Enhancing Food Security and Nutrition in and around Monrovia and Tubmanburg

“UPANI”
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>A2N</td>
<td>Africa 2000 Network</td>
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<tr>
<td>ACC</td>
<td>Agricultural Coordination Committee</td>
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<td>ACF</td>
<td>Action Contre la Faim</td>
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<tr>
<td>CAC</td>
<td>County Agricultural Commissioner</td>
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<td>CAF</td>
<td>College of Agriculture and Forestry</td>
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<tr>
<td>CDA</td>
<td>Cooperative Development Agency</td>
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<tr>
<td>CKM</td>
<td>Community Key Members</td>
</tr>
<tr>
<td>CFT</td>
<td>Community Farmer Trainer (Welthungerhilfe/HDF)</td>
</tr>
<tr>
<td>CSA</td>
<td>City Strategic Agenda</td>
</tr>
<tr>
<td>CUPAL</td>
<td>Committee on Urban and Peri Urban Agriculture Liberia (=MSF secretariat)</td>
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<tr>
<td>DAO</td>
<td>District Agriculture Officer</td>
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<tr>
<td>EPA</td>
<td>Environmental Protection Agency</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>EVD</td>
<td>Ebola Viral Disease</td>
</tr>
<tr>
<td>FAO</td>
<td>Food and Agriculture Organization</td>
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<tr>
<td>FED</td>
<td>Food and Enterprise Development (USAID project)</td>
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<tr>
<td>FLUPFA</td>
<td>Federation of Liberian Urban and Peri Urban Farmers Associations</td>
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<tr>
<td>FRC</td>
<td>Farmers Resource Centre</td>
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<tr>
<td>FSF</td>
<td>Food Security Facilitator (CARE/A2N)</td>
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<td>FUN</td>
<td>Farmers Unions Network</td>
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<td>HDF</td>
<td>Human Development Foundation</td>
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<tr>
<td>LFT</td>
<td>Local Facilitating Team</td>
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<tr>
<td>LIPA</td>
<td>Liberian Institute for Public Administration</td>
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<tr>
<td>LWSC</td>
<td>Liberia Water and Sewers Company</td>
</tr>
<tr>
<td>LISGIS</td>
<td>Liberian Institute for Statistics and Geographical Information Systems</td>
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<tr>
<td>MSFO</td>
<td>Multi-stakeholder Forum Officer</td>
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<tr>
<td>M&amp;EO</td>
<td>Monitoring and Evaluation Officer</td>
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<td>MOA</td>
<td>Ministry of Agriculture</td>
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<td>MOG</td>
<td>Ministry of Gender</td>
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<td>MOIA</td>
<td>Ministry of Internal Affairs</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<tr>
<td>MO</td>
<td>Marketing Officer</td>
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<tr>
<td>MPAP</td>
<td>Multi-Stakeholder Action Planning and Policies Formulation</td>
</tr>
<tr>
<td>MSF(O)</td>
<td>Multi-stakeholder Forum (Officer)</td>
</tr>
<tr>
<td>PROMETRA</td>
<td>Promotion des Medcins Traditionelle</td>
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<tr>
<td>PRS</td>
<td>Poverty Reduction Strategy</td>
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<td>RUAF</td>
<td>Resource Centres on Urban Agriculture &amp; Food Security Foundation</td>
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<td>TRAMEDFOL</td>
<td>Traditional Medicine Federation of Liberia</td>
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<tr>
<td>TUPAP</td>
<td>Tubmanburg Urban and Peri-Urban Agriculture Platform</td>
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<td>TUPUFU</td>
<td>Tubmanburg Urban and Peri-Urban Farmers Union</td>
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<tr>
<td>UCC</td>
<td>University of Cape Coast</td>
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<tr>
<td>UL (UoL)</td>
<td>University of Liberia</td>
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<td>UPA</td>
<td>Urban and Peri-Urban Agriculture</td>
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<td>UPANI</td>
<td>Urban and Peri-Urban Agriculture, Nutrition and Income</td>
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<td>UPAP</td>
<td>Urban and Peri-Urban Agriculture Project</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<td>VCA</td>
<td>Value Chain Analysis</td>
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<td>WHH</td>
<td>Welthungerhilfe</td>
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<tr>
<td>WUR</td>
<td>Wageningen University</td>
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<tr>
<td>WOCHIDO</td>
<td>Women and Children Development Organisation (local NGO)</td>
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1. Description

1.1 Name of beneficiary of grant contract:
Deutsche Welthungerhilfe e.V., Registration number VR3810, Friedrich Ebert Straße 1, 53173 Bonn, Germany

1.2 Name and title of the contact person:
Asja Hanano, Country Director Welthungerhilfe Liberia

1.3 Name of partners in the Action:
The International Network of Resource Centres on Urban Agriculture and Food Security (RUAF)
Action Contre le Faim (ACF)

1.4 Title of the Action:
Enhancing Food Security and Nutrition in and around Monrovia and Tubmanburg

1.5 Contract number:
DCI/FOOD/2011/278883

1.6 Start date and end date of the reporting period:
09.12.2011 to 09.08.2015

1.7 Target country(ies) or region(s):
Liberia; Bomi County and Montserrado County,

1.8 Final beneficiaries &/or target groups¹ (if different) (including numbers of women and men):
Final beneficiaries: Vulnerable Liberian Farmers, urban and peri-urban communities, urban consumers (15,000 Beneficiaries)

Target groups: 2040 beneficiaries in 4 main groups: 800 small holder farmers of the predecessor UPA project, 600 small holder farmers in St. Paul River District, 500 households in communities affected by malnutrition, 40 representatives of local institutions.

1.9 Country(ies) in which the activities take place (if different from 1.7)
See 1.7

¹ “Target groups” are the groups/entities who will be directly positively affected by the project at the Project Purpose level, and “final beneficiaries” are those who will benefit from the project in the long term at the level of the society or sector at large.
2. Assessment of implementation of Action activities

2.1 Executive summary of the Action

The years of civil war, which ended in 2003, disrupted the Liberian economy, and lead to an overall impoverishment of the country. Liberia is still emerging from two decades of conflict and political turmoil. The efforts of the Government of Liberia (GoL) to rebuild the economy, maintain peace and security, while improving the livelihoods of its inhabitants, is strongly supported by the international community. However, Liberia’s national recovery and development processes are confronted with many challenges, varying from rising food prices, slow decentralization and local revenue collection capacity, to a high dependency on imported food. These challenges greatly impact the urban poor. Urban poverty is increasing. The majority of the urban poor do not have access to a regular source of income. Formal unemployment is high: estimated to be between 80 and 85 percent (ACF, 2010). In Monrovia and increasingly so in smaller cities like Tubmanburg and Gbarnga, urban poverty and unemployment go hand in hand with growing food insecurity and malnutrition.

Outside the scope of national attention, many urban households are seeking to increase their own food production, as a way to provide their families with fresh and nutritious food, and some of them also sell this on the market. Only recently has the value of this food production in and around urban areas received attention. Cities are quickly becoming the principal territories for intervention and planning of innovative strategies that aim to eradicate urban hunger and improve livelihoods. Urban and peri-urban agriculture (UPA) provides such a strategy, contributing to enhanced food security and improved nutrition of the urban poor. The Enhancing Food Security and Nutrition in and around Monrovia and Tubmanburg project (also termed as ‘UPANI’ in this report), aims to contribute to the food and nutrition security situation of the population in and around the city, with a special focus on the urban poor, and vulnerable.

