

## Final Component Report

|   |                                       |
|---|---------------------------------------|
| Component/<br>Expected Project<br>Result: 4 | <b>Crop Diversification Component</b> |
|---|---------------------------------------|

### 1. Achievement of the output and milestones in the component including what was not achieved and why?

The description of the achievements for all outputs and corresponding milestones is done by project site as listed below.

#### 1.1 Selected PNG sites

| <b>HISIU/Yule Island</b> |   |                              |                            |
|--------------------------|---|------------------------------|----------------------------|
| <b>O1</b>                | <b>Capacity for growing yam using improved locally acceptable production practices and farmer-selected varieties increased in the Hisiu/Yule Island Community</b>   |                              |                            |
|                          | <b>Milestones</b>   | Expected date of achievement | Actual date of achievement |
| M1                       | Baseline data collected, interested farmers and suitable sites for yam production demonstration identified.   | Aug 2013                     | Aug 2013                   |
| M2                       | Sufficient Yam rotundata assembled at NARI-SRC and MRC for yam mini-setting training and participatory research and demonstrations at the site.   | Aug 2013                     | Oct 2014                   |
| M3                       | Learning workshop on the yam mini-setting and nursery practices conducted.  | Sep 2013                     | Dec 2014                   |
| M4                       | Nursery established at Hisu & Yule Island and sufficient mini-sets and planting materials generated for planting of demonstration trial.  | Sep 2013                     | Dec 2014                   |
| M5                       | A demonstration plot comparing different size rotundata yam mini-sett, different densities and different staking options or other practices (will depend on baseline information) successfully established. | Oct 2013                     | Feb 2015                   |
| M6                       | A demonstration plot comparing different size rotundata production practices maintained till harvest.   | Jul 2014                     | Oct 2015                   |
| M7                       | Participatory evaluation of yam rotundata demo plot and trialed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted.                                | Jul 2014                     | Oct 2015                   |
| M8                       | Distribution of planting materials to interested farmers.   | Jul 2014                     | Oct 2015                   |
|                          |   |                              |                            |
| <b>O2</b>                | <b>Capacity for growing rice using locally appropriate production practices and varieties developed in Hisiu/Yule Island Community</b>  |                              |                            |
|                          | <b>Milestones</b>   | Expected date of achievement | Actual date of achievement |
| M1                       | Baseline data collected, interested farmers and suitable sites for rice production demonstration identified.  | May 2013                     | Oct 2013                   |
| M2                       | Sufficient rice seeds assembled at NARI-MRC & SRC for participatory research and demonstrations at the site   | Mar 2013                     | Mar 2013                   |
| M3                       | Training of interested farmers on the paddy field development and   | May 2013                     | Oct 2013                   |

|           |   |                              |                            |
|-----------|---|------------------------------|----------------------------|
|           | nursery practices conducted.  |                              |                            |
| M4        | Demonstration trial plot comparing different varieties and cultivation practices successfully established.  | Jun 2013                     | Feb 2015                   |
| M5        | Pest and disease control training and demonstrations conducted.   | Aug 2013                     | Aug 2013                   |
| M6        | Participatory evaluation of rice varieties and appropriate cultivation practices and selection of best performing varieties and practices based on farmer assessment. | Sep 2013                     | Jun 2015                   |
| M7        | Training and demonstration on harvesting, drying and processing practices successfully conducted.   | Oct 2013                     | Jun 2015                   |
| M8        | Demonstration plots for the best selected cultivation practices and variety for the community successfully established.   |                              | Activity cancelled         |
| M9        | Monitoring and follow up technical advice to successful farmers by NARI officers carried out - 3 months; 6 monthly basis.   | Dec 2014                     | Jul 15                     |
|           |   |                              |                            |
|           | <b>On-station NERICA Rice variety evaluation</b>  |                              |                            |
| M10       | Preliminary and Full project proposal of Promising NERICA rice varieties on-station (Laloki) under irrigated and upland conditions.                                   | Nov 2014                     | Nov 2014                   |
| M11       | Paddy and upland fields prepared for evaluation promising NERICA Rice varieties.  | Dec 2014                     | Dec 2014                   |
| M12       | Seedling nurseries established for evaluation promising NERICA Rice varieties.  | Dec 2014                     | Mar 2015                   |
| M13       | Replicated trials established for evaluation promising NERICA rice varieties on-station (Laloki) under irrigated and upland conditions.                               | Jan 2015                     | Mar 2015                   |
| M14       | Trials monitored and maintained and growth and development data collected.  | Feb 2015                     | Apr 2015                   |
| M15       | Trials harvested and yield data collected.  | Jun 2015                     | Jul 2015                   |
| M16       | Trial data and analyzed and report preliminary prepared.  | Jul 2015                     | Feb 2016                   |
|           |   |                              |                            |
| <b>O3</b> | <b>Capacity for growing cassava using improved locally acceptable production practices and farmer-selected varieties increased in the Hisiu/Yule Island Community</b> |                              |                            |
|           | <b>Milestones</b>   | Expected date of achievement | Actual date of achievement |
| M1        | Baseline data collected, interested farmers and suitable sites for cassava production demonstration identified.   | May 2013                     | Oct 2013                   |
| M2        | Sufficient cassava planting materials assembled at NARI-SRC for participatory research and demonstrations at the site.  | Jul 2013                     | Jul 2013                   |
| M3        | Demonstration trial plot comparing different varieties and different densities or other practices (will depend on baseline information) successfully established.     | Sep 2013                     | Dec 2014                   |
| M4        | Participatory evaluation of cassava varieties and selection of best performing varieties and cultivation practices based on farmer assessment.                        | Sep 2015                     | Aug 2015                   |
| M5        | Bulking plots established in the community as e.g. an example of a community gene bank?) using best-practice bulking  |                              | Activity cancelled         |
| M6        | Farmer selected cassava varieties made available for dissemination in Hisiu and Yule Island Communities.  | Sep 2015                     | Aug 2015                   |
|           |   |                              |                            |
| <b>O5</b> | <b>Capacity for more efficient propagation of local seedless breadfruit trees enhanced in Hisiu/Yule Island community using a rapid propagation method</b>            |                              |                            |
|           | <b>Milestones</b>   | Expected date of achievement | Actual date of achievement |

|                   |   |                              |  |
|-------------------|---|------------------------------|--|
| M1                | Basic data and information on the number of varieties cultivated and the traditional techniques of propagation collected.   | May 2013                     | May 2013                                     |
| M2                | Suitable breadfruit plant parts identified for rapid propagation using the non-mist propagator technology (on-station).   | Mar 2013                     | Experiment cancelled due to staff negligence |
| M3                | Appropriate breadfruit plant parts evaluated for effective propagation using the non-mist propagator technology (on-station).   | Sep 2013                     | Activity cancelled                           |
| M4                | On-farm evaluation of the rapid multiplication of breadfruit using most effective parts of the plant using the non-mist propagator technology.  | Feb 2014                     | Activity cancelled                           |
| M5                | Participatory evaluation of the technique and technology for rapid multiplication and cultivation of breadfruit trees by participating farmers.   | Dec 2015                     | Activity cancelled                           |
| M6                | Interested individual farmers received breadfruit (seedling) planting materials.  | Dec 2015                     | Activity cancelled                           |
|                   |   |                              |  |
| <b>O6</b>         | <b>Capacity for growing vegetables (tomato, capsicum and beans) using improved locally acceptable production practices and locally performing varieties increased in the Hisiu community</b>        |                              |  |
| <b>Milestones</b> |   | Expected date of achievement | Actual date of achievement                   |
| M1                | Baseline data collected, interested farmers and suitable sites for vegetable production demonstration identified.   | Aug 2013                     | Jan 2014                                     |
| M2                | On-station evaluation of varieties at NARI-SRC for participatory research and demonstrations at the site.   | Jul 2013                     | Jul 2013                                     |
| M3                | Importation of improved open pollinated vegetables from AVRDC.  | Sep 2014                     | Mar 2014                                     |
| M4                | Identification of trial sites or model farmers.   | Jun 2014                     | Jan 2014                                     |
| M5                | Establishment of sites and vegetable nurseries.   | Dec 2014                     | Apr 2014                                     |
| M6                | Demonstration trail plot comparing different varieties and different cultivation practices and post-harvest and packaging practices (will depend on baseline information) successfully established. | Mar 2015                     | Dec 2014                                     |
| M7                | Participatory evaluation of different vegetable varieties and selection of best performing based on farmer assessment.  | Jun 2015                     | Mar 2015                                     |
| M8                | Next round of interested farmers & suitable sites for vegetables established.   | Jul 2015                     | Mar 2015                                     |

Activities for **M1** for all sites at Hisiu and Yule Island was collecting baseline data such as what varieties or species of the particular crop was grown by the farmers. What was the cultivation or management practices currently or has been practices and what needs to be improved. The model farmers were interviewed and also transect walk to their gardens or farms and also general around the area to see the environment and the vegetation available to help determine what intervention will be needed or required.

**M2** for all the other outputs except for O2, the required planting materials or seeds were bulked or multiplied at NARI centres or procured from other farmers outside of the project areas to take to the pilot sites for the model farmers to use of their respective crops' demonstration trials.

**M3** For yam and rice, farmer learning/demonstration workshops or trainings were conducted to show/demonstrate certain techniques to the model farmers and other interested farmers

before the establishment of demonstration trials. While the other outputs (Cassava, bread fruit and vegetables), demonstration trials were established and conducted on model farmers' fields. For bread fruit, experiment in the non-mist propagator was conducted at NARI-Laloki. Two Non-mist propagators were constructed to carry out this trial on station.

**M4** for the bread fruit; method of bread fruit propagation technique tested seem to work well with the hard woody part of the branches giving 50-80% germination compared to shoot tips and very old or very hard woody stem or branches. However, the experiment shows that although it produces shoots it had problems or difficulty rooting. However, the sprouted or germinated one were dead due to staff negligence and high turnover of staff responsible for the experiment at Laloki. It does show some promising results and this work will be further evaluated after this project.

**(M4 or 5 or 6)**. The farmer participatory evaluation process was conducted during the harvest times of the respective crops and the interested farmers and general community members attended the harvest and mini field days and assess the performance of the crop yields or the techniques used which gives good results of improved yields and production.

