTIVE SUMMARY

In response to the Food Security crisis declared in 2012 by the Government of Lesotho, FAO Lesotho designed the Emergency and Resilience Programme (ERP) in partnership with the MAFS and MFLR. FAO Lesotho ERP promotes, over a cycle of three years, sustainable and integrated agriculture practices leading to increased resilience of rural communities. ERP is structured around three pillars of action: Sustainable production, Capacity development and Information and analysis.

The role played by MAFS extension officers in the promotion of adaptation technologies among ERP beneficiaries and communities in general is critical. Therefore the ERP has put at the core of the programme its efforts to strengthen extension officers and practitioners’ awareness on the areas covered by the programme and improves communities training effectiveness.

In February 2013 a light questionnaire to assess impact of training among extension officers was designed and implemented, complementing the improved FAO Lesotho M&E system established in 2012.

This pre and post training survey (2012-2013) covers nearly all extension officers having assisted (320 individuals) to the formal training sessions held between April and May 2013 in 5 different training events. Extension officers assisted from all districts of the country.

As illustrated in this report, the trainings were successful in improving self-assessed knowledge and capacity to train others among extension staff in all areas. This is a critical element for ERP given the cascade and spill over effect intended with this investment in extension staff training.

However, there is still substantial demand for further training, especially in cover crops and crop rotation (CA principles), Nutrition and Food Preservation, which will be part of 2014 planned training activities. The demands for armyworm training have been addressed under a different project later in 2013.

The results of this report confirm the intended impact aimed by the ERP, placing Capacity Development at the core of the programme.
I. Background

FAO Lesotho designed its Emergency and Resilience Programme (ERP) in partnership with the Ministry of Agriculture and Food Security (MAFS) and the Ministry of Forestry and Land Reclamation (MFLR) addressing the increasing food insecurity generated by Climate Change compounded by social and environmental factors. FAO Lesotho ERP promotes sustainable and integrated agriculture practices leading to increased resilience of rural communities.

The ERP is structured around three pillars of action:

- **Sustainable production**: with an integrated range of CSA practices such as CA, Home Gardening, Nutrition and Food Use, Agroforestry and Natural Resources management (Integration of Livestock and Agriculture, Water and Soil Conservation).

- **Capacity development**: promotion of CSA technologies among national, district and community stakeholders increasing know how and knowledge transfer capacities. Special emphasis is made on communication and visual training material development.

- **Information and analysis**: integrated analysis of food security challenges and vulnerabilities supporting more effective evidence-based decision-making by relevant stakeholders.

Since the adoption of new production technologies require sustained support, ERP is structured in a 3-year cycle. This 3-year cycle programme combines capacity development through training and technical support to vulnerable households with the distribution of quality agricultural inputs allowing the progressive adoption of the following technologies and improved practices:

- Conservation Agriculture (CA)
- Home Gardening (HG)
- Nutrition and Food Use awareness
- Agro-forestry (fruit trees) –For inclusion from 2014 should funds allow

The role played by MAFS extension officers in the promotion of adaptation technologies among ERP beneficiaries and communities in general is critical. Therefore the ERP has put at the core of the programme its efforts to strengthen extension officers and practitioners’ awareness on the areas covered by the programme and improves communities training effectiveness. FAO and MAFS conducted in the second quarter of 2013 trainings for the MAFS extension officers and other agricultural development organizations. The trainings were facilitated by the National Conservation Agriculture Task Force (NCATF) and MAFS officials and funded by ERP. The trainings targeted the Agricultural Assistants (AAs), Agricultural Technical Officers (ATOs) both nutrition and crops from all agricultural Resource Centres of the country.
The purpose of the trainings was to provide refresher training, build and increase capacity of the extension officers and other development partners on Conservation Agriculture, Home Gardening and Nutrition.

ERP has received in 2012 and 2013 a total financial support of USD4.8m (99% expenditure rate) from ECHO, DFID, CERF and Belgium. Additional USD2.3m is required for 2014-2015.