The project started in December 2011 and was officially launched in January 2012. Focussing on Urban and Peri-Urban Agriculture, Nutrition and Income Generation, and therefore called “UPANI” served as a follow-up project to the “Enhancing Urban and Peri-Urban Agriculture Project” funded by the European Union which was implemented from December 2009 until February 2013 (referred to here as UPA1).

While UPA1 was implemented by Welthungerhilfe, CARE, RUAF, and a local partner, HDF, the second Urban Agriculture and Nutrition Project UPANI was implemented by Welthungerhilfe, RUAF and ACF. The overall project objective of UPANI is: Households and farmers in Greater Monrovia, Tubmanburg and Saint Paul River District have improved their food security and their nutritional practices.

The project objective stems from an estimate at time of proposal indicating that only one third of Liberia’s total food consumption requirements is met from local production. At the time of project development, 40% of the Liberian population was considered food insecure, with 13% being severely food insecure. These individuals do not have sufficient or appropriate availability, access, utilization or stability in their food in order to live a healthy life.

Therefore, UPANI introduced a holistic and comprehensive approach to hunger and poverty reduction and sustainable urban development. Urban agriculture is simply defined as the growing of plants and the raising of animals for food consumption within and around cities.
The focus on Urban Agriculture provides the following benefits for the target population:

- Food security
- Improved nutrition
- Income generation
- Job creation
- Environmental development
- Social Integration

The project addressed the three pillars of food security: food availability, access, and utilization, with an integrated approach in order to ensure sustainability of the results achieved. Activities related to food production, processing and marketing aimed at increasing food availability at the household and market level; the establishment and support of savings and loans groups and the promotion of income generating activities was set up to improve access to food; a nutritional component aimed at raising awareness about better use and utilization of food. Lastly, with the strengthening of the Multistakeholder Platforms created under UPA1, and by providing capacity-building for the project’s main partners (Ministry of Agriculture and Ministry of Health) as well as urban authorities at local level, partners became involved in the planning, implementation and monitoring of the program activities and in the development of local policies related to urban and peri-urban agriculture to ensure long time sustainability.

The UPANI project had 4 expected results:

- Agricultural production of urban, peri-urban and rural farmers in the target areas has improved;
- Income opportunities and access to capital of farmers have improved;
- Knowledge about nutritional aspects in communities with high level malnutrition is increased, diets diversified and home gardening at household level improved;
- Capacities of Urban Farmer Association, MoA and MoH and Cities and Townships are strengthened.

2.2 Activities and results

Overall the achievements of the UPANI project on the level of outputs, outcomes and impact are rewarding. To impact food security, Result 1 aims to improve agricultural production of urban, peri-urban and rural farmers in the target areas, whereas Result 2 aims to create income opportunities and access for farmers. According to the results of the questionnaire carried out for the final project evaluation by an external independent evaluator 53.4% of 148 interviewed beneficiaries, three times more than in the baseline of June 2013, stated that they did not suffer from food shortage during the last 12 months. In addition, the project had a positive influence on agricultural production as 86.9% of farmers and backyard gardeners stated that their agricultural production had increased.

Agriculture practices improved as a result of enhanced and low cost techniques introduced and demonstrated during training sessions. Indeed, according to findings from the final evaluation report, farming groups and backyard gardening beneficiaries are using Low External Input Agriculture (LEIA) technologies as follow: 32.3% between 1-3 techniques, 35.4% between 4-7 techniques, 32.3% between 8-14 techniques. Mostly applied techniques are “composting (54.5%), green manure (53.8%), seed beds (51.8%), distance planting (44.3%), applying bio-pesticides (38.6%), IPM and mulching (each 34.8%), crop rotation (34.1%).
Besides agriculture production, the improvement of income opportunities has a significant positive influence on an improved food security situation in the target areas. The results of the final evaluation show that in this regard the project provided a substantial contribution. 80.4% of the questioned beneficiaries stated that their income increased much or even very much.

Result 3 aims to improve knowledge about nutritional aspects in communities with high level malnutrition while increasing diet diversity and home gardening at household level, to ensure improved nutritional practices on impact level. The results of the final evaluation showed that 51.4% of the questioned beneficiaries indicated that they produce local weaning food and 32.4% of the beneficiaries indicated that they eat more types of food than three years ago. The project had an especially positive effect on the health of children as no less than 80.4% of the interviewed beneficiaries stated that the health situation of their children improved much or even very much with the support of the project.

Result 4 focusses on the capacity building process of local government institutions, farmer associations, MoA, MoH and townships to impact long term sustainability in the area of urban food and nutrition security. The project was able to increase awareness and create a greater interest in urban and peri-urban agriculture among stakeholders. An important element of this awareness creation was the Multi-Stakeholder Forum that served as a platform to discuss issues amongst actors. With the support of the project, the urban farmer organisations FLUPFA and TUPUFU were able to represent farmers with issues such as land disputes or contaminated soils.

One of the major challenges for the project revealed itself in the beginning of 2014. In April 2014 the first victim of the Ebola Virus Disease was detected. Not knowing at the time that Liberia was facing the deadliest outbreak of Ebola ever seen in human history the UPANI project continued implementation until July 2014 when one of the beneficiaries became infected and passed away, just a few days after a receiving a training from the project staff. When the project restarted in November 2014, the EVD affected countries of Liberia, Sierra Leone and Guinea had a total of 15,901 confirmed, probable, or suspected cases, according to the World Health Organization (WHO).

During the high period of the EVD outbreak, prices of food and essential commodities increased dramatically, as the availability of essential foods could not meet the market demands. Prior to the outbreak more than two-thirds of food requirements were being imported from the international market arriving by ship or plane, includes crop raising, animal husbandry, forestry and fisheries.

In the beginning of December 2014, the project supported a rapid assessment implemented by ACF and Welthungerhilfe in the project area to assess

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2 Data are based on official information reported by the Liberian health ministry up to 17 November 2014. These numbers are subject to change due to on-going reclassification, retrospective investigation and availability of laboratory results.
the impact of EVD on the livelihoods of people in the urban and peri-urban areas. The results of the study showed that the most critical effect of the EVD was the drop in income among most beneficiaries. Though the outbreak had a negative impact on program implementation, the results of the final evaluation showed that the project made a significant contribution to resilience of the target group during the outbreak. Beneficiaries declared that backyard gardening helped to nourish the family and that savings helped to buy food. After the Ebola crisis, the food intake and the health situation of the children was assessed. The result was surprisingly better than at the moment of the mid-term evaluation (87% in 2012/2013) as in June 2015, 91.9% of the target group interviewed answered that the health situation of their children improved through the project activities. This is due to the fact that VSLAs were used as safety nets; and that by the time of the EVD outbreak, all activities were already very well set – i.e. beneficiaries were trained, IGAs ongoing, etc.