**(M6 or 7 or 8)**. The planting materials and seeds were distributed during the farmer field days or any other times the interested farmers from the village or other surrounding areas came to the model farmers or distributed through the family relations.

**(M8)** For the vegetable; there were two rounds of interested model farmers took part in evaluating the different vegetables.

**O2: M10-16** were the late inclusion of on-station NERIC rice variety evaluation at NARI-Laloki.

| <b>MURUKANAM</b>  |   |                              |                            |
|-------------------|---|------------------------------|----------------------------|
| <b>O3</b>         | <b>'Capacity for growing yam using improved locally acceptable production practices and farmer-selected varieties increased in the Murukanam Community</b>  |                              |                            |
| <b>Milestones</b> |   | Expected date of achievement | Actual date of achievement |
| M1                | Baseline data collected, interested farmers and suitable sites for yam production demonstration identified.   | Aug 2013                     | Sep 2013                   |
| M2                | Sufficient Yam rotundata assembled at NARI MRC for yam mini-setting training and participatory research and demonstrations at the site.   | Sep 2013                     | Sep 2013                   |
| M3                | Learning workshop on the yam mini-setting and nursery practices conducted.  | Oct 2013                     | Oct 2013                   |
| M4                | Nursery established at Murukanam with mini-setts to plant demonstration trial.  | Oct 2013                     | Oct 2013                   |
| M5                | Demonstration plot comparing different size rotundata yam mini-sett, different densities and different staking options or other practices (will depend on baseline information) successfully established. | Nov 2013                     | Nov 2013                   |
| M6                | Participatory evaluation of yam rotundata demo plot and trialed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted.                              | Jul 2013                     | Aug 2013                   |
| M7                | Bulking plots established in the community using best cultivation practices (large miniset under low density with staking).   | Dec 2015                     | Nov 2014                   |
| M8                | Distribution of planting materials to interested farmers.   | Aug 2015                     | Aug 2014                   |
| M9                | Sufficient planting materials of anthracnose resistant yams generated (TC plantlets) at MRC to establish enough mini-tuber plot on-station.   | Aug 2013                     | Activity cancelled         |
| M10               | Sufficient planting material (mini-tubers from TC plantlets) of   | Jul 2014                     | Activity                   |

|           |   |                              |                            |
|-----------|---|------------------------------|----------------------------|
|           | anthracnose resistant Yam alata generated at MRC to establish a demonstration plot in the community.  |                              | cancelled                  |
| M11       | Demonstration plot with Yam alata vs local varieties established.   | Oct 2014                     | Activity cancelled         |
| M12       | Demonstration plot with Yam alata vs local varieties maintained to harvest.   | Apr 2015                     | Activity cancelled         |
| M13       | Participatory evaluation of yam alata varieties and selection of best performing variety based on farmer assessment carried out.                                  | Apr 2015                     | Activity cancelled         |
| M14       | Bulk planting material of farmers' selected best performing Yam. alata varieties established.   | Nov2015                      | Activity cancelled         |
| M15       | Interested individual farmers received Farmers selected Yam alata planting materials.   | Nov 2015                     | Activity cancelled         |
|           |   |                              |                            |
| <b>O4</b> | <b>'Capacity for growing cassava using improved locally acceptable production practices and farmer-selected varieties increased in the Murukanam Community</b>    |                              |                            |
|           | <b>Milestones</b>   | Expected date of achievement | Actual date of achievement |
| M1        | Baseline data collected, interested farmers and suitable sites for cassava production demonstration identified.   | Oct 2013                     | Dec 2013                   |
| M2        | Sufficient cassava planting materials assembled at NARI-Laloki & Bubia for participatory research and demonstrations at the site.                                 | Jul 2013                     | Aug 2013                   |
| M3        | Demonstration trail plot comparing different varieties and different densities or other practices (will depend on baseline information) successfully established. | Dec 2013                     | Jan 2014                   |
| M4        | Participatory evaluation of cassava varieties and selection of best performing based on farmer assessment.  | May 2014                     | Nov 2014                   |

Activities for **M1** for all planned outputs at Murukanam was collecting baseline data such as what number of yam varieties and species planted and the number of cassava varieties grown by the farmers. What was the cultivation or management practices currently or has been practices and what needs to be improved. The model farmers were interviewed and also transect walk to their gardens or farms and also general around the area to see the environment and the vegetation available to help determine what intervention will be needed or required.

**M2** for cassava, 10 cassava varieties were bulked at NARI-Laloki and Bubia and taken to the site.

**M3** for yam, mini-sett training was conducted for the interested and model farmers.

**M4 -8;** The African yam demonstration trials and the Cassava variety evaluation trials went very well and were harvested and farmer field days were conducted for farmer participatory evaluation of the varieties and technologies and planting materials distributed.

Milestones for all outputs planned for Murukanam were achieved yam (**M9 – 14**) for the anthracnose resistant *alata* yam imported from SPC in tissue culture cannot be taken to the farmer fields for evaluations because the staff responsible did not cooperate and mass multiply the plantlets in the tissue culture laboratory and disciplinary action was taken against the staff concern.

|               |  |                              |
|---------------|--|------------------------------|
| <b>KOPAFO</b> |  |                              |
| <b>O7</b>     | <b>Capacity for growing yam using improved locally acceptable production practices and farmer-selected varieties increased in the Kopafu Community</b> |                              |
|               | <b>Milestones</b>  | Expected date of achievement |
|               |  | Actual date of achievement   |

|   |   |                              |                            |
|---|---|------------------------------|----------------------------|
| M 1   | Baseline data collected, interested farmers and suitable sites for yam production demonstration identified.   | Oct 2013                     | Oct 2013                   |
| M 2   | Sufficient Yam rotundata assembled at NARI- MRC for yam mini-setting training and participatory research and demonstrations at the site.  | Oct 2013                     | Oct 2013                   |
| M 3   | Training of interested farmers on the yam mini-setting and nursery practices conducted.   | Oct 2013                     | Oct 2013                   |
| M 4   | Nursery established at Kofapo and sufficient mini-setts and planting materials generated for planting of demonstration trial.   | Sept 2013                    | Sep 2013                   |
| M 5   | A demonstration plot comparing different size rotundata yam mini-sett, different densities and different staking options or other practices (will depend on baseline information) successfully established. | Nov 2013                     | Dec 2013                   |
| M 6   | A demonstration plot comparing different size rotundata production practices maintained till harvest.   | Aug 2014                     | Dec 2013                   |
| M 7   | Participatory evaluation of yam rotundata demo plot and trialed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted.                                | Aug 2014                     | Dec 2014                   |
| <b>O8 Capacity for growing cassava using improved locally acceptable production practices and farmer-selected varieties increased in the Kopafu Community</b> |   |                              |                            |
| <b>Milestones</b>   |   | Expected date of achievement | Actual date of achievement |
| M 1   | Baseline data collected, interested farmers and suitable sites for cassava production demonstration identified.   | Oct 2013                     | Dec 2013                   |
| M 2   | Sufficient cassava planting materials assembled at NARI- Aiyura & Bubia for participatory research and demonstrations at the site.  | Jul 2013                     | Aug 2013                   |
| M 3   | Demonstration trail plot comparing different varieties and different densities or other practices (will depend on baseline information) successfully established.   | Oct 2013                     | Apr 2014                   |
| M 4   | Participatory evaluation of cassava varieties and selection of best performing based on farmer assessment.  | May 2015                     | July 2015                  |
| M 5   | Farmer-preferred Cassava varieties disseminated in the community to interested farmers.   | Jul 2015                     | Jul 2015                   |

Activities for **M1** for all planned outputs at Kopafu was collecting baseline data such as what number of yam varieties and species planted and the number of cassava varieties grown by the farmers. What was the cultivation or management practices currently or has been practices and what needs to be improved. The model farmers were interviewed and also transect walk to their gardens or farms and also general around the area to see the environment and the vegetation available to help determine what intervention will be needed or required.

**M2** for cassava, 10 cassava varieties were bulked at NARI-Laloki and Aiyura and taken to the site. The lowland varieties introduced from Laloki did not survive and all died and only the highland varieties introduced from Aiyura survived.

Milestones for output for African yam planned for Kopafu were achieved but for the cassava, all the demonstration trials were harvested by the farmers without informing the NARI Project team so the **M4 & 5** were not achieved as no yield data was collected and no farmer field day for participatory evaluation and materials distributions.

## TAMBUL

| <b>O1 Capacity for growing potatoes using improved locally acceptable production practices and PLB resistant varieties increased in the Tambul community</b> |  |                              |  |
|--|--|------------------------------|--|
| <b>Milestones</b>  |  | Expected date of achievement | Actual date of achievement   |
| M1   | Baseline data collected on number of farmers currently growing PLB resistant lines & interested farmers identified.  | Aug 2013                     | Jan 2014   |
| M2   | Suitable sites for PLB resistant potatoes evaluation demonstration identified  | Aug 2013                     | Jan 2014   |
| M3   | Sufficient seeds of PLB resistant varieties available for participatory research and demonstrations at the sites.  | Aug 2013                     | Jan 2014   |
| M4   | Establishment of participatory research (demonstration plot) plot for potato on farmers' field at Kiripia and Alkena (3 farmers each).   | Oct 2013                     | Jan/Feb 2014   |
| M5   | Repeat of participatory research (demonstration plot) plot for potato on farmers' field at Kiripia and Alkena (3 farmers each).  | Jan 2014                     | Sep 2015   |
| M6   | Participatory evaluation of PLB resistant varieties demo plot and trialed practices with participating farmers at Harvest and potato postharvest handling and storage training conducted | Feb 2014                     | Sep 2015   |
| M7   | Bulking of farmers' selected PLB resistant varieties in farmers fields   | May 2015                     | No activity due to El Nino   |
| M8   | Distribution of farmers' selected PLB resistant varieties to interested farmers  | Jun 2015                     | No activity due to El Nino   |
| <b>O2 Farmer-preferred cold tolerant maize varieties identified and available to the Tambul community</b>  |  |                              |  |
| <b>Milestones</b>  |  | Expected date of achievement | Actual date of achievement   |
| M1   | Base line data on the number of corn varieties and other related information on corn production and utilization in the area collected.   | Feb 2014                     | Nov/Dec 2014   |
| M2   | Sufficient seeds of cold tolerant maize varieties are available for participatory research and demonstrations at the sites.  | Sep 2013                     | May 2015   |
| M3   | Suitable sites and farmers for the cold tolerant maize evaluation or demonstration identified  | Feb 2014                     | Nov 2013   |
| M4   | Establishment of participatory research (demonstration plot) plot for maize on farmers' field at Kiripia and Alkena (3 farmers each).  | Mar 2014                     | Sep 2014   |
| M5   | Participatory evaluation of cold tolerant maize varieties demo plot and trialed practices with participating farmers at Harvest.   | Jun 2014                     | Activity cancelled due disease Southern corn leaf blight (Bipolaris) disease out break                     |
| M6   | Distribution of farmers' selected cold tolerant Maize varieties to interested farmers  | Jul 2015                     | Jul 2015   |
| M7   | Observation & Bulking of CIMMYT cold tolerant Maize varieties on station   | Nov 2014                     | All CYMMIT varieties destroyed due to highly susceptible to Southern corn leaf blight (Bipolaris) disease. |
| M8   | Evaluation of CIMMYT cold tolerant Maize varieties   | Jul 2015                     | All CYMMIT varieties   |