In addition to the ERP, FAO Lesotho received additional USD0.36m from ECHO to respond to the armyworm outbreak occurred in January/February 2013, the worst ever recorded in Lesotho, affecting 8 districts and over 30,000 Ha of cultivated land. The ERP training sessions on Conservation Agriculture, Home Gardening and Nutrition were complemented with one day Armyworm awareness session. This awareness undertaken in the second quarter of 2013 was followed up with additional training on armyworm control and prevention in the last quarter of 2013.

This training assessment analyzes the impact of the training sessions and collects perceptions of future training needs among extension staff.

---

1 The project codes supporting ERP in 2012-2013 directly are: OSRO/LES/201/BEL (Belgium), OSRO/LES/202/EC (ECHO), OSRO/LES/203/CHA (CERF), OSRO/LES/301/EC (ECHO) and OSRO/LES/204/UK (DFID). Additional funding from USAID (OSRO/RAF/205/USA and OSRO/RAF/303/USA) and COMESA (OSRO/RAF/307/COM) has contributed to coordination and training on Conservation Agriculture in the same period
II. Methodology

In all the training sessions held (6 in total), a structured questionnaire was filled by all participants before and after the training was conducted. The questionnaires were anonymous in order to allow as much freedom as possible when responding to the questions. The Pre and Post training questionnaires (see Annexes I & II) focused mainly on self-perceived knowledge and capacities among respondents. No knowledge tests were undertaken.

All the questionnaires were collected after every training session. The data was collated and analysed by FAO M&E team using Statistical Package for Social Sciences (SPSS).

Out of the 320 participants in this round of trainings, Table 1 below reflects individual responses in pre and post training assessments of the trainings. The number of responses per district may differ between pre and post training assessments mainly as a result of late arrivals of extension staff in the training venues. All responses were used in the report analysis.

Table 1 – Number of respondents for Pre and Post training assessment

<table>
<thead>
<tr>
<th>Names of the District</th>
<th>Number of participants</th>
<th>Percentage</th>
<th>Number of participants</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Berea</td>
<td>28</td>
<td>9.1</td>
<td>33</td>
<td>10.4</td>
</tr>
<tr>
<td>Botha-Bothe</td>
<td>41</td>
<td>13.3</td>
<td>44</td>
<td>13.9</td>
</tr>
<tr>
<td>Leribe</td>
<td>26</td>
<td>8.4</td>
<td>29</td>
<td>9.2</td>
</tr>
<tr>
<td>Mafeteng</td>
<td>36</td>
<td>11.7</td>
<td>38</td>
<td>12.0</td>
</tr>
<tr>
<td>Maseru</td>
<td>36</td>
<td>11.7</td>
<td>39</td>
<td>12.3</td>
</tr>
<tr>
<td>Mohale’s Hoek</td>
<td>37</td>
<td>12.0</td>
<td>38</td>
<td>12.0</td>
</tr>
<tr>
<td>Mokhotlong</td>
<td>27</td>
<td>8.7</td>
<td>20</td>
<td>6.3</td>
</tr>
<tr>
<td>Qacha’s Nek</td>
<td>24</td>
<td>7.8</td>
<td>22</td>
<td>7.0</td>
</tr>
<tr>
<td>Quthing</td>
<td>26</td>
<td>8.4</td>
<td>22</td>
<td>7.0</td>
</tr>
<tr>
<td>Thaba-Tseka</td>
<td>27</td>
<td>8.7</td>
<td>30</td>
<td>9.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>309</strong></td>
<td><strong>100.0</strong></td>
<td><strong>316</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

---

2 Additional training for 30 trainers and 600 lead farmers and local leaders was undertaken in 2013 but its impact was not assessed.
III. Assessment Findings

1. Practice of Conservation Agriculture

Fig. 1 – Percentage of resource centres practicing CA in Lesotho

As indicated in Fig.1 a large majority of the Resource Centres in the country are promoting CA to some extent, although the practice of CA is still adopted by a minority. It should be noted that ERP covered in 2012 75% of the Agricultural RC, while in 2013 ERP was able to expand to 100% of the RC.