**ER1 :** 
Agricultural production of urban, peri-urban and rural farmers in the target areas has improved

<table>
<thead>
<tr>
<th>Results</th>
<th>Achievement</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>By 2015 at least 70% of the target group has adopted Low External Input Agriculture (LEIA) technologies</td>
<td>63 %</td>
<td>44 groups surveyed (12 UPANI &amp; 32 UPA1) out of the target 79 groups (UPANI 40 &amp; UPA1 39) adopted the LEIA</td>
</tr>
<tr>
<td>Yields are increased by at least 20% by the End of Project (EoP)</td>
<td>38.7 %</td>
<td>44 UPANI lead farmers were interviewed and they stated Yes for Yield increase</td>
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<table>
<thead>
<tr>
<th>Outputs</th>
<th>Planned</th>
<th>Achieved</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>Farmer groups in Western Monrovia and Tubmanburg receive continued extension services.</td>
<td>42</td>
<td>39</td>
<td>Extension services have been provided to 39 groups from the previous UPA 1 project, refresher trainings have been given to the former groups as well as a restarter kit of seeds and tools after Ebola.</td>
</tr>
<tr>
<td>Community Farmer Trainers in St. Paul River District (at least 50% female) trained</td>
<td>30</td>
<td>31</td>
<td>The training approach changed after the mid-term evaluation. Instead of training of selected community farmers in the FRC, UPANI trained the whole farmer group in their community: 2,919 persons trained, therefrom 1,603 women (54.9%).</td>
</tr>
<tr>
<td>Increase in yield (at least)</td>
<td>20%</td>
<td>38.7 %</td>
<td>The survey was done for 48 of the project farmers considering, composting, crop rotation, manure, bio-pesticide and inter cropping.</td>
</tr>
<tr>
<td>Farmer-based research activities on bio-pesticides and organic fertiliser use.</td>
<td>3</td>
<td>3</td>
<td>“Quantitative research on best farming practices of UPA-1” (04/2015) “Research on best practices of UPANI” “Quantitative research on farming practices of UPANI” (06/2015).</td>
</tr>
<tr>
<td>Training in group management and organisation</td>
<td>6</td>
<td>34</td>
<td>34 Group management trainings to 34 farmer groups with 449 participants, therefrom 272 women (60.6%).</td>
</tr>
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</table>
### Pilots on organic fertilization (UDDT)

| 2 | 2 | Compost tea pilot  
Awareness training on UDDT for staff and urban farmers.  
Pilot with organic fertilizers (biol and bokashi). |

### Farmer groups that receive animals, materials for animal shelter, feed etc.

| 15 | 15 | All farmer groups received input depending on their needs and the animal husbandry activity being carried out. |

### Treadle/handpumps distributed

| 80 | 32 | Treadle pumps used during UPA-1 were not accepted by the communities.  
Training on EMAS for staff in Sierra Leone (1 persons)  
Training on micro-irrigation (52 persons)  
3 EMAS water techniques were installed for 32 members of 3 greenhouse groups which included a 5 day EMAS training for each group. |

### New farmer groups established, registered and linked to Urban Farmer Association

| 30 | 34 | 34 new groups, TUPUFU has 24 member groups of UPA-1 and UPANI, 5 new groups inscribed after Ebola. FLUPFA with a relatively new elected president, decreased registration fees from LRD 2,000.00 to LRD500.00, making it more affordable for new members. |

### Improved or new seed and tree varieties used and available in St. Paul River District

| 3 | 12 | Moringa and neem seedlings and moringa seeds have been provided to 5 groups; ACF distributed different (new) seed varieties to 494 households (ground nut, sweet potato, okra, sweet corn and others);  
Beside regular seeds (eggplants, cabbage, okra, pepper, bitterball etc.), 35 new vegetable groups had received new vegetable seed (Kaila, Kadu, parsley, squash Anti- Nematodes flower, saosup);  
18 groups continue to use. |

### New technologies tested adapted and used in St. Paul River District

| 3 | 7 | 78.8% of trained farmers in St. Paul River, Greater Monrovia, Senjeh and Dewein District in Bomi apply 3 or more new techniques: Composting (54.5%), green manure (53.8%), seed beds (51.8%), distance planting (44.3%), applying bio-pesticides (38.6%), IPM (34.8%), crop rotation (34.1%) |

### Production of livestock by farmer groups in St. Paul River District are increased at least.

| 20% | 13% | 15 livestock groups were established and working before Ebola. During EVD crisis, most of them were affected by the lack of feed. Animals died (or were eaten) and there was no access to markets due to movement restrictions. From the piggery groups, the number of livestock went up from 42 pigs to 155 pigs at the end of the project. |

### Farmer exchange visits

| 6 | 4 | The advent of EVD prevented all field visits from taking place. |

### Training in agriculture, animal production and harvest/storage

| 6 | 6 | 155 Trainings to 1,983 participants, therefrom 1,133 women (57.1%) in at least 6 themes: low external input agriculture; IPM, floating row cover in vegetable production, animal husbandry, |
Farmer groups that receive improved inputs (seeds, tools, equipment) | 30 | 35 | 35 new groups received seeds and tools; in total 18 use the improved seeds. After Ebola, 74 groups (UPA-1+UPANI) received “restarter-kits” as a means of recovery.

Training on micro irrigation | 6 | 6 | Micro irrigation training to 3 greenhouse groups, 3 x 5 days to a total of 35 beneficiaries, therefrom 25 women (71.4%)

Training workshop on resource recovery (RUAF) | 1 | 1 | 2 staff members participated in the international WS in Ghana on “Safe and Productive Use of solid and liquid waste for Urban Agriculture”, May 2013;

**Activity 1.1: Provide technical follow up and conduct participatory research to share knowledge gained in the previous UPA program.**

The project continued under activity 1.1 extension services to 42 established groups from the first phase of the project (UPA1 - 2009 to 2012). 39 groups remained active until mid-2014. After the EVD outbreak, the project decided that it was important to intensify extension services to the groups as the outbreak heavily affected food security in local villages. Serving as the provision of food to most local villages, all groups received new inputs and refresher trainings targeting all the Low Input Agriculture Techniques taught earlier in the project.

The project carried out three (3) participatory research studies at the end of the project cycle. One study, conducted by students studying agriculture at the University of Liberia, started in March 2015 among 160 farmers of the former UPA project. Most interesting from the study were the new bio-pesticide solutions shared by the farmers with the extension staff. The same students of the University conducted a second study among the UPANI farmers in June 2015. This study showed that due to the project a majority of the farmers were able to increase their plot size as well as their yields.

The third participatory research activity was carried out by an external consultant in June 2015. The study focused on farmer’s adoption and use of various techniques as well as their perception on the usefulness and ability for these techniques to be applied. Focus group discussions were the main methodology used for data collection to enable the famers to actively take part in the discussion and at the same time enable the participants to learn from each other. A total of 5 focus group discussions were conducted. Groups ranged in size from eight to nineteen participants and each lasted from 75 minutes to 120 minutes. A total of 70 farmers participated in the focus groups. Each focus group was homogenous by program and represented either UPA1 or UPANI. Farmers represented in the focus groups were high producers or household-level farmers, of different ages and varying amounts of farming experience.

The report presented the following key findings:

The report sheds more light on the commonly used techniques such as soil amendments, land preparation, seeding and transplanting as well as pest management. The report also provides more information on the process of business management and the influence of Ebola on the farming activities of the project’s farmer groups.
Soil Amendments
Many farmers perceive mulching as an inexpensive way to add nutrients to their field sites. Many of the participants describe using rotten grass cuttings, leaves or bark to augment the soil. Many of the farmers also discussed using coal dust, ash or dirt from around the dumpster to help augment their soils. Across the board, everyone prefers to add animal manure to their soil and there were a number of people who discussed using urine to help add nutrients to their soil. Before the program many of the farmers had not tried to add anything to their soil to improve the soil structure or nutrient level.

Land Preparation
Prior to enrolling in UPA1/UPANI program many farmers both from Montserrado and Bomi counties revealed that they had no idea about preparing the land in order to plant crops more efficiently. Many of the beneficiaries did adopt a number of land preparation techniques like building beds or mounds. Some of the traditional brush and burn techniques were often retired completely or altered based on the newly acquired knowledge. Knowledge about spacing crops, crop shading and intercropping was also highly valued.

Seeding and Transplanting
The actual act of putting seeds or cuttings into the ground in a way that will encourage healthy plant growth was also a topic where little was known before the program began. Participants emphasized how important it is to plant at the correct depth for your crop. To effectively distribute seeds some farmers said they are using the broadcast seeding method however many seem to prefer nursing a plant until it is deemed big or strong enough to be placed in the soil.