|   |  |                              |  |
|---|--|------------------------------|--|
|   | on station   |                              | destroyed due to highly susceptible to corn leaf blight (Bipolaris) disease. |
| <b>O3 Capacity for growing wheat using improved locally acceptable production practices and farmer-selected varieties increased in the Tambul Community</b> |  |                              |  |
| <b>Milestones</b>   |  | Expected date of achievement | Actual date of achievement   |
| M1  | Establishing base line data through a rapid assessment on the number of wheat varieties and other related information on wheat production and utilization.                           | Sep 2013                     | Nov 2013   |
| M2  | Establishment of on-station trail of the available wheat varieties or lines at NARI - Tambul station.  | Sep 2013                     | May 2015   |
| M3  | Sufficient seeds of the different wheat varieties are available for participatory research and demonstrations at the sites.  | Nov 2013                     | Sep 2014   |
| M4  | Identify at least two interested lead farmers for further on farm evaluation of the promising lines.   | Nov 2013                     | May 2014   |
| M5  | Setting up participatory research (demonstration plot) plot for wheat on farmers' field at Kiripia and Alkena (one farmer each).   | Nov 2013                     | May 2014   |
| M6  | Participatory evaluation of the wheat varieties demo plot and trialed practices with participating farmers at Harvest and wheat postharvest handling and storage training conducted. | May 2014                     | May 2015   |
| M7  | Distribution of farmers' selected Wheat variety to interested farmers.   | Sep 2015                     | Nov 2014   |
| M8  | Observation & Bulking of CIMMYT wheat varieties on station.  | Jan 2015                     | Apr 2015   |
| M9  | Evaluation of CIMMYT wheat varieties on station.   | Jul 2015                     | Ongoing and yet to complete  |
| <b>O4 Cold tolerant rice varieties suitable for Tambul conditions identified</b>  |  |                              |  |
| <b>Milestones</b>   |  | Expected date of achievement | Actual date of achievement   |
| M1  | On-station cold tolerant rice varieties trail established at NARI - Tambul station.  | Oct 2013                     | Activity cancelled   |
| M2  | On-farm observation plot for the cold tolerant rice varieties established at one site at Alkena.   | Oct 2013                     | Activity cancelled   |
| M3  | Monitoring and weeding.  | Dec 2013                     | Activity cancelled   |
| M4  | Varietal performance and yield data collected.   | Mar 2014                     | Activity cancelled   |

Activities for **M1** for all outputs planned for Tambul (Akena and Kiripia) was collecting baseline data such as what varieties or species of the particular crop was grown by the farmers. What was the cultivation or management practices currently or has been practices and what needs to be improved. The model farmers were interviewed and also transect walk to their gardens or farms and also general around the area to see the environment and the vegetation available to help determine what intervention will be needed or required.

Although most of the milestones for the different outputs planned for the Tambul sites were achieved many were not achieved, delayed or cancelled due to some situations and/or problems. For output 1, the potato seeds were not distributed to other farmers as planned due to the severe El Nino drought. For O2 (Maize) both the imported CIMMYT varieties and local maize varieties either in the seed multiplication or variety evaluation trials, all were destroyed due at leaf blight disease outbreak. The disease was suspected to be caused by



Southern corn leaf blight (*Bipolaris*). A situation report was sent to CIMMYT and request for new more tolerant varieties but did not report a response till the end of project.

O3 (wheat) 98 varieties of wheat were imported from CIMMYT for evaluation and preliminary on-station evaluation was conducted but further on farm evaluation was delayed due to the server El Nino drought.

O4 (Cold tolerant rice), this planned output was cancelled during the midterm project review due to shortage of qualified personnel and slowness in sourcing germplasm from IRRI or other sources.

## 1.2. Selected Solomon Island Sites

| <b>ARULIGHO</b> |  |                                     |                                   |
|-----------------|--|-------------------------------------|-----------------------------------|
| <b>O2</b>       | <b>Capacity for growing cassava using improved locally acceptable production practices and farmer-selected varieties increased in the Aruligho Community</b>   |                                     |                                   |
|                 | <b>Milestones</b>  | <b>Expected date of achievement</b> | <b>Actual date of achievement</b> |
| M1              | Baseline data collected, interested farmers and suitable sites for cassava production demonstration identified   | Aug 2013                            | Aug 2013                          |
| M2              | Sufficient cassava planting materials assembled at MAL for participatory research and demonstrations at the site   | Jun 2013                            | Jun 2013                          |
| M3              | Demonstration trail plot comparing different varieties and different densities or other practices (will depend on baseline information) successfully established   | Aug 2013                            | Aug 2013                          |
| M4              | Participatory evaluation of cassava varieties and selection of best performing based on farmer assessment  | Feb 2014                            |                                   |
| M5              | Assessing the time to maturity assessed on farm and bulking of materials   | Oct 2015                            | On going at Don Bosco             |
|                 |  |                                     |                                   |
| <b>O3</b>       | <b>Capacity for growing yam using improved locally acceptable production practices and farmer-selected varieties increased in the Aruligho community</b>   |                                     |                                   |
|                 | <b>Milestones</b>  | <b>Expected date of achievement</b> | <b>Actual date of achievement</b> |
| M1              | Baseline data collected, interested farmers and suitable sites for yam production demonstration identified   | Aug 2013                            | Oct 2013                          |
| M2              | Sufficient Yam rotundata assembled at MAL for yam mini-setting training and participatory research and demonstrations at the site  | Jul 2013                            | Jul 2013                          |
| M3              | Training of interested farmers on the yam mini-setting and nursery practices conducted   | Jul 2013                            | Jul 2013                          |
| M4              | Nursery established at Aruligho and sufficient mini-setts and planting materials generated for planting of demonstration trial   | Jul 2013                            | Jul 2013                          |
| M5              | A demonstration plot comparing different size rotundata yam mini-sett, different densities and different staking options or other practices (will depend on baseline information) successfully established | Aug 2013                            | Aug 2013                          |
| M6              | A demonstration plot comparing different size rotundata production practices maintained till harvest   | Aug 2013                            | Aug 2013                          |
| M7              | A demonstration plot comparing different rotundata production practices maintained till harvest  | Oct 2015                            |                                   |
| M8              | Participatory evaluation of yam rotundata demo plot and trailed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted                                | Oct 2015                            |                                   |

Activities for **M1** for all outputs planned for Aruligho was collecting baseline data such as what varieties or species of the particular crop was grown by the farmers. What was the cultivation or management practices currently or has been practices and what needs to be improved. The model farmers were interviewed and also transect walk to their gardens or farms and also general around the area to see the environment and the vegetation available to help determine what intervention will be needed or required.

All milestones planned for the two output (Cassava and Yam) at Aruligho were achieved without and major problems or setbacks. Further assessments on maturity and bulking of planting materials are continuing at Don Bosco training school.

| <b>HUNDA &amp; KENA</b> |  |                                     |                                   |
|-------------------------|--|-------------------------------------|-----------------------------------|
| <b>O3</b>               | <b>Capacity for growing yam using improved locally acceptable production practices and farmer-selected varieties increased in the Hunda-Kena community</b>   |                                     |                                   |
|                         | <b>Milestones</b>  | <b>Expected date of achievement</b> | <b>Actual date of achievement</b> |
| M1                      | Baseline data collected, interested farmers and suitable sites for yam production demonstration identified   | Aug 2013                            | Aug 2013                          |
| M2                      | Sufficient Yam rotundata assembled at MAL for yam mini-setting training and participatory research and demonstrations at the site  | Jul 2013                            | Aug 2013                          |
| M3                      | Training of interested farmers on the yam mini-setting and nursery practices conducted   | Jul 2013                            | Aug 2013                          |
| M4                      | Nursery established at Hunda and sufficient mini-setts and planting materials generated for planting of demonstration trial  | Jul 2013                            | Aug 2013                          |
| M5                      | A demonstration plot comparing different size rotundata yam mini-sett, different densities and different staking options or other practices (will depend on baseline information) successfully established | Aug 2013                            | Oct 2013                          |
| M6                      | A demonstration plot comparing different size rotundata production practices maintained til harvest  | Aug 2013                            | Oct 2013                          |
| M7                      | Participatory evaluation of yam rotundata demo plot and trialed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted                                | May 2014                            | Jul 2014                          |
| M8                      | A demonstration plot comparing different rotundata production practices maintained till harvest  | Oct 2015                            |                                   |
| M9                      | Participatory evaluation of yam rotundata demo plot and trialed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted                                | Oct 2015                            |                                   |
| <b>O4</b>               | <b>Capacity for growing cassava using improved locally acceptable production practices and farmer-selected varieties increased in the Hunda-Kena Community</b>   |                                     |                                   |
| M1                      | Baseline data collected, interested farmers and suitable sites for cassava production demonstration identified   | Apr 2013                            | Aug 2013                          |
| M2                      | Sufficient cassava planting materials assembled at MAL for participatory research and demonstrations at the site   | Jun 2013                            | Jun 2013                          |
| M3                      | Demonstration trail plot comparing different varieties and different densities or other practices (will depend on baseline information) successfully established   | Aug 2013                            | Aug 2014                          |
| M4                      | Participatory evaluation of cassava varieties and selection of best performing based on farmer assessment  | Feb 2014                            | May 2014                          |
| M5                      | Assessing the time to maturity assessed on farm and bulking of materials   | Oct 2015                            |                                   |