Fig. 2 – Percentage of resource centres practicing CA per district

The average number of RC per district is 6 or 7. 4 districts have all their RC already practicing CA. In most of the others only one RC is not practicing CA. Quthing, while recording 77% of RC practicing CA, is the district less involved so far. The aim is to have 100% of RC involved in CA practice by end of the ERP.
Among participants in the training, 73% of them work directly with CA farmers. This is a good indication of the relevance in the selection of participants in the training.

2. Participants’ self-assessed knowledge before and after the training

CA knowledge, in participants’ self-perception, has improved significantly after the training.
Fig. 5 – Participants’ self-assessment on keyhole knowledge

Keyhole gardening knowledge, in participants’ self-perception, has also significantly improved after the training.

Fig. 6 – Participants’ self-assessment on trench garden

Trench gardening knowledge, in participants’ self-perception, has also significantly improved after the training.
The knowledge levels on Armyworm, self-perceived by participants, were generally poor or none (64%). The training succeeded to significantly improve awareness on this field also. These results clearly illustrate the relevance of including Armyworm awareness as part of training curriculum given the extended ignorance of the topic among those requested to control it, support communities and report about potential outbreaks.

3. Participants self-assessed capacity to train others

Fig. 7 – Participants’ self-assessment on armyworm knowledge

![Participants' knowledge on armyworm (%)](image)

Fig. 8 – Participants’ self-assessed capacity to train others on CA

![Participants' self-assessed capacity to train others on CA (%)](image)
Participants’ self-assessed capacity or confidence to train others on CA has significantly improved as a result of the training. From a cumulative 15% of “none” and “poor”, it is limited to 1% after the training. The cumulative values for “good” and “excellent” evolved from 46% before the training to 80% after the training. It is thus expected that the level of knowledge transfer would increase in future interaction between extension officers and farmers. Besides, this increased self-perceived capacity to train others may lead towards higher levels of motivation to promote CA among farmers.

Fig. 9 – Participants’ self-assessed capacity to train others on Home Gardening

![Bar chart showing self-assessed capacity to train others on home gardening (%)](chart.png)

Fig. 9 illustrates the level of self-assessed capacity by participants to train others on Home gardening. While it was the best perceived capacity, it has also significantly improved as a result of the training. From a cumulative 31% of “poor” and “fair”, it is limited to 9% (all as “fair”) after the training. The cumulative values for “good” and “excellent” evolved from 70% before the training to 91% after the training. It is thus expected that the level of knowledge transfer would increase in future interaction between extension officers and farmers. Besides, this increased self-perceived capacity to train others may lead towards higher levels of motivation to promote better Home Gardening practices among farmers.
Fig. 10 – Participants’ self-assessment capacity to train others on armyworm

Fig. 10 shows sharp improvements on self-assessed capacity to train others on armyworm. From an extended lack of capacity, from nearly 64% among “none” and “poor” to 3% in those categories. In categories “good” and “excellent”, it moved from 8% to 60% after the training. The results in figure 10 illustrate a sharp improvement on perceived capacity to train others on army worm after the training. As indicated earlier under Fig. 7, armyworm is an area that required urgent attention given the poor levels of knowledge among extension officers.

4. Topics for future training sessions

Fig. 11 – Participants’ perceived needs for future training on CA

The performance of training slightly reduced the demand of future training in all three CA principles. Despite the improvements in knowledge (see Fig. 4), the improved self-assessed capacity to train other
in CA (see Fig. 8) and the decrease in training demand between 5-10%, the need for deepening extension staff knowledge in CA principles is confirmed by a demand from two thirds of respondents.

**Fig. 12 – Participants’ perceived needs for future training on Home Gardening**

Among the different areas under Home Gardening, after the training requirements for production techniques (Key Hole and Trench Garden) decreased to a 40%. However Food Preservation and Nutrition hardly decreased if not increased slightly. The increase in Nutrition training needs may be due to the training having generated awareness on topics that were not completely understood or sufficiently covered. More emphasis will need to be exerted on this important sector in future training.