Pest Management
The participants also discussed some of the ways they have been controlling pests. Most of the techniques are homemade and use all natural and local ingredients. The pest management methods also range level of complexity and cost. No one in the group admitted to using any chemical pesticides but people did discuss the high cost of chemical pesticides, the potential damage to the crops and land over time and most felt that their home remedies worked equally well and were safer.

Business Management
Farmers for the first time were encouraged to shift their thinking from people who are farming just to have enough food for themselves and their family to eat to entrepreneurs who have the opportunity to be self-employed making a decent income, can employ others and offer an invaluable resource to the country. Training in budgeting and monitoring expenses has transformed the participants buying power and has helped to empower them to take control over their finances.

Farm maintenance during crisis
The most recent EVD outbreak showed the challenges associated with group farming. Many of the groups fell apart and the idea of having shared resources was a lot less desirable. Many farmers went back to their local techniques in their backyard gardens which involved less land preparation and required little or no tools to try and provide some food for their families. Most farmers had no profit in 2015 due to field neglect, not planting anything or loss in buyers.

Overall the studies were an interesting learning experience for all groups involved. For the farmers, the studies provided them the opportunity to share their knowledge with other farmers, and to give
feedback to the project. The studies can be used for future project design and give entry points for the strengthening of farming techniques.

**Activity 1.2: Identify, organize and register farmer groups and link them to the Urban Farmer Association**

- By the end of 2012, 17 new groups (12 sole crops, 3 mixed groups & 2 livestock), had been identified, organized and registered.
- By the end of 2013, 15 additional new groups (8 sole crops, 4 mixed groups & 3 livestock), were identified, organized and registered, 32 groups in total.
- In 2014, the project identified, organized and registered 34 new groups. Three greenhouses were constructed to promote innovative vegetable cultivation.
- In 2015, the 34 farmer groups continued to be linked.

Overall 34 farmer groups are currently registered with FLUPFA.

Before the outbreak, extension services were provided to the farmers to increase yield and to support the adaptation of low external input agriculture techniques. To support this process, the project started the construction of three greenhouses and the promotion of micro irrigation.

A week of field visits of FLUPFA, the Federation of Liberian Urban and Peri-Urban Farmers Associations, took place in July 2014 to link the federation to the farmers in the field and to support them to build up a database of urban farmer groups. After this visitation session, the EVD outbreak sparked up.

To support FLUPFA and TUPUFU in the development of their extension services for farmers, the project ‘hired’ the staff of both farmer organizations to provide training in group management and group dynamics in the first half of 2015, after the project staff and the staff of the farmer organizations were trained by an external expert. In April, FLUPFA and TUPUFU organized a second round of trainings this time focusing on business management.

In 2015 the project started to work with a new farmer organization, SWIPAL. This association consists of farmers involved in piggery production. They provide extension services to farmers, advocate for better prices and deliver food to farmers based upon a small payment. The association was invited to the business management training and received a training in the savings and loans methodology. A large value chain event was organized for all piggery farmers at the end of the project.

**Activity 1.3: Organize training to improve and diversify agricultural production.**

In 2012, two (2) trainings were conducted. Firstly, a three-day training on organic farming, soil health, nursery construction and use, compost-making and bio-pesticide making and spraying. The second two-day training was specifically on rice cultivation.

In 2013, there were four (4) additional trainings for the 32 farmer groups. The trainings were on rabbit production, EMAS training, vegetable production training, and integrated pest management training. During this period of time the project started the construction of three (3) greenhouses, two
(2) located in St. Paul River district, Montserrado County and one (1) located in Tubmanburg, Bomi County.

In 2014, the four (4) trainings conducted before the EVD outbreak include; irrigation training for farmer groups, integrated pest management training, greenhouse management training for the three (3) communities with greenhouses, and organic fertilizer training.

In 2015, all farmer groups (30 groups from UPA 1 and 37 groups UPANI) received training to revitalize all the agricultural activities that suffered as a result of the EVD outbreak. During this period the project requested the support of the farmer organisations to intensify the training process.

After the EVD outbreak, the project decided to change the training methodology from training only the lead farmers to training the whole group approach. The results were very encouraging. Group members that were less active in the farming activities gained interest again as a result of the trainings. Even community members that were initially not part of the groups joined the sessions and in most communities the farmer group increased in size.

In total, the project provided 155 trainings to 1,983 participants, 1,133 women (57.1%) on at least six (6) themes: low external input agriculture; IPM, floating row cover in vegetable production, animal husbandry, production of feedstuff and refresher-training, harvest/storage, business management training and group management training.

The participatory research study, carried out in the last project phase, showed that the community based trainings had a positive effect on the farmers and their willingness and ability to work as a group. Many of the participants realized that part of their success as a farmer is due to being a part of a farmer group, one which is based in their own community where everyone supports one another and works together. Also much of the shared proceeds can then be used to support community development projects. One participant said that all children in his community are enrolled in school, and that these schools are partially maintained by the farmer groups. Some participants also appreciated the knowledge and tool sharing.

**Activity 1.4: Provide improved agricultural inputs**

- In 2012, 15 new farmer groups were provided with tools and seeds (“pay back basis”).
- In 2013, additional 15 were supplied with seeds and tools.
- In 2014, there was no distribution of tools and seeds to farmers as the majority of farmers were supplied in 2013. After the outbreak, an assessment was carried out by the agricultural extension staff among UPA and UPANI farmers to strengthen production.
- In 2015, 35 groups received seeds and tools; in total 18 use the improved seeds. After Ebola, 74 groups (UPA-1+UPANI) received “restarter-kits” consisting out of seeds and tools.

Farmer groups were also introduced to new tree varieties with a high nutritional value such as neem and moringa. Strong farmer groups were introduced to new seed varieties such as kila and kadu that are very popular among Chinese customers. Other farmer groups were taught how to grow cucumbers in such a way that they are more attractive for the expatriate market, to enable them to make higher profits.
Farmer groups that were less strong have been provided with more local inputs that are easier to farm. All inputs have been provided through a participatory process whereby the farmers map out the value chain of each crop and the advantages and disadvantage at each stage of the production process. For example, lettuces might give a farmer more profit on the market but is difficult to preserve and needs to be sold quickly. Also tomatoes can only be profitable if the farmers have a good connection with middlemen or sellers, otherwise they might spoil on the farm or on the way to the market. Farmers that are located further away from the city centre and with less transport opportunities can therefore make a better profit with bitterball or eggplant.

During the phase-out period of the project, more attention was given to business management and the calculation of profit. During the participatory research study on best practices, many participants discussed benefitting from the business management and leadership training. The business management training encouraged farmers to begin looking at their farm as a financial resource. The farmers said that they learned how to track their expenses so that they can know the exact amount that they spend every year on wages, seeds, and supplies. Also, they were taught to monitor how much income they receive when they sell their crops in order for them to calculate their total profit. Many of the participants discussed how learning to budget helped them to improve their lives. Before the training many said, upon receiving money in hand they would just spend it on whatever their needs were at that time, so they never knew how profitable their farm was. These trainings have allowed for farmers to save up and purchase more expensive items like better farming land or family homes. The prospect of creating wealth has made the farmers much more ambitious and creative when it comes to running their farms.

**Activity 1.5: Promote small-scale animal production**

Results from the Urban and Peri-Urban livestock production performed under the first phase of the project (UPA 1) showed a high potential at the rural end of the urban rural continuum. The baseline results showed that more than half of the interviewed farmers on the outskirts of Monrovia gain rewards through selling poultry and pigs.