All milestones planned for the two output (Cassava and Yam) at Hunda/Akena were achieved without and major problems or setbacks. Further assessments on maturity and bulking of planting materials are continuing at site.

| <b>BUMA</b> |  |                                     |                                   |
|-------------|--|-------------------------------------|-----------------------------------|
| <b>O5</b>   | <b>Capacity for growing yam using improved locally acceptable production practices and farmer-selected varieties increased in the Buma community</b>   |                                     |                                   |
|             | <b>Milestones</b>  | <b>Expected date of achievement</b> | <b>Actual date of achievement</b> |
| M1          | Baseline data collected, interested farmers and suitable sites for yam production demonstration identified   | Jun 2013                            | Jun 2013                          |
| M2          | Sufficient Yam rotundata assembled at MAL for yam mini-setting training and participatory research and demonstrations at the site  | Jul 2013<br>Mar 2015                | Jul 13                            |
| M3          | Training of interested farmers on the yam mini-setting and nursery practices conducted   | Jul 2013<br>Mar 2015                | Jun 15                            |
| M4          | Nursery established at Buma and sufficient mini-setts and planting materials generated for planting of demonstration trial   | Jul 2013<br>Mar 2015                |                                   |
| M5          | A demonstration plot comparing different size rotundata yam mini-sett, different densities and different staking options or other practices (will depend on baseline information) successfully established | Aug 2013<br>Apr 2015                | Sep 2013                          |
| M6          | A demonstration plot comparing different size rotundata production practices maintained till harvest   | Aug 2013<br>Apr 2015                | Sep 2013                          |
| M7          | A demonstration plot comparing different rotundata production practices maintained till harvest  | Jan 2016                            |                                   |
| M8          | Participatory evaluation of yam rotundata demo plot and trialed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted                                | Jan 2016                            |                                   |
|             |  |                                     |                                   |
| <b>O6</b>   | <b>Capacity for growing cassava using improved locally acceptable production practices and farmer-selected varieties increased in the Buma Community</b>   |                                     |                                   |
|             | <b>Milestones</b>  | <b>Expected date of achievement</b> | <b>Actual date of achievement</b> |
| M1          | Baseline data collected, interested farmers and suitable sites for cassava production demonstration identified   | Aug 2013                            |                                   |
| M2          | Sufficient cassava planting materials assembled at MAL for participatory research and demonstrations at the site   | Jul 2013                            |                                   |
| M3          | Demonstration trail plot comparing different varieties and different densities or other practices (will depend on baseline information) successfully established   | Aug 2013<br>Jan 2015                |                                   |
| M4          | Participatory evaluation of cassava varieties and selection of best performing based on farmer assessment  | Feb 2014                            |                                   |
| M5          | Assessing the time to maturity assessed on farm and bulking of materials   | Oct 2015                            |                                   |
|             |  |                                     |                                   |
| <b>O7</b>   | <b>Capacity for more efficient propagation of local breadfruit trees enhanced in Buma community using a rapid propagation method</b>   |                                     |                                   |
|             | <b>Milestones</b>  | <b>Expected date of achievement</b> | <b>Actual date of achievement</b> |
| M1          | Basic data and information on the number of varieties cultivated and the traditional techniques of propagation collected.  | Mar 2015                            |                                   |

|    |   |          |  |
|----|---|----------|--|
| M2 | Sufficient breadfruit planting materials assembled at MAL for participatory research and demonstrations at the site | Apr 2015 |  |
| M3 | Lead farmers are identified, supplied with planting materials, trained on new propagation and cultivation practices | Apr 2015 |  |
| M4 | Participatory assessment of the planting materials and technologies   | Jan 2016 |  |

Activities for **M1** for all outputs planned for Buma was collecting baseline data such as what varieties or species of the particular crop was grown by the farmers. What was the cultivation or management practices currently or has been practices and what needs to be improved. The model farmers were interviewed and also transect walk to their gardens or farms and also general around the area to see the environment and the vegetation available to help determine what intervention will be needed or required.

All milestones planned for the two output (Cassava and Yam) at Buma were achieved without and major problems or setbacks. Further assessments on maturity and bulking of planting materials are continuing at site.

The bread fruit planting materials (root stock sprouts) were sourced from a farmer in Temotu Province and assembled in Honiara before shipped over to Buma for distribution to interested model farmers.

### 1.3. Selected Vanuatu Sites

| <b>Siviri</b> |  |                              |                            |
|---------------|--|------------------------------|----------------------------|
| <b>O3</b>     | <b>Capacity for growing cassava using improved locally acceptable production practices and farmer-selected varieties increased in the Siviri Community</b>   |                              |                            |
|               | <b>Milestones</b>  | Expected date of achievement | Actual date of achievement |
| M1            | Baseline data collected, interested farmers and suitable sites for cassava production demonstration identified   | Aug 2013                     | Jul 2013                   |
| M2            | Sufficient cassava planting materials assembled at VARTC for participatory research and demonstrations at the site   | Jun 2013                     | Jul 2013                   |
| M3            | Demonstration trail plot comparing different varieties and different densities or other practices (will depend on baseline information) successfully established   | Jul 2013                     | Jul 2013                   |
| M4            | Participatory evaluation of cassava varieties and selection of best performing based on farmer assessment  | Feb 2014                     | Jan 14                     |
| <b>O4</b>     | <b>Capacity for growing yam using improved locally acceptable production practices and farmer-selected varieties increased in the Siviri Community</b>   |                              |                            |
| M1            | Baseline data collected, interested farmers and suitable sites for yam production demonstration identified   | Aug 2013                     | Dec 2014                   |
| M2            | Sufficient Yam rotundata assembled at VARTC & DARD for yam mini-setting training and participatory research and demonstrations at the site   | Jul 2013                     | Dec 2014                   |
| M3            | Training of interested farmers on the yam mini-setting and nursery practices conducted   | Jul 2013                     | Jul 2013                   |
| M4            | Nursery established at Siviri and sufficient mini-setts and planting materials generated for planting of demonstration trial   | Jul 2013                     | Jul 2013                   |
| M5            | A demonstration plot comparing different size rotundata yam mini-sett, different densities and different staking options or other practices (will depend on baseline information) successfully established | Aug 2013                     | Jul/Aug 2014               |
| M6            | A demonstration plot comparing different size rotundata production practices maintained till harvest   | Aug 2013                     | Jul/Aug 2014               |

|     |   |  |         |
|-----|---|--|---------|
| M7  | Participatory evaluation of yam rotundata demo plot and trialed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted | May 2014                                     | Sept 13 |
| M8  | Sufficient planting material (mini-tubers from TC plantlets) of anthracnose resistant Yam alata generated at VARTC to establish a demonstration plot in the community       | Mar 2014                                     | Sept 13 |
| M9  | Demonstration plot with Yam alata vs local varieties (e.g. D. esculenta) established  | Jun 2014                                     | Jul 14  |
| M10 | Participatory evaluation of yam alata varieties and selection of best performing based on farmer assessment   | Dec 2014                                     | Fed 15  |
| O5  | Capacity for more efficient propagation of local breadfruit trees enhanced in Siviri community using a rapid propagation method   |  |         |
| M1  | Basic data and information on the number of varieties cultivated and the traditional techniques of propagation collected.   | <i>Cancelled because Hisiu trials failed</i> |         |
|     | <i>Once the Hisiu breadfruit propagation work is successful then it will be used or applied there at Siviri site.</i>   |  |         |

Activities for **M1** for all outputs planned for Siviri was collecting baseline data such as what varieties or species of the particular crop was grown by the farmers. What was the cultivation or management practices currently or has been practices and what needs to be improved. The model farmers were interviewed and also transect walk to their gardens or farms and also general around the area to see the environment and the vegetation available to help determine what intervention will be needed or required.

All milestones planned for outputs 3 (**O3**) Cassava at Siviri were achieved without and major problems or setbacks but for output 4 (**O4**) Yam was destroyed by cyclone Pam at one of the model farms and no proper harvest and participatory assessment were made. In the other model farm, the farmer harvested the yams without informing the Project staff and also the african yam tubers were not weight and some stolen.