**Fig. 13 – Participants’ perceived needs for future training on armyworm**
Training has reduced training needs in several armyworm areas by around 10% each. Additional training on armyworm has been conducted in the period September-November 2013 under the ECHO funded project “Emergency and Preparedness Response to Armyworm Outbreak in Lesotho 2013”. This additional training took place in groups of 30 participants for three days and a half supporting the establishment of an Early Warning System in the country. It included 150 extension staff and 60 community members from selected villages to be incorporated in the EWS pilot phase. Future ERP training will concentrate in Conservation Agriculture, Home Gardening and Nutrition related areas.

IV. Conclusions and Recommendations

The results of the surveys indicate that the training conducted in 2013 among extension officers has been successful. Conservation Agriculture is now being promoted among most Agriculture Resource Centres and the ERP should aim to make it a reality in 100% of them. ERP 2013 enrolment covered all RC which will help in achieving a national scale up, although intensification should be a natural follow up step.

The training increased self-assessed knowledge in all areas. It also increased self-assessed capacity to train other in all areas. This is a critical element for ERP given the cascade and spill over effect intended with this investment in extension staff training. Besides self-assessed increased capacity to train other is likely to operate as a powerful motivator to reach out farmers and communities.

However, there is still substantial demand for further training, especially in cover crops and crop rotation (CA principles), Nutrition and Food Preservation, which will be part of 2014 planned training activities. The demands for armyworm training have been addressed under a different project later in 2013.

The results of this report confirm the intended impact aimed by the ERP, placing Capacity Development at the core of the programme, increasing sustainable capacities to promote effectively Climate Change adaptation measures.

These trainings would have not been possible without the active involvement of MAFS and members of the CATF. FAO Lesotho would like to thank all the institutions and trainers that facilitated these sessions.
PRE-TRAINING ASSESSMENT QUESTIONNAIRE
To be distributed before the training starts

THIS QUESTIONNAIRE IS ANONYMOUS. YOUR FEEDBACK IS IMPORTANT FOR US; PLEASE LET US KNOW YOUR VIEWS!

The FAO/MAFS Emergency and Rehabilitation Programme funded by ECHO and DFID supports the implementation of the Conservation Agriculture (CA) strategic priority reflected in the Ministry of Agriculture and Food Security policy 2005 and the manual “Conservation Agriculture in Lesotho – Up-scaling Strategy Framework 2012-2017” which was launched on 5th April 2013 by the Minister of Agriculture and Food Security (MAFS).

FAO/MAFS also promotes improvement in home gardening (HG) through keyholes and double digging techniques apart from nutrition awareness. Integrating CA/HG/nutrition will allow us to reduce farmer’s vulnerability and increase their resilience to face climate induced shocks.

Capacity building of extension staff is an important component of the programme; we appreciate your contribution in this survey to participate in improving the trainings.

1. Indicate which district you are working in:
   - Berea
   - Botha-Bothe
   - Mohale’s Hoek
   - Maseru
   - Mafeteng
   - Leribe
   - Mokhotlong
   - Qacha’s Nek
   - Quthing
   - Thaba-Tseka

2. Is CA being practiced in your resource centre? □ Yes □ No

3. If yes, are you working directly with the farmers practicing CA? □ Yes □ No

4. How would you assess your knowledge on: (tick the right box)
   a. Conservation Agriculture □ None □ Poor □ Fair □ Good □ Excellent
   b. Keyhole □ None □ Poor □ Fair □ Good □ Excellent
   c. Double digging □ None □ Poor □ Fair □ Good □ Excellent
   d. Armyworm □ None □ Poor □ Fair □ Good □ Excellent

5. How would you assess your capacity to train others on: (Tick the right box)
   a. Conservation Agriculture □ None □ Poor □ Fair □ Good □ Excellent
   b. Home Gardening □ None □ Poor □ Fair □ Good □ Excellent
   c. Armyworm □ None □ Poor □ Fair □ Good □ Excellent
6. **What are the areas in which you would like to increase your knowledge:**

(Rank your three main priorities from all the options below where 1 is the most important, 2 the second most important and 3 the third most important)