Therefore, the project decided to continue with the promotion of poultry, small ruminants and piggery production in the second phase. At the start of the UPANI project the pass-on-the-gift system was introduced to ensure a multiplier effect within the communities.

The project made use of an external consultant to assess the opportunities of animal husbandry. A business plan was developed for the piggery production, the chickens and the poultry.

- In 2012, exotic chickens were taken to FRC (Farmers Resource Center) and the project started with the construction of pig pens.
- In 2013, the project constructed new pig pens for interested farmers and farmers that were already involved in piggery production were provided support with the renovation of their facility (if needed). Before construction, tests were done at the FRC to see which type of pig pen would be most suitable. The project started with pig pen versions made of local materials but later on made improvement on the design by making the outside walls out of cement. Students of the University of Liberia were involved in the test rounds. The project also started a 7-day training on aquaculture included staff of WHH, ACF, TUPUFU and a few selected individuals.
At the start of 2014, the project started to teach the piggery farmers to farm and process pig feed at the farm themselves instead of only relying on the wheat bran bought from the flour factory in Monrovia. This to make the farmers less dependent on the project, make the activity more profitable and to ensure sustainability in the long run.

In 2014, three chicken houses were constructed for beneficiaries that were trained in chicken and poultry production. In addition, a number of individuals were trained in rabbit-keeping, while rabbits were being produced at the Farmer Resource Center (FRC).

At the end of 2014, the project experienced a major setback due to the EVD outbreak. The FRC was looted by the local community. The majority of the pig and piglets from the piggery farmers died (or were eaten).

In 2015, the project restarted the activities with the piggery farmers by providing refresher trainings for all animal husbandry groups in their own communities. During these trainings gardens were established with cassava and other herbal plants such as moringa that can be used for pig feed. The trainings were participatory and the farmers were introduced to a farmer field school technique showing the traditional and the improved planting methods, such as building on mounds with cassava. In addition, all farmer groups were trained in hygiene and care practices as this remains a challenge for most farmers. During the training period, farmers were stimulated to construct a semi outside range to give the pigs the opportunity to walk around a bit more and dig in the mud. This positive change in the environment of the pigs makes them healthier.

Lastly, the project worked closely together with the piggery association called SWIPAL. The project trained SWIPAL in business management and savings and loans. At the end of the project phase, SWIPAL organized a value chain event discussing all the challenges in the chain with the 122 piggery farmers (42% women) involved in the project.

The assessment carried out by SWIPAL at the end of the project showed that 10 active piggery farmer groups were able to increase their stock from a total 42 pigs to a total of 155.

Overall, 15 animal husbandry groups received animals, feed, materials to produce feed and materials for shelter, 6 of them received pigs; difficulties with the supply of feed, therefore supplementary training in production of own local feed was done. This is intended to promote the sustainability plan for the animal groups.

**Activity 1.6: Promote micro irrigation scheme with simple hand/foot pumps**

The project started in 2012 and 2013 with the evaluation of the “Money Maker” a small-scale two-cylinder irrigation foot pump that was provided to farmers. Although the money maker was used by most of the groups, the pump was not as popular among the farmers as expected. The evaluation done by UPA 1 showed that although the ‘money maker’ consisted of a simple mechanism, groups faced difficulties to fix the machine. Another setback was the fact that most of the communities found the pump culturally inappropriate for women due to the motions involved in treading.

Therefore, the project started to look for different pumps. In 2013, one project extension officer and entrepreneur was sent for training for EMAS to Sierra Leone as an alternative to the “money maker” treadle pump.
EMAS is the acronym for Escuela Móvil de Agua y Saneamiento (Mobile School for Water and Sanitation). The EMAS pump, also known as marble pump, is a piston pump made of a PVC pipe and fittings. The pump is extremely affordable and is widely used in Bolivia. Welthungerhilfe is promoting EMAS successfully in Sierra Leone and aimed to introduce this innovative technique in Liberia. Water self-supply is the improvement of household or community water supply through user investment in water treatment, supply construction and upgrading, and rainwater harvesting. It is based on incremental improvements in steps that are easily replicable, with technologies affordable to users. This self-help approach is complementary to conventional communal supply, which is already used by Welthungerhilfe Liberia.

After the training in Sierra Leone the 54 farmers from 29 groups attended a training on irrigation and EMAS. In 2015, the project decided to further extend the pilot with the EMAS technique by promoting the technique at the already constructed greenhouses. The pumps were installed through a participatory training period provided by the entrepreneur the supervision of the project staff with a total of 35 beneficiaries, of which 25 were women. Overall, 5 micro-irrigation trainings were done by the project. Four (4) EMAS pumps (located in Massaquoi Town, Varmah Town, Kormah and Tubmanburg) have been installed.

**Activity 1.7: Promotion of alternative fertilizer production through recycling of organic waste and human excreta (feces and urine)**

RUAF and WHH developed a number of activities to increase awareness on and understand the potential on productive use of urban wastes and how to integrate this in urban development. Several new fertilisers have been introduced and the report on uptake of innovations show that awareness among farmers on nutrients and food safety has increased.

- In 2013, WHH and RUAF worked with MCC in linking UPANI to the MCC executed FISH project (Fostering Innovative Sanitation and Hygiene), funded by AWF of AfDB. It was agreed to collaborate on building (public) toilets, fecal sludge (FS) collection and treatment and safe and productive re-use of FS as fertilizer. UPANI would support FISH in organizing an awareness and training workshop on Safe and Productive Use of (Human) Wastes for (Urban and Peri-urban) Agriculture, with Training on Composting (and testing of co-compost) and by piloting of UDTT (urine separation and use of urine and compost with selected WHH farmer groups).
- In 2013, the project was able to design a public UDTT toilet. This work was done by project staff under the supervision of a German university Intern. In addition, (1) UDDT training was done for participants from various project communities.
- During this year, RUAF invited two Liberia staff members to Ghana for the International workshop on Safe and Productive Use for Urban Agriculture.
- In 2014 the project focused on the promotion of compost tea, while it was assessing the opportunities of the construction of a UDDT toilet in the project area.
- Besides the promotion of composting the project conducted training for 18 key farmers from St. Paul River District communities and Bomi County on the preparation of organic fertilizer named bokashi and biol. This training was provided shortly before the EVD outbreak. Eight (8) staffs and eighteen (18) farmers participated in the coaching exercises.
- The pilot project was stopped in 2014 as due the spread of Ebola it was impossible to continue the activities with human excreta.
Overall, one (1) training workshop on resource recovery was held and (2) trainings on organic fertilizer were held for farmers from several communities.

With the outbreak of EVD, the pilot was completely cancelled, and also the FISH project delayed.