**(O5)**; For bread fruit propagation it was planned depending on the successful outcome of the bread fruit propagation trials at Hisiu in PNG. Since the bread fruit propagation trials at Hisiu failed, the activities planned for Siviri was cancelled.

| <b>MALAFAU</b> |  |                              |                            |
|----------------|--|------------------------------|----------------------------|
| <b>O2</b>      | <b>Capacity for growing cassava using improved locally acceptable production practices and farmer-selected varieties increased in the Malafau Community</b>      |                              |                            |
|                | <b>Milestones</b>  | Expected date of achievement | Actual date of achievement |
| M1             | Baseline data collected, interested farmers and suitable sites for cassava production demonstration identified   | Aug 2013                     | Jul 2013                   |
| M2             | Sufficient cassava planting materials assembled at VARTC for participatory research and demonstrations at the site   | Jun 2013                     | Jul 2013                   |
| M3             | Demonstration trail plot comparing different varieties and different densities or other practices (will depend on baseline information) successfully established | Jul 2013                     | Jul 2013                   |
| M4             | Participatory evaluation of cassava varieties and selection of best performing based on farmer assessment  | Feb 2014                     | Jan 14                     |
| <b>O3</b>      | <b>Capacity for growing yam using improved locally acceptable production practices and farmer-selected varieties increased in the Malafau Community</b>          |                              |                            |
|                | <b>Milestones</b>  | Expected date of achievement | Actual date of achievement |

|           |  |                              |                            |
|-----------|--|------------------------------|----------------------------|
| M1        | Baseline data collected, interested farmers and suitable sites for yam production demonstration identified   | Aug 2013                     | Jul 2013                   |
| M2        | Sufficient Yam rotundata assembled at VARTC & DARD for yam mini-setting training and participatory research and demonstrations at the site   | Jul 2013                     | Jul 2013                   |
| M3        | Training of interested farmers on the yam mini-setting and nursery practices conducted   | Jul 2013                     | Jul 2013                   |
| M4        | Nursery established at Siviri and sufficient mini-setts and planting materials generated for planting of demonstration trial   | Jul 2013                     | Jul 2013                   |
| M5        | A demonstration plot comparing different size rotundata yam mini-sett, different densities and different staking options or other practices (will depend on baseline information) successfully established | Aug 2013                     | Apr 15                     |
| M6        | A demonstration plot comparing different size rotundata production practices maintained till harvest   | Aug 2013                     | Mar 14                     |
| M7        | Participatory evaluation of yam rotundata demo plot and trialed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted                                | May 2014                     | Aug/Sep 2014               |
| M8        | Sufficient planting material (mini-tubers from TC plantlets) of anthracnose resistant Yam alata generated at VARTC to establish a demonstration plot in the community                                      | Mar 2014                     | Jul 15                     |
| M9        | Demonstration plot with Yam alata vs local varieties (e.g. D. esculenta) established   | Jun 2014                     | Aug 15                     |
| M10       | Participatory evaluation of yam alata varieties and selection of best performing based on farmer assessment  | Dec 2014                     | Aug/Sep 2014               |
| <b>O4</b> | <b>Capacity for growing rice using locally appropriate production practices and varieties developed in Malafau Community</b>   |                              |                            |
|           | <b>Milestones</b>  | Expected date of achievement | Actual date of achievement |
| M1        | Baseline data collected, interested farmers and suitable sites for rice production demonstration identified  | Feb 2014                     | Cancelled                  |
| M2        | Sufficient rice seeds assembled at DARD for participatory research and demonstrations at the site  | Jan 2014                     | Cancelled                  |
| M3        | Training of interested farmers on the paddy field development and nursery practices conducted  | May 2014                     | Cancelled                  |
| M4        | Demonstration trial plot comparing different varieties and cultivation practices successfully established  | Jun 2014                     | Cancelled                  |
| M5        | Pest and disease control training and demonstrations conducted   | Aug 2014                     | Cancelled                  |
| M6        | Participatory evaluation of rice varieties and appropriate cultivation practices and selection of best performing varieties and practices based on farmer assessment                                       | Sep 2014                     | Cancelled                  |
| M7        | Training and demonstration on harvesting, drying and processing practices successfully conducted.  | Sep 2014                     | Cancelled                  |
| M8        | Demonstration plots for the best selected cultivation practices and variety for the community successfully established   | Oct 2014                     | Cancelled                  |
| M9        | Monitoring and follow up technical advice to successful farmers by DARD officers carried out - 3 months; 6 monthly basis   | Nov 14<br>Jan 15<br>Mar 15   | Cancelled                  |

Activities for **M1** for all outputs planned for Malafau was collecting baseline data such as what varieties or species of the particular crop was grown by the farmers. What was the

cultivation or management practices currently or has been practices and what needs to be improved. The model farmers were interviewed and also transect walk to their gardens or farms and also general around the area to see the environment and the vegetation available to help determine what intervention will be needed or required.

All milestones planned for O2 (Cassava) and O3 (Yam) were successfully achieved. However for O4 (rice) the Malafau farmers decided not to work on rice so the planned output for that site was cancelled and the Middlebush people put a late request through DARD to work on rice so that output was moved to Middlebush site.

| <b>Middlebush</b> |  |                              |                            |
|-------------------|--|------------------------------|----------------------------|
| <b>O3</b>         | <b>Capacity for growing cassava using improved locally acceptable production practices and farmer-selected varieties increased in the Middlebush Community</b>   |                              |                            |
|                   | <b>Milestones</b>  | Expected date of achievement | Actual date of achievement |
| M1                | Baseline data collected, interested farmers and suitable sites for cassava production demonstration identified   | Aug 2013                     | Q4 2014                    |
| M2                | Sufficient cassava planting materials assembled at VARTC for participatory research and demonstrations at the site   | Jun 2013                     | Q4 2014                    |
| M3                | Demonstration trail plot comparing different varieties and different densities or other practices (will depend on baseline information) successfully established   | Jul 2013                     | Q4 2014                    |
| M4                | Participatory evaluation of cassava varieties and selection of best performing based on farmer assessment  | Feb 2014                     | Dec 14                     |
| <b>O4</b>         | <b>Capacity for growing yam using improved locally acceptable production practices and farmer-selected varieties increased in the Middlebush Community</b>   |                              |                            |
| M1                | Baseline data collected, interested farmers and suitable sites for yam production demonstration identified   | Aug 2013                     | Q3 2014                    |
| M2                | Sufficient Yam rotundata assembled at VARTC & DARD for yam mini-setting training and participatory research and demonstrations at the site   | Jul 2013                     | Q3 2014                    |
| M3                | Training of interested farmers on the yam mini-setting and nursery practices conducted   | Jul 2013                     | Q3 2014                    |
| M4                | Nursery established at Siviri and sufficient mini-setts and planting materials generated for planting of demonstration trial   | Jul 2013                     | Q3 2014                    |
| M5                | A demonstration plot comparing different size rotundata yam mini-sett, different densities and different staking options or other practices (will depend on baseline information) successfully established | Aug 2013                     | Q4 2014                    |
| M6                | A demonstration plot comparing different size rotundata production practices maintained till harvest   | Aug 2013                     | Q4 2014                    |
| M7                | Participatory evaluation of yam rotundata demo plot and trialed practices with participating farmers at Harvest and yam postharvest handling and storage training conducted                                | May 204                      | Aug 15                     |
| M8                | Sufficient planting material (mini-tubers from TC plantlets) of anthracnose resistant Yam alata generated at VARTC to establish a demonstration plot in the community                                      | Mar 2014                     | Aug 15                     |
| M9                | Demonstration plot with Yam alata vs local varieties (e.g. D. esculenta) established   | Jun 2014                     | Oct 15                     |

|           |  |                            |         |
|-----------|--|----------------------------|---------|
| M10       | Participatory evaluation of yam alata varieties and selection of best performing based on farmer assessment  | Jun 2014                   | Oct 15  |
| <b>O5</b> | <b>Capacity for growing rice using locally appropriate production practices and varieties developed in Middlebush Community</b>                                      |                            |         |
| M1        | Baseline data collected, interested farmers and suitable sites for rice production demonstration identified  | Feb 2014                   | Feb 15  |
| M2        | Sufficient rice seeds assembled at DARD for participatory research and demonstrations at the site  | Jan 2014                   | Feb15   |
| M3        | Training of interested farmers on the paddy field development and nursery practices conducted  | May 2014                   | Feb 15  |
| M4        | Demonstration trial plot comparing different varieties and cultivation practices successfully established  | Jun 2014                   | Jan 16  |
| M5        | Pest and disease control training and demonstrations conducted   | Aug 2014                   | cancel  |
| M6        | Participatory evaluation of rice varieties and appropriate cultivation practices and selection of best performing varieties and practices based on farmer assessment | Sep 2014                   | July 15 |
| M7        | Training and demonstration on harvesting, drying and processing practices successfully conducted.  | Sep 2014                   | Jan 16  |
| M8        | Demonstration plots for the best selected cultivation practices and variety for the community successfully established   | Oct2014                    | Dec 15  |
| M9        | Monitoring and follow up technical advice to successful farmers by DARD officers carried out - 3 months; 6 monthly basis   | Nov 14<br>Jan 15<br>Mar 15 | Feb 16  |

Activities for **M1** for all outputs planned for Midlebush was collecting baseline data such as what varieties or species of the particular crop was grown by the farmers. What was the cultivation or management practices currently or has been practices and what needs to be improved. The model farmers were interviewed and also transect walk to their gardens or farms and also general around the area to see the environment and the vegetation available to help determine what intervention will be needed or required.

All milestones planned for **O3** (Cassava) and **O4** (Yam) were successfully achieved. The **O5** (rice) was a late inclusion after the farmers decided to work on rice and requested the DARD to include as the fifth output for that site and the Middlebush people worked on rice. Two rice varieties from PNG, NR1 and NR15 was introduced and demonstration plot was established and trainings were conducted. The two rice varieties did very well under Middlebush condition.

## 2. Modifications in implementation plans at sites for this component and overall component plan and reasons for modifications

- The introduction and demonstrations of tissue cultured crops germplasm imported from SPC such as anthracnose resistant yam (*D. alata*), cassava and other were not mass multiplied as expected thus was not taken to the fields at Murukanam in PNG and Aruligho in Solomon Islands and the planned milestones were cancelled.
- The on-station bread fruit propagation experiment at NARI –Laloki for the Hisiu site was cancelled because of staff turnover and negligence thus it also affected the Siviri site output for bread fruit propagation.
- The vegetable evaluation work in cooperated the irrigation systems and technologies.
- The NERICA Rice variety evaluation on station at Laloki was as an output in the Hisiu/Yule Island pilot site activity.