<table>
<thead>
<tr>
<th>a. Conservation Agriculture</th>
<th>☐ Minimum Soil Disturbance</th>
<th>☐ Soil Cover</th>
<th>☐ Crop Rotation/ Intercropping</th>
<th>☐ Other(specify)</th>
<th>☐ Other(specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Home Gardening</td>
<td>☐ Keyhole</td>
<td>☐ Double digging</td>
<td>☐ Food preservation</td>
<td>☐ Nutrition</td>
<td>☐ Other(specify)</td>
</tr>
<tr>
<td>c. Armyworm</td>
<td>☐ Biology/ Behaviour</td>
<td>☐ Use of pesticides</td>
<td>☐ Early warning</td>
<td>☐ Other(specify)</td>
<td>☐ Other(specify)</td>
</tr>
<tr>
<td>d. Others (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
POST-TRAINING ASSESSMENT QUESTIONNAIRE
To be distributed at the end of the training

THIS QUESTIONNAIRE IS ANONYMOUS. YOUR FEEDBACK IS IMPORTANT FOR US; PLEASE LET US KNOW YOUR VIEWS!

The FAO/MAFS Emergency and Rehabilitation Programme funded by ECHO and DFID supports the implementation of the Conservation Agriculture (CA) strategic priority reflected in the Ministry of Agriculture and Food Security policy 2005 and the manual “Conservation Agriculture in Lesotho – Up-scaling Strategy Framework 2012-2017” which was launched on 5th April 2013 by the Minister of Agriculture and Food Security (MAFS).

FAO/MAFS also promotes improvement in home gardening (HG) through keyholes and double digging techniques apart from nutrition awareness. Integrating CA/HG/nutrition will allow us to reduce farmer’s vulnerability and increase their resilience to face climate induced shocks.

Capacity building of extension staff is an important component of the programme; we appreciate your contribution in this survey to participate in improving the trainings.

1. Indicate which district you are working in:
   - ☐ Berea  ☐ Botha-Botha  ☐ Mohale’s Hoek  ☐ Maseru  ☐ Mafeteng
   - ☐ Leribe  ☐ Mokhotlong  ☐ Qacha’s Nek  ☐ Quthing  ☐ Thaba-Tsekla

2. How would you assess your knowledge on: (tick the right box)

   a. **Conservation Agriculture**
      - ☐ None  ☐ Poor  ☐ Fair  ☐ Good  ☐ Excellent
   b. **Keyhole**
      - ☐ None  ☐ Poor  ☐ Fair  ☐ Good  ☐ Excellent
   c. **Double digging**
      - ☐ None  ☐ Poor  ☐ Fair  ☐ Good  ☐ Excellent
   d. **Armyworm**
      - ☐ None  ☐ Poor  ☐ Fair  ☐ Good  ☐ Excellent

3. How would you assess your capacity to train others on: (Tick the right box)

   a. **Conservation Agriculture**
      - ☐ None  ☐ Poor  ☐ Fair  ☐ Good  ☐ Excellent
   b. **Home Gardening**
      - ☐ None  ☐ Poor  ☐ Fair  ☐ Good  ☐ Excellent
   c. **Armyworm**
      - ☐ None  ☐ Poor  ☐ Fair  ☐ Good  ☐ Excellent
4. What are the areas in which you would like to *increase your knowledge*:

*(Rank your three main priorities from all the options below where 1 is the most important, 2 the second most important and 3 the third most important)*

<table>
<thead>
<tr>
<th>a. Conservation Agriculture</th>
<th>Minimum Soil Disturbance</th>
<th>Soil Cover</th>
<th>Crop Rotation/Intercropping</th>
<th>Other (specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Home Gardening</td>
<td>Keyhole</td>
<td>Double digging</td>
<td>Food preservation</td>
<td>Nutrition</td>
</tr>
<tr>
<td>c. Armyworm</td>
<td>Biology/Behaviour</td>
<td>Use of pesticides</td>
<td>Early warning</td>
<td>Other (specify)</td>
</tr>
<tr>
<td>d. Others (specify)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>