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**ER2 : Income opportunities and access to capital of farmers have improved**

<table>
<thead>
<tr>
<th>Results</th>
<th>Achievement</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>By the EoP 200 farmers or processing groups have identified and implemented an IGA related to the food value chain</td>
<td>83 farmers involved in IGA through the 5 processing groups</td>
<td></td>
</tr>
<tr>
<td>At least 100 households suffering from chronic malnutrition implement an IGA</td>
<td>170 households were trained and received starter kits.</td>
<td>By end of April 2015, 85% of households were still implementing IGAs supported by the project.</td>
</tr>
<tr>
<td>500 beneficiaries (75% women) are trained and engaged in 25 S&amp;L groups</td>
<td>782 beneficiaries (85% women) were trained and engaged in 25 S &amp; L groups</td>
<td>By end of June 2015, 690 beneficiaries (85% women) remain engaged in S&amp;L groups.</td>
</tr>
<tr>
<td>By the EoP 1000 beneficiaries (75% women) are trained and engaged in 50 S&amp;L groups</td>
<td>1652 beneficiaries (1371 = 83% female and 281 =17% males)</td>
<td>In total, both organization exceeded the target of 50 by reaching 59 groups</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Outputs</th>
<th>Planned</th>
<th>Achieved</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Groups trained in value adding and processing</td>
<td>10</td>
<td>5</td>
<td><strong>10 trainings for 174 participants, therefrom 77 women (44,3%) in 4 themes: Hazard Analysis &amp; Critical Control Point (HACCP), Business Management, TOT on group management, Cassava processing</strong>&lt;br&gt;Out of ten groups, four processing groups &amp; one entrepreneur were formed, trained and provided support.</td>
</tr>
<tr>
<td>Groups receiving starter kits for IGA</td>
<td>10</td>
<td>5</td>
<td>4 processing groups and 1 entrepreneur received starter kits and trainings</td>
</tr>
<tr>
<td>Individual Household Heads trained in IGA</td>
<td>200</td>
<td>170</td>
<td><strong>170 household heads</strong> have been trained in Income Generating Activities (small business, management, etc.)</td>
</tr>
<tr>
<td>Staff trained in S&amp;L methodology</td>
<td>10</td>
<td>14</td>
<td>In 2012, all field staff (14) have been trained in S &amp; L - methodology</td>
</tr>
<tr>
<td>Exchange visits S&amp;L groups</td>
<td>6</td>
<td>14</td>
<td>Before 2014, 8 exchange visits with S&amp;L groups; more exchange visits were planned, delayed due to Ebola restrictions. In 2015, 2x10 = <strong>20 groups</strong></td>
</tr>
</tbody>
</table>
realised exchange with a total of 600 participants, therefrom 432 women (72%) WHH organized 10 and ACF 4

<table>
<thead>
<tr>
<th>Activity 2.1: Carry out participatory meetings to identify possible income-generating activities (IGA) related to the food value chain</th>
</tr>
</thead>
<tbody>
<tr>
<td>In 2013, 20 participatory meetings were conducted in Bomi County, Bomi Corridor and St. Paul District to selected groups involved in processing activities related to the food value chain. Groups selected were the Pepper Processing Group; Bomi Medicinal Plants Group and the Cassava Processing Group.</td>
</tr>
<tr>
<td>As the result of more participatory meetings an entrepreneur and two processing groups were identified (Zoe-Jul Restaurant, Pork Meat Traders and Kormah Cassava Processing), while in Bomi County the cassava processing group received additional materials and coaching to increase the sale of bomi gari.</td>
</tr>
<tr>
<td>The identified groups were activities in the following activities:</td>
</tr>
<tr>
<td>• Cassava processing (2 groups)</td>
</tr>
<tr>
<td>• Processing of spices (1 group)</td>
</tr>
<tr>
<td>• Processing of herbs (1 group)</td>
</tr>
<tr>
<td>• Processing of fruits and vegetables (1 entrepreneur)</td>
</tr>
<tr>
<td>• Processing of meat (1 group)</td>
</tr>
<tr>
<td>Overall, several participatory meetings were conducted and six (6) processing groups initially were established/ or benefitted from supported.</td>
</tr>
<tr>
<td>At the same time participatory meetings were held with community members and selected beneficiaries to identify possible IGAs at a household level related to the food value chain across the three (3) communities targeted by ACF in Montserrado County i.e. Pipeline, Chicken Soup Factory and New Kru Town. All 494 active backyard gardening beneficiaries attended these meetings, 170 out of the total of 494 selected HHs for backyard gardens were supported with IGA starter kits. The identified existing IGAs in all three (3) communities were the following:</td>
</tr>
<tr>
<td>• Sale of frozen imported products i.e. poultry and fish</td>
</tr>
<tr>
<td>• Sale of cooked food</td>
</tr>
<tr>
<td>• Petty trading i.e. sale of sundry goods e.g. slippers, condiments, charcoal, etc.</td>
</tr>
</tbody>
</table>
Soap making
Sale of second hand clothes

The main purpose of this result is to “Support IGAs linked to the value chain e.g. production and processing”. However, for the identified IGAs at a household level none of the IGAs answered this goal. To avoid any top-down activities and according to what was feasible, the project decided to support IGAs not linked to the value chain but those that were workable in the communities and that were priorities and preferences of beneficiaries. According to that, business plans for each IGA were developed together with beneficiaries. From these business plans, equipment was delivered by ACF to avoid cost of transportation, when there were not available locally. Generally, IGAs supported by the project at household level included the sales of assorted food and non-food items. Very few households (10 to 15) out of the total of 170 households were implementing activities linked to food processing e.g. small food centers and baking.

Activity 2.2: Organize, form and support food processing and other IGA groups.

IGAs on household level

A total of 170 households supported with agriculture inputs i.e. tools and seeds for backyard gardening were selected and supported with income generative assorted starter kits (with an objective of 150 functional IGAs in the project). The selection of these 170 households preceded a training session that targeted 200 project participants who were implementing small businesses. The selection of households to be supported with IGA starter kits was done based on the following criteria (elaborated according to lessons learned from previous project):

- Households with existing gardens;
- Households permanently staying in the community i.e. planning to stay for at least one year;
- Households having fluctuating income sources i.e. reliance on remittance, casual labour, etc.;
- Households experience in IGA i.e. engaged or having more than 1 year experience;
- Households with at least one member able to read and write: at least basic level to be able to keep record on business transactions (note: it did not deprive any HH from being selected because all HHs had members that could read and write).

Table 2. Number of households selected to receive IGA kit per community

<table>
<thead>
<tr>
<th>Community</th>
<th>Total beneficiaries</th>
<th># of IGA HHs selected</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Kru Town</td>
<td>100</td>
<td>36</td>
</tr>
<tr>
<td>Pipeline</td>
<td>184</td>
<td>57</td>
</tr>
<tr>
<td>Chicken Soup Factory</td>
<td>210</td>
<td>77</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>494</strong></td>
<td><strong>170</strong></td>
</tr>
</tbody>
</table>

The IGA starter kit was composed of assorted food and non-food items and equipment given in goods for an equivalent amount ranging between $145 and $205 USD – cf. annex 7 for IGA list of items. The working capital of the kit fluctuated, depending upon the equipment and the proposed business plan. The procurement of the starter kits was participatory and done according to the business plans. The items were categorized and beneficiaries were asked to select representatives (based on experience) per category i.e. according to items. These representatives collaborated with the ACF team in
identifying and selecting suppliers. The items of each starter kits were assessed by their respective representatives and delivered by ACF in each community.

To define the IGA’s capability during follow-up, thresholds were calculated on the basis of work capital (including goods) and savings to be included in the work capital. The steps were determined on the basis of the increase of working capital and equipment. If the beneficiaries increased their initial contribution (considering that they take a salary for their work), the IGA is considered as working “good” or “very good” (if increases of more than 50% of the initial capital). If the working capital decreases, the IGA is considered as poor (even if it can be just a bad performance for this month follow-up).

The Ebola outbreak affected the IGAs supported at household level. At the end of the project, only 156 IGAs were functional (14 IGA beneficiaries migrated to other communities and were no longer living in the targeted communities but the amount of HHs was still in line with the program output of 150 working IGAs). Among the remaining 156 IGAs, 58 “very good” and 64 “good” ones were fully working.

Out of these 156 IGAs, 73 were followed-up, thus reaching 47% of the total (the target was 50%).