### 3. Achievements for the overall component objectives and results including consolidated indicator information

| <b>CROP DIVERSIFICATION</b> |   |                              |                            |
|-----------------------------|---|------------------------------|----------------------------|
| <b>A1</b>                   | <b>Source alternative sweet potato varieties, crops and crop varieties from national and international collections which are tolerant to precipitation excesses or deficits or saline soil conditions</b>   |                              |                            |
| <b>MILESTONE</b>            |   | Expected date of achievement | Actual date of achievement |
| M1                          | Collection of SP varieties and accessions sourced from different national and international collections assembled at Bubia  | Q3-13                        | Q4-13                      |
| M2                          | Other crops and crops varieties from national and international collections sourced and assembled at Bubia  | Q3-13                        | Q3-13                      |
| M3                          | On-Station screening and selection on good storage root yield of climate ready SP varieties introduced from CePaCT-SPC  | Q3-14                        | Q4-14                      |
| M4                          | Collection of SP and other crop varieties available for pilot site testing assembled in SI  | Q2-14                        | Q4-14                      |
| M5                          | Collection of SP and other crop varieties available for pilot site testing assembled in Vu  | Q2-14                        | Q4-14                      |
| <b>A2</b>                   | <b>Screening of indigenous germplasm, locally bred and imported varieties of sweet potato and other crops/crop varieties under simulated conditions (in vivo and in vitro) to assess tolerance to drought, moisture excess and salinity condition , and to identify promising varieties</b> |                              |                            |
| <b>MILESTONE</b>            |   | Expected date of achievement | Actual date of achievement |
| M1                          | Tissue culture lab at Bubia operational   | Q1-12                        | Q1-12                      |
| M2                          | Tissue culture lab at SI rehabilitated  | Q4 12                        | N/O                        |
| M3                          | All SP accessions initiated and maintained in TC (Germplasm collections, collections from CePaCT, popular farmer varieties)   | Q1 14                        | Q4 14                      |
| M4                          | Protocols for in vitro screening of SP for drought and salinity standardized  | Q2-14                        | A                          |
| M5                          | Best-bet SP accessions for tolerance to drought identified for in vivo testing  | Q2-14                        | A                          |
| M6                          | Best-bet SP accessions for tolerance to salinity identified for in vivo testing   | Q2-14                        | A                          |
| M7                          | Phenology grouping of PNG SP accessions established   | Q4-13                        | Q1-14                      |
| M8                          | Protocols for screening of SP accessions for drought, excess moisture and salinity established  | Q1-14                        | Q3-14                      |
| M9                          | Best bet SP accessions with tolerance to soil moisture deficit identified for validation at pilot sites   | Q3-14                        | Q4-14                      |
| M10                         | Best bet SP accessions with tolerance to soil moisture excess identified for validation at pilot sites  | Q3-14                        | Q4-14                      |
| M11                         | Best bet SP accessions with tolerance to soil salinity identified for validation at pilot sites   | Q4-14                        | Q4-14                      |
| M12                         | PT popular farmer varieties available for re-distribution   | Q3-15                        | Q2-15                      |
| M13                         | Rainout shelter constructed at Bubia  | Q1-15                        |                            |
| <b>A3</b>                   | <b>Validation and piloting of sweet potato adaptability to different stresses at pilot sites and</b>  |                              |                            |

|           |  |                              |                            |
|-----------|--|------------------------------|----------------------------|
|           | <b>introduction of other crops and crop varieties in target communities in PNG, SI and Vu</b>  |                              |                            |
|           | <b>MILESTONE</b>   | Expected date of achievement | Actual date of achievement |
| M1        | Implementation of pilot site activities completed  | Q4 2015                      | Q4 2015                    |
| <b>A4</b> | <b>Piloting of selected improved cultivation practices for priority staple crops in target communities in PNG, SI, Vu according to expressed needs</b> |                              |                            |
|           | <b>MILESTONE</b>   | Expected date of achievement | Actual date of achievement |
| M1        | Implementation of pilot site activities completed  | Q4 2015                      | Q4 2015                    |
| <b>A6</b> | <b>Assessment of existing mechanisms for provision of quality seed to farming communities in PNG, SI, Vu and recommendations for improvement</b>       |                              |                            |
|           | <b>MILESTONE</b>   | Expected date of achievement | Actual date of achievement |
| M1        | Desktop review of seed supply systems in PNG, SI, Vu   | Q3-15                        |                            |
| M2        | Stakeholder workshop on seed supply systems held in PNG  | Q4-15                        |                            |
| M3        | Stakeholder workshop on seed supply systems held in SI   | Q4-15                        |                            |
| M4        | Stakeholder workshop on seed supply systems held in Vu   | Q4-15                        |                            |
| M5        | Policy brief submitted to relevant Government bodies in PNG, SI, Vu  | Q4-15                        |                            |

A summary of component related activities per result category A1 to A6 for the crop diversification component is given in this section of the report.

| <b>Crop Diversification Component</b> |   |  |
|---------------------------------------|---|--|
| <b>A1</b>                             | <b>Source alternative sweet potato varieties, crops and crop varieties from national and international collections which are tolerant to precipitation excesses or deficits or saline soil conditions</b>   |  |
|                                       | <b>Milestones</b>   | <b>Activity and output indicator</b>   |
| M1                                    | Collection of SP varieties and accessions sourced from different national and international collections assembled at Bubia  | Sweetpotato 102, CePaCT 14   |
| M2                                    | Other crops and crops varieties from national and international collections sourced and assembled at Bubia  | 98 wheat, 19 CIMMYT + 3 local Maize, 16 NERICA rice, 10 cassava, 3 yam, 2 Irish potatoes, 7 tomatoes, 6 capsicum, 4 cabbages, 7 egg plants |
| M3                                    | On-Station screening and selection on good storage root yield of climate ready SP varieties introduced from CePaCT-SPC  | Sweetpotato 102, CePaCT 14   |
| M4                                    | Collection of SP and other crop varieties available for pilot site testing assembled in SI  | 8 cassava, 10 sweet potatoes, 1 yam  |
| M5                                    | Collection of SP and other crop varieties available for pilot site testing assembled in Vu  | 2 rice varieties, 12 cassava, 2 yam  |
| <b>A2</b>                             | <b>Screening of indigenous germplasm, locally bred and imported varieties of sweet potato and other crops/crop varieties under simulated conditions (in vivo and in vitro) to assess tolerance to drought, moisture excess and salinity condition , and to identify promising varieties</b> |  |

| <b>Milestones</b> |   | <b>Activity and output indicator</b>  |
|-------------------|---|---|
| M1                | Tissue culture lab at Bubia operational   | TC lab fully operational  |
| M2                | Tissue culture lab at SI rehabilitated  | Fully rehabilitated but not operational   |
| M3                | All SP accessions initiated and maintained in TC (Germplasm collections, collections from CePaCT, popular farmer varieties)   | Germplasm maintained in TC at Bubia   |
| M4                | Protocols for in vitro screening of SP for drought and salinity standardized  | Protocols developed and report available  |
| M5                | Best-bet SP accessions for tolerance to drought identified for in vivo testing  | 22 varieties  |
| M6                | Best-bet SP accessions for tolerance to salinity identified for in vivo testing   | 22 Varieties  |
| M7                | Phenology grouping of PNG SP accessions established   | Phenology grouping identified and report available  |
| M8                | Protocols for screening of SP accessions for drought, excess moisture and salinity established  | Protocols developed and tested and report available   |
| M9                | Best bet SP accessions with tolerance to soil moisture deficit identified for validation at pilot sites   | lowlands7, highlands 10   |
| M10               | Best bet SP accessions with tolerance to soil moisture excess identified for validation at pilot sites  | lowlands7, highlands 10   |
| M11               | Best bet SP accessions with tolerance to soil salinity identified for validation at pilot sites   | Not complete  |
| M12               | PT popular farmer varieties available for re-distribution   | Not complete  |
| M13               | Rainout shelter constructed at Bubia  | Not complete  |
| <b>A3</b>         | <b>Validation and piloting of sweet potato adaptability to different stresses at pilot sites and introduction of other crops and crop varieties in target communities in PNG, SI and Vu</b> |   |
| <b>Milestones</b> |   | <b>Activity and output indicator</b>  |
| M1                | Implementation of pilot site activities completed   |   |
| <b>A4</b>         | <b>Piloting of selected improved cultivation practices for priority staple crops in target communities in PNG, SI, Vu according to expressed needs</b>                                      |   |
| <b>Milestones</b> |   | <b>Activity and output indicator</b>  |
| M1                | Implementation of pilot site activities completed   | Yam cultivation technology demonstration: 10 (PNG), 4 (Vu) & 6 (SI) model farmers trials conducted. Reports available.<br>Cassava variety evaluation trials: 10 (PNG), 4 (Vu) & 9 (SI). Reports available<br>Sweet potato On-farm demonstration plots: 8 (SI), 3 (Vu) |
| <b>A6</b>         | <b>Assessment of existing mechanisms for provision of quality seed to farming communities in PNG, SI, Vu and recommendations for improvement</b>  |   |
| M1                | Desktop review of seed supply systems in PNG, SI, Vu  | Activity cancelled  |
| M2                | Stakeholder workshop on seed supply systems held in PNG   | Activity cancelled  |
| M3                | Stakeholder workshop on seed supply systems held in SI  | Activity cancelled  |
| M4                | Stakeholder workshop on seed supply systems held in Vu  | Activity cancelled  |
| M5                | Policy brief submitted to relevant  | Activity cancelled  |

|  |                                  |  |
|--|----------------------------------|--|
|  | Government bodies in PNG, SI, Vu |  |
|  |                                  |  |

#### 4. Technical Reports and other type of publication

A number of different publications were produced during the project implementation phase. The majority of the publications are trip reports, newsletters, news paper articles, cadet thesis and posters in all PNG, SI and Vu. Also video cliffs were made and aired especially in Vanuatu. Two publications in scientific journals are still planned.

| Source   |                             | Reference and title  |
|--|-----------------------------|--|
| Newspaper article in PNG (The National), one newspaper article each in SI and Vu |                             | Potential of NERICA rice in PNG (by Chesly Kobua & Peter Gendua)   |
| Articles in NARI Nuis  |                             | 1.African yam technology trialed at Murukanam  |
| Project newsletter articles  |                             |  |
| Poster presentations at Morobe Show, NARI Innovations shows                      |                             | 1. African yam production technology<br>2. Evaluation of Promising NERICA Rice in under Upland (rain fed) and Lowland (irrigated) Environment condition in PNG (Laloki)                      |
| Survey Report  |                             | 1. Food crop production baseline survey report – Hisiu Pilot site (By Peter Gendua)  |
| Cadetship project report   |                             | Chesly Kobua (2016), Evaluation of Promising NERICA rice Lines under irrigated and upland Environmental Condition of PNG. NARI cadetship report.   |
| Planned publications   | Journal /Conference article |  |
|  | Technical NARI reports      | Participatory on farm evaluation and promotion of late blight tolerant potato varieties within smallholder farms at Alkena and Kiripia in the highlands of Papua New Guinea (by Anton Kerru) |
|  |                             | Assessment on Eating Quality of the 11 Cassava Varieties harvested at Dibor - Murukanam Pilot Site (By Chesly Kobua & Cyril Atung)   |
|  |                             | Assessment on the yield of the 11 Cassava Varieties harvested at Dibor - Murukanam Pilot Site (By Chesly Kobua)  |
|  |                             | Participatory on farm trials to identify new cassava varieties for higher altitude dry growing conditions (By Cyril Atung &  |

|  |  |  |
|--|--|--|
|  |  | Wilfred Wau)   |
|  |  | Report on Termination of International Centre for Wheat and Maize Improvement (CIMMYT) Maize Seed Bulking Trial (By Lindsay Enopa) |
|  |  |  |

## 5. Lessons learnt and relevant or notable observations as part of implementation

Key to successful implementation onsite is a reliable contact person, who has a good standing within a community and is a well respected person and this person should lead by example. Another important aspect is to work with motivated model farmers and carefully select innovative lead farmers. While this is often not a decision a project team can and should make, a close collaboration with the community is necessary to identify suitable persons during the project initiation and implementation phase. This however might lead to issues within the community, when too much attention is given to single farmers.