Table 3. Findings of the last IGAs follow-up visit – April 2015

<table>
<thead>
<tr>
<th>Classification of the IGAs (and thresholds observed)</th>
<th>Number of IGAs followed-up</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households with very good IGA (observed work capital between USD 119 to USD 238)</td>
<td>27</td>
<td>37%</td>
</tr>
<tr>
<td>Households with good IGA (observed work capital between USD 60 to USD 107)</td>
<td>30</td>
<td>41%</td>
</tr>
<tr>
<td>Households with poor IGA (observed work capital USD below 48)</td>
<td>13</td>
<td>18%</td>
</tr>
<tr>
<td>Households with no existing IGA</td>
<td>3</td>
<td>4%</td>
</tr>
</tbody>
</table>

Note: Most selected households preferred and have experience in implementing IGAs such as petty trading, baking and soap processing. It is also worth mentioning that the cost value and IGA kit per household varies as it depended on the business plan presented per household and capacity to manage the business. Therefore, the number of households supported with IGA kits increased from 150 as planned in the project to 170 due to the variety in the total cost per household kit.

IGA on group level

In the areas further away from the centre of Monrovia it was decided to strengthen the cassava value chain, the herbal and spice value chain and the pork meat value chain after a series of participatory meetings with beneficiaries.

Cassava is a crop that is widely used in Liberia and part of the daily diet of a Liberian household. It is and will remain an important food security / substitute crop for smallholder farmers. Cassava is well-adapted to growing conditions in Liberia, quite resilient to pests, and easy to store in the ground until
needed. The groups, for processing, were identified in communities where members were already largely involved in the production of the crop.

Pepper processing was also selected as it is an important spice in region. The demand for peppers is year-round in Liberia, but production in Liberia is mostly during the rainy season. Consumers prefer the fresh, Liberian pepper, but during the dry season, supplies disappear and imports of dried peppers substitute, especially from Guinea, increase dramatically. Prices for peppers range from USD1.00/kg to USD4.00/kg over the marketing year at the retail level. The project supported the processing of pepper as it would be possible to compete with the imported pepper from Guinea.

Lastly the piggery value chain was selected for strengthening as the project was working with piggery farmers, who identified a need to increase their access to market. Therefore, the project decided to upgrade an existing pork meat shop and help them to improve their processing standards. More information can be found in the movie (posted on youtube) that the UPA project developed on the problems in the piggery value chain with the support of the European Union.3

As given under activity 2.1 the first 3 groups were organized in 2012, these were the Pepper Processing Group, the Bomi Medicinal Group, and the Banana Farm Cassava Processing Group. In 2013, additional three (3) groups were identified. These were Zoe-Jul Restaurant, the Pig Traders and Kormah processing. In the beginning of 2014, when the construction of the processing facilities were hampered and the some of the groups were comparatively less strong (the Pepper Processing Group faced leadership issues) the project management decided to continue only with the five (5) strong group instead and focus on building these rather than add additional groups in order to reach the initial target. When later this year the EVD outbreak started, the project needed to use all its efforts to support the groups during the outbreak and re-vitalize the groups afterwards.

The Pork Meat Traders
The Pork Meat Traders had signed a MOU with the project. The construction of the pork meat shop started before the Ebola outbreak, after an assessment in April 2014, more work needed to be done for a sustainable centre. Therefore, the project hired a consultant in 2014 from the Ministry of Public Works to make improved drawings. For the additional works, the project decided by the end of 2014 to go through the official WHH tendering procedures and to tender the construction work including the delivery of materials. This would give the contractor a bigger responsibility and therefore give the project the opportunity to properly monitor the contractor through progress reports based on set targets and to provide capacity building during the implementation process. The project hired an experienced engineer in 2015 to monitor the construction. Due to the delay in construction the Pork Meat Shop was officially opened at the end of the project period (photos are included as annexes to the report). Overall the pork meat traders are well organized. The project supported several meetings between the pork meat traders, the piggery association SWIPAL and individual piggery farmers. Although the value chain has been established, the chain could have been stronger if there hadn’t been any delay in the construction process.

Banana Farm Cassava Processing
Banana farm is one of the most successful processing group supported through the UPA and UPANI projects. This project also shows that the ambition to establish small scale community based

3 https://www.youtube.com/watch?v=U4f5mkMclqU
processing units as an enterprise needs continued support. Currently the Bomi Gari is the most successful cassava product in the area. Bomi Gari is sold commercially in the supermarkets of Monrovia and the MoA is fully supporting the farmers in the community and surrounding villages in the establishment of a larger cassava platform through the WAAPP project.

In the last phase of the project, focus has been given to business management and marketing. Together with the farmers, the project has made a radio commercial to strengthen the Bomi Gari brand. Also more attention has been given to issues such as storage and transport. The project also supported the farmers with the development of cheaper packaging materials. Instead of the quite expensive printed box (printed in Ghana) the farmer group has been encouraged to use plastic bags labelled with Bomi Gari stickers. The result of the action audit showed that the Bomi Gari processing unit is overall very successful and all members are able to make a living out of the processing activities (US$300 per member in 6 months).

**Moringa processing group**
The Moringa processing group (SMAP) is currently located at the Forestry School in Tubmanburg, Bomi County and processing the moringa at this facility. To increase the activities land for the group was bought just outside of Tubmanburg, Bomi County, where the group is currently managing over 3760 moringa trees. The trees were planted at the end of 2014/beginning of 2015. The group also established a shop near the Tubmanburg Hospital and started to sell moringa to nurses, doctors and patient who wanted use moringa to build their immune system. The sales of moringa products is ongoing and the project supported the group with the making of a moringa radio commercial to increase visibility. Overall, the moringa processing group is productive and bringing a variety of products on the market. In the last 12 months, the group was able to invest in equipment such as a new dryer and tiger generator. Certainly the group will continue the activities after the closure of the project.

**Kormah Cassava Processing**
Kormah was selected after the community members showed their dedication to the project by establishing a 10 ha cassava farm. The construction of the processing unit started in 2013 but came to a standstill following the change of project management. After the EVD outbreak, the project had to finish the structure and decided to continue with a newly appointed more professional construction company, selected through an official tender procedure. In addition, the construction process was monitored by the community and a project engineer, ensuring that the unit would reach the quality the project envisioned. Although the group received several trainings in group management, cassava processing, business management and marketing, it will remain difficult to continue the activity on a commercialized level after the closure of the project. Experiences of the past with Bomi Gari processing unit shows that it takes time for a community to organize themselves in such a way that they can tackle the bottlenecks in the value chain such as sufficient cassava production, the supply chain and the marketing aspects.

**Zoe – Jul Restaurant**
The Zoe – Jul Restaurant buys and sells products from farmers active in and around Tubmanburg, Bomi County. The entrepreneur was able to pay a large part of the investments done by the project back before the outbreak. After the outbreak it was difficult to contribute the payback scheme as people were afraid to eat outdoors out of fear of eating bush meat and also because most Liberians experienced a setback in their financial situation and no longer could afford to eat out. During the
last phase of the project, the employees of Zoe-Jul restaurant were able to receive their official
catering certificate from the MoH, which enabled them to cook at larger gatherings. Although the
average income during the EVD crisis dropped, the restaurant is overall functioning well and it is
certain that the activities will continue and even expand after the closure of the project.
Overall, six (6) processing group were supported by the project of which three (3) will continue their
activities on a large scale as the activity is the main source of income for all members. One (1) income
generating activity stopped completely, the pepper group due to leadership issues. Due to
management changes and the EVD outbreak, two (2) processing activities faced delays in
construction, namely the pork meat shop and the Kormah processing unit.

**Activity 2.3: Provide training on food processing and other IGA related subjects.**

For the 6 processing groups involved in IGA activities, the project organized a total of 10 trainings.
The trainings were given to 174 participants, of which 77 participants were women (44.3%). The
trainings had 4 central themes: Hazard Analysis & Critical Control Point (HACCP), Business
Management, TOT on group management, Cassava processing. During these trainings, training
manuals were provided as well as a set of writing materials. All the trainings were given in the
community or at the processing site. The number of training days for each theme varied from 2 - 7
days per theme.

For the IGAs, at a household level, a total of 6 IGA training sessions were organized during the project
period. The initial and second training sessions were organized over 2 days and lasted 2 to 3 hours
each day.

**Table 4. Summary of IGA training sessions given on household level**

<table>
<thead>
<tr>
<th>Description</th>
<th>Topics discussed</th>
<th>Target</th>
<th>No. of participants</th>
<th>% of participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff capacity building (Training of Trainers) for IGA training</td>
<td>Entrepreneurship (definition and qualities)</td>
<td>12</td>
<td>12</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>• Generating business idea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Marketing (definition and types) Record keeping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Risk management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Customer service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Ebola preventive measures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial IGA training session for beneficiaries</td>
<td></td>
<td>200</td>
<td>197</td>
<td>98.5%</td>
</tr>
<tr>
<td></td>
<td>• Record keeping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Risk management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Customer service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First IGA refresher training session for beneficiaries</td>
<td></td>
<td>200</td>
<td>199</td>
<td>99.5%</td>
</tr>
<tr>
<td></td>
<td>• Record keeping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Risk management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second IGA refresher training session for beneficiaries</td>
<td></td>
<td>200</td>
<td>211</td>
<td>105.5%</td>
</tr>
<tr>
<td></td>
<td>• Customer service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Second IGA training session for beneficiaries</td>
<td></td>
<td>168</td>
<td>168</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>• Entrepreneurship (definition and qualities)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Generating business idea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Marketing (definition and types) Record keeping</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Risk management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Customer service</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
197 individuals attended the initial IGA training session; and 168 additional members of VSLAs who had or wanted to establish small businesses and thus requested for training in basic business management. All the 365 participants received a set of stationeries comprising:

- 1 composition book
- 1 ink pen
- 1 calculator

**Activity 2.4: Identify existing, mobilize and form new savings and loan groups.**

The project was able to reach the target of 50 established VSLA groups by the beginning of December 2014. During this period one group, established by ACF, did not follow the VSLA rules and was therefore dropped. WHH was able include 10 additional, new groups during the last phase of the program implementation. In total 59 groups consisting of 1652 members (1371 / 83% female and 281 /17% male).

According to the results of the final evaluation, the village saving and loans activity was one of the most successful activities of the project. Mainly because the VSLA was a cross cutting activity that benefitted the community as whole. Beneficiaries involved in the IGA activities at a household level used the VSLA to borrow funds for their IGA activities, and members from the farmer groups used the VSLA to invest in their own farms. In addition, the backyard gardeners were able to extend their gardens with loans from the VSLA.

During the participatory research study, the members involved in farming activities mentioned that they saw the VSLA as a great resource to the group. Most people discussed the use of the loans as a means to get through difficult times, no one brought up the option to utilize these funds to expand their farms or to invest in their farming business.

“Proceeds from the group farm have been used to create a credit and loan company for us farmers. Money is lent at interest. Now whenever my husband leaves I can support my children alone without any stress”

Though the system of VSLA is simple, the rules of the system are strict and require continuous follow-up by field staff. Transparency and sharing of power are key characteristics of the VSLA. The group itself defines their weekly saving share (between 20 -100L$), their weekly social fund share (mostly between 5-10L$) and their level of interest (between 10-20%). The weekly meetings of all members start with a prayer. Then each member pays his/her weekly contribution: a maximum of 5 shares plus the social fund share. The contribution is logged in the member passport. The money is kept in a heavy, large cash box, one side for the shares and a smaller side for the social fund. The cash box is
closed with 3 lockers, 3 members are responsible for a key. The cash box is kept in the house of another VSLA member; someone who is not involved in leadership. Each member can ask for a loan. The assembly decides if this is approved based on the purpose and the available funds.

The payback period is between 1-3 months, depending on the value with a typical interest rate of 10%. In the urban context, most members used the loans for their small business activities or petty trading. In the peri-urban and rural areas, the loans were used for agricultural inputs and petty trading.

The interest rate is high. If the 10% is calculated on an annual basis, in terms of a bank credit it corresponds to 40% interest. The main difference from bank interest is, that the group defines the interest rate. Furthermore, the re-paid interest is not paid to a bank, but into the cash box. At the end of the year, after one cycle finishes, the savings plus interest is paid out to each member. The paid out amount increases with higher saving shares, higher interests and contributed own shares. In the VSLAs, members confirmed their own interest in higher share and interest rates, to get more money at the end of the year. In 2013, the paid out amount to each member varied, between €568 and €1,820, the higher the level of share and interest rate, the higher the amount paid out.

In focus group discussions with VSLA members, they stated that the paid out value at the end of the year helped to pay school fees, which are a heavy burden in low income HH. Furthermore, it was used for larger investment like material for house building, business or farming input.

All VSLA were heavily affected by Ebola. The groups couldn’t maintain their weekly meetings. Sadly, some group members died and loans were lost. As a consequence of the decline in market activities and people’s ability to earn an income, people defaulted on their loans. Based on a “Rapid assessment on the impact of Ebola,” approved by EU and with supplementary funds of the GIZ financed CURE-project, UPANI supported the restart of VSLAs-activities by paying out a value corresponding to US$200 for each group.

**Training**

**VSLAs management committees’ members**

All VSLA had a management team of 5 individuals, totalling 270 committee members for 42 groups. Each VSLA management committee attended a 3-day training, pertaining to the management of the groups.

The training covered the eight (8) modules of VSLAs which include:

1. Formation of constitution
2. Election procedure
3. Sitting arrangement
4. Share purchase
5. Loan disbursement
6. Exchange visits
7. Loan repay
8. Action audit
VSLAs village/community agents
During the project implementation a total of 28 members from 50 VSLAs were selected as VSLA village/community agents. The selection of these 28 agents was based on nomination from the VSLAs and results from an evaluation conducted by ACF and WHH teams assessing nominees understanding of the VSLA methodology and modules.

During the implementation VSLA village/community agents perform a supervisory role of VSLAs in their respective communities. When the ACF and WHH team exit, the village/community agents will provide support to VSLAs that might have problems with calculations for end of cycle pay out, amongst other things.

Topics discussed during this training session were:
- Naming and numbering system
- Share value, social fund and loan disbursement
- Development of group constitution
- Share purchase
- Loan payback
- Action audit

In April the project organized a re-fresher training for the 28 agents.

Loaning and loan usage
To have a better understanding of how the members used the VSLA funds, ACF conducted a survey of 690 VSLA members during the project period. At the end of the 2013/2014 cycles the assessment conducted pertaining to the usage of loans taken by members showed the following results:

- Purchase of agriculture inputs - 3%
- Payment of school fees - 15%
- Payment of hospital bill - 2%
- Purchase of food - 11%
- Payment of house rent - 6%
- Purchase of additional IGA kits - 63%

The average amount of credit was 5,000 Liberian Dollars (LD) with an interest rate ranging from 10 to 15% per cycle/year. The payback period is three (3) months and is done during the group meetings.

Sustainability
Besides linking the VSLAs to a larger structure called NAPEX (as described under activity 2.5). The project decided to create VSLA clusters at the end of the project period, especially for the communities and 25 groups that WHH was working with closely. To further strengthen and motivate village saving and loan associations, VSLA communities were clustered based on their locations and distances apart and provided selected and well trained and experienced village agents for clustered VSLA communities’ management committees. The selection of the well trained and experienced village agents was done in consultation with the various groups and endorsed by the community leaders.

In total 156 community leaders