Clear communication of the main objectives has proven to be of major importance for a successful intervention. In some cases the failure of the project team to clearly explain the purpose and goals of the project has lead to misunderstanding and miss interpretation of the planned activities. Therefore constant and unambiguous communication with the community is of highest essence for the success of project activities.

Constant evaluation of dissemination approaches; feedbacks from technology dissemination procedures and studies on technology adoption are invaluable for refining dissemination approaches and success in technology transfer and are areas that can be explored by social researchers. Collaborative efforts between research and extension bodies are vital for widespread and effective dissemination of agricultural technologies and strengthening research and extension linkages which is currently a constraint in the project and project sites.

The concept of farmer (model farmers) taking lead and ownership in identifying the constraints and opportunities and implementing the interventions and assessing and identifying the best varieties, technologies and innovation through the participatory approach was a very good concept and future project should follow these participatory approach and concept.

## 6. Other capacity building achievements in the component (organizational, individuals, research capacity etc)

The recruitment and engagement of cadets to work on the project was a very good concept where the cadets gain valuable experience and will remain with NARI and therefore will be able to use his new knowledge and skills to develop research work in respective climate and food security topics and sustain NARIs research and development agenda.

Since capacity building was not specifically part of the project output, it was difficult to implement extra capacity building activities. For future projects and depending on the scope and thematic focus a capacity building component is highly recommended.

| RI 4.1 # of farmers participating in learning activities on the use of improved varieties and cropping practices (yam, potato, rice, SP, breadfruit, cassava, vegetables, wheat) |   |  |   |  |  |   |                                      |  |  |  |   |
|--|---|--|---|--|--|---|--------------------------------------|--|--|--|---|
| pilot site   | 1. Murkanam   | 2. Derin   | 3. Kopafo   | 4. Tambul                                      | 5. Hisiu   | 6. Aruligho (SI)                              | 7. Hunda/Kena (SI)                   | 8. Buma (SI)                               | 9. Middlebush (Vu)   | 10. Esema (Vu) (Malafau)   | 11. Siviri (Vu)                                 |
| Learning activity 1  | Yam mini-sett and nursery Training (3 demo sites)           | Taro on-farm trials and participatory evaluation | Value addition to staples (sweet potato and cassava) into food products | Wheat on-farm trial (1 variety) Q2/14          | Yam mini-sett and nursery Training (3 demo sites)                                | On farm Cassava varietal evaluation           | Sweetpotato evaluation trial         | Yam minisetting and nursery training 1 % 2 | Rice varieties (NR1 & 15) On-farm evaluation   | On-farm evaluation Cassava   | On-farm evaluation Cassava                      |
| Total no. of community members   | 61  | 4 families                                       | 35  | 8  | 39   | 25  | n/a                                  | 58   | 21   | 8  | 7   |
| no. of male community members  | 37  | n/a  | 20  | 4  | 21(13-Yule & 8-Hisu)   | 17  |                                      | 11   | 16   | 8  | 6   |
| no. of female community members  | 24  | n/a  | 15  | 4  | 18 (9-Yule & 9-Hisu)   | 8   |                                      | 47   | 5  | 0  | 1   |
| Leaning activity 2   | Yam production technique demonstration trail (3 demo sites) | Taro beetle management training                  | Yam mini-sett and nursery Training (3 demo sites)                       | SP on-farm variety trial (Q2/14)               | Yam production technique demonstration trail (3 demo sites)                      | Yam Minisetting, nursery & production systems | Yam minisetting and nursery training | Cassava varietal evaluation on-farm        | On-farm evaluation Cassava   | On-farm evaluation Yam   | On-farm evaluation Yam                          |
| Total no. of community members   | 29  | 27   | 30  | ?  | 18   | 25  | n/a                                  | 58   | 4  | 8  | 7   |
| no. of male community members  | 22  | 18   | 26  | ?  | 13   | 17  |                                      | 9  | 2  | 8  | 6   |
| no. of female community members  | 7   | 9  | 4   |  | 5  | 8   |                                      | 49   | 2  | 0  | 1   |
| Leaning activity 3   | Cassava variety evaluation demonstration                    |  | Yam production technique demonstration trial (3 demo sites)             | Improved clones of PLB tolerant potato (Q4/14) | Rice paddy field development training and demonstration only at Yule Island site | SP planting and Evaluation                    | Yam participatory evaluation         | SP evaluation trial establishment          | On-farm evaluation Yam   | On-farm evaluation SP  | Techniques of planting SP in drought conditions |
| Total no. of community members   | 15  |  | 18  | 18   | 19   | 12  | 32                                   | 24   | 2  |  | 23  |
| no. of male community members  | 12  |  | 13  | 18   | 19   | 4   |                                      | 6  | 1  |  | 22  |
| no. of female community members  | 3   |  | 5   | 0  | 0  | 8   |                                      | 18   | 1  |  | 1   |
| Leaning activity 4   | Taro beetle Management                                      |  | Cassava variety trial - 3 demonstration sites (Q1/14)                   | On-farm evaluation of cold tolerant maize      | Upland & irrigated rice cultivation practice training at Hisiu & Yule Island     | Use of clean sweet potato plantin material    | Cassava on-farm evaluation trial     | Yam evaluation at harvest                  | set up SP demo plots comparing # of vines  | On-farm evaluation of yam trial on non-staking; staking & miniset size |   |
| Total no. of community members   | 27  |  | 3 model farmers   | 3 model farmers                                | 89   | 12  |                                      | 20   | 21   | 3  |   |
| no. of male community members  | 17  |  | 3   | 3  | 59 (19-Yule & 40-Hisu)   | 4   |                                      | 6  | 14   | 2  |   |
| no. of female community members  | 10  |  | 3   | 3  | 30 (All Hisiu)   | 8   |                                      | 14   | 7  | 1  |   |
| Leaning activity 5   | Taro On-farm trial and participatory selection              |  | On-farm trial on drought tolerant varieties and use of PT material      |  | Rice pest & disease control training   |   |                                      | Cassava field day evaluation               | Farmers field day - evaluate and compare each yam treatment (minist/density/non-staking & staking) using # of tuber per planting hole, yield (weight), type of Variety (wailu) & soil type | On-farm evaluation of high and low density of yam                      |   |
| Total no. of community members   | 3 families  |  | 7   |  | 69   |   |                                      | 67   | 18   | 7  |   |
| no. of male community  | n/a   |  | 6   |  | 36 (14 - Yule & 22   |   |                                      | 23   | 15   | 6  |   |

|   |   |   |   |                                    |  |   |  |  |  |                          |                 |
|---|---|---|---|------------------------------------|--|---|--|--|--|--------------------------|-----------------|
| members   |   |   |   |                                    | Hisu)  |   |  |  |  |                          |                 |
| no. of female community members   | n/a   |   | 1   |                                    | 33 (7-Yule & 26-Hisu)                                    |   |  | 44   | 3  | 1                        |                 |
| Leaning activity 6  | Yam production technique demonstration trial harvest & farmer Field Day.  |   |   |                                    | Cassava variety on farm evaluation trails (4 demo sites) |   |  | Time to maturity trial   | Hands-on training on setting up a rice trial plot using recommended planting technique |                          |                 |
| Total no. of community members  | 111   |   |   |                                    | 58   |   |  | 4  | 17   |                          |                 |
| no. of male community members   | 71  |   |   |                                    | 40   |   |  | 0  | 10   |                          |                 |
| no. of female community members   | 40  |   |   |                                    | 18   |   |  | 4  | 7  |                          |                 |
| Leaning activity 7  |   |   |   |                                    | Farmers trying out Yam rotundata                         |   |  |  | Hands-on training on setting up a rice trial plot using recommended planting technique |                          |                 |
| Total no. of community members  |   |   |   |                                    | 3  |   |  |  | 24   |                          |                 |
| no. of male community members   |   |   |   |                                    | 2  |   |  |  | 19   |                          |                 |
| no. of female community members   |   |   |   |                                    | 1  |   |  |  | 5  |                          |                 |
| Leaning activity 8  |   |   |   |                                    | Vegetable production                                     |   |  |  |  |                          |                 |
| Total no. of community members  |   |   |   |                                    | 5  |   |  |  |  |                          |                 |
| no. of male community members   |   |   |   |                                    | 4  |   |  |  |  |                          |                 |
| no. of female community members   |   |   |   |                                    | 1  |   |  |  |  |                          |                 |
| Leaning activity 9  |   |   |   |                                    | Rice Post harvest training                               |   |  |  |  |                          |                 |
| Total no. of community members  |   |   |   |                                    | 15   |   |  |  |  |                          |                 |
| no. of male community members   |   |   |   |                                    | 9  |   |  |  |  |                          |                 |
| no. of female community members   |   |   |   |                                    | 6  |   |  |  |  |                          |                 |
| RI 4.2 # and list of names of improved varieties, new crops and type of improved practices selected by >50% of participating farmers as appropriate for adoption into respective systems based on three priority criteria |   |   |   |                                    |  |   |  |  |  |                          |                 |
| pilot site  | 1. Murkanam   | 2. Derin  | 3. Kopafo   | 4. Tambul                          | 5. Hisiu   | 6. Aruligho (SI)  | 7. Hunda/Kena (SI)   | 8. Buma (SI)   | 9. Middlebush (Vu)   | 10. Esema (Vu)           | 11. Siviri (Vu) |
| 1. Type of crop intervention (crop variety, crop species, crop practice)  | Taro  | Taro  | Cassava flour, cassava starch, dried sweet potato and cassava chips | LB resistant potato varieties      |  | sweetpotato varieties   | Sweetpotato  | 10 Sweetpotato cultivars   | Yam  | Yam varieties            |                 |
| List of accession names/nos.  | top rated: NT02, BL/SM/136 (dry conditions), BL/SM/148; but farmer will keep most other accessions for further evaluation | top rated: NT01, NT01, Numkowe, BL/SM/148 but farmers will keep most other accessions for further evaluation; | n/a   | Sequia (common var); NP1, NP3, NP4 |  | 1. treating of planting materials<br>2. one vine per mound<br>3. evaluation of different varieties<br><b>SP Varieties:</b> Kaulogu, vekeoli, Tangarare, Vona vona, Nambo, LD02, Aruligho white, Aruligho purple | Tangarare, Kaulogu, LD02, Buma Pepol, Vekeoli, Nambo, Vona vona, maruana, tumanisi | Tangarare, Kaulogu, LD02, Buma Pepol, Vekeoli, Nambo, vona vona, Rabaul 36 | Name of yam varieties - Wailu  | soft yam/rotundata/wailu |                 |

|  |  |  |   |   |  |  |  |  |   |   |  |
|--|--|--|---|---|--|--|--|--|---|---|--|
|  |  | some kept as suitable for swamp cultivation                  |   |   |  |  |  |  |   |   |  |
| major criteria (3 most important)  | growth form, corm shape, corm size, taste (overall, acidity); some tolerance to dry conditions   | growth form, corm shape, corm size, taste (overall, acidity) | Ease of processing; not requiring expensive equipment; products can be stored and used long after the harvest season. | (1) reduced LB infection, (2) yield or weight, (3) uniform growth |  | 1. High yielding<br>2. pest&disease resistant<br>3. early maturing   | High yielding, early maturing and good taste   | High yielding, early maturing and good taste   | yield (weight) per treatment; # of tubers per hole & type of treatment used that is non-staking/density/mini set size | High yielding/growth performance on local conditions/type of technology adopted |  |
| 2. Type of crop intervention (crop variety, crop species, crop practice) | improved yam practices (Q4/14)   |  |   | Wheat varieties   |  | Cassava  | Yam  | Yam  | Rice  | Low & High density of Yam. Name of yam is Wailu                                 |  |
| List of accession names/nos.   | The yam cultivation practice of using large mini-sett size and planted at low density with staking was selected by the farmers as best practice for Murukanam. |  |   | 5 varieties (Qianmai, 4 others)                                   |  | Cassava planting training<br>1. MAL/SPC – 01<br>2. MAL/SPC – 02<br>3. MAL/SPC – 03<br>4. MAL/SPC – 04<br>5. MAL/SPC – 05<br>6. MAL/Local   | 1. Plant density trail - Mini-sett nursery (D. rotundata )<br>2. Yam staking trail - Mini-sett nursery (D. rotundata )<br>3. Yam mini-sett size trail - Mini-sett nursery (D. rotundata) | 1. Plant density trail - Mini-sett nursery (D. rotundata )<br>2. Yam staking trail - Mini-sett nursery (D. rotundata )<br>3. Yam mini-sett size trail - Mini-sett nursery (D. rotundata) | type of production - upland practices; NARI 1 & 15 rice varieties   | High yielding/growth performance on local conditions/type of technology adopted |  |
| major criteria (3 most important)  |  |  |   | (1) high yielding (2) locally available (3) easy to sow           |  | High yielding, early maturing and good taste   | resist common yam disease, large tubers, white flesh   | resist common yam disease, large tubers, white flesh   | yield/growth rate/resilient   |   |  |
| 3. Type of crop intervention (crop variety, crop species, crop practice) | Yam production technology  |  |   | Maize varieties   |  | Yam  | Cassava  | Yam  |   |   |  |
| List of accession names/nos.; crop practice                              |  |  |   | Lufa, V15, V16  |  | 1. Plant density trail - Mini-sett nursery (D. rotundata )<br>2. Yam staking trail - Mini-sett nursery (D. rotundata )<br>3. Yam mini-sett size trail - Mini-sett nursery (D. rotundata) | Cassava varietal evaluation with 8 varieties<br>1. MAL/SPC – 01<br>2. MAL/SPC – 02<br>3. MAL/SPC – 03<br>4. MAL/SPC – 04<br>5. MAL/SPC – 05<br>6. MAL/Local                              | 1. Strip muching of yam production<br>2. No muching (Control)  |   |   |  |
| major criteria (3 most important)  |  |  |   | n/a   |  | Large tubers, White flesh  | High yield, white or yellow flesh, disease and pest resistant and taste good   | high yields  |   |   |  |
| 4. Type of crop intervention (crop variety, crop species, crop practice) |  |  |   |   |  | sweetpotato varieties  |  | Cassava  |   |   |  |
| List of accession names/nos.; crop practice                              |  |  |   |   |  | Bakua, Maruana, LD02, Aruligho white, Aruligho Purple, Spade, Tumanis,   |  | Cassava varietal evaluation with 8 varieties<br>1. MAL/SPC – 01  |   |   |  |



|   |                             |          |                             |           |                             |   |                             |  |                    |                                      |                             |
|---|-----------------------------|----------|-----------------------------|-----------|-----------------------------|---|-----------------------------|--|--------------------|--------------------------------------|-----------------------------|
|   |                             |          |                             |           |                             | Nambo, Ranoga White   |                             | 2. MAL/SPC – 02<br>3. MAL/SPC – 03<br>4. MAL/SPC – 04<br>5. MAL/SPC – 05<br>6. MAL/Local   |                    |                                      |                             |
| major criteria (3 most important)   |                             |          |                             |           |                             | Virus-free  |                             | , large stems, white or yellow flesh, disease and pest resistant                           |                    |                                      |                             |
| 5. Type of crop intervention (crop variety, crop species, crop practice)  |                             |          |                             |           |                             |   |                             | sweetpotato varieties  |                    |                                      |                             |
| List of accession names/nos.; crop practice   |                             |          |                             |           |                             |   |                             | Bakua, Maruana, LD02, Aruligho white, Aruligho Purple, Spade, Tumanis, Nambo, Ranoga White |                    |                                      |                             |
| major criteria (3 most important)   |                             |          |                             |           |                             |   |                             | Virus free   |                    |                                      |                             |
| RI 4.3 # of planting material units (Yam, SP, Taro, rice, corn, wheat, potato, cassava, vegetables) distributed to # of primary and secondary users (within or in surrounding communities) against target |                             |          |                             |           |                             |   |                             |  |                    |                                      |                             |
| pilot site  | 1. Murkanam                 | 2. Derin | 3. Kopafo                   | 4. Tambul | 5. Hisiu                    | 6. Aruligho (SI)  | 7. Hunda/Kena (SI)          | 8. Buma (SI)   | 9. Middlebush (Vu) | 10. Esema (Vu)                       | 11. Siviri (Vu)             |
| 1. Crop species   | Taro                        |          | Cassava                     |           | Cassava                     | cassava   | Cassava                     | cassava  | Yam (wailu)        | Cassava                              | Cassava                     |
| no. of units target/actual  | 102                         | 102      | 10var x 10 cuttings =100    |           | 10var x 10 cuttings =100    | > 144 cassava cuttings have been distributed to > 3 farmers | 10var x 10 cuttings =100    | 180 cuttings   | 21                 | 10var x 10 cuttings =100             | 10var x 10 cuttings =100    |
| no. primary users   | 3                           | 4        | 3                           |           | 6                           | 3   | 3                           | 4  | 5                  | 1                                    | 1                           |
| no. secondary users   | 5                           | 5        |                             |           |                             | 8   |                             | 23   |                    |                                      |                             |
| 2. Crop species   | Yam ( <i>D. rotundata</i> ) |          | Yam ( <i>D. rotundata</i> ) |           | Yam ( <i>D. rotundata</i> ) | Yam ( <i>D. rotundata</i> )                                 | Yam ( <i>D. rotundata</i> ) | Yam ( <i>D. rotundata</i> )  | Rice               | Yam ( <i>D. rotundata</i> )          | Yam ( <i>D. rotundata</i> ) |
| no. of units target/actual  | 690 minisetts               |          | 690 minisetts               |           | 240 minisetts               | 750 plantlets   | 750                         | 1050 plantlets   |                    | 690 minisetts                        | 690 minisetts               |
| no. primary users   | 3                           |          | 3                           |           | 2                           | 3   | 12                          | 17   | 47                 | 1                                    | 1                           |
| no. secondary users   |                             |          |                             |           |                             | > 20  |                             |  |                    |                                      |                             |
| 3. Crop species   |                             |          | SP                          |           | Rice                        | sweetpotato   | Sweetpotato                 | Sweetpotato  |                    | Yam ( <i>D. rotundata</i> and wailu) | sweetpotato                 |
| no. of units target/actual  |                             |          | 8var X 10cuttings           |           | 20kg of seeds               | 192   | 128                         | 240  |                    | 500                                  | 3217                        |
| no. primary users   |                             |          | 6                           |           | 3                           | 3   | 6                           | 3  |                    | 7                                    | 33                          |
| no. secondary users   |                             |          |                             |           |                             |   |                             |  |                    |                                      | 26                          |
| 4. Crop species   |                             |          |                             |           |                             | sweetpotato   |                             | sweetpotato  |                    |                                      |                             |
| no. of units target/actual  |                             |          |                             |           |                             | 231   |                             | 231  |                    |                                      |                             |
| no. primary users   |                             |          |                             |           |                             | 3   |                             | 4  |                    |                                      |                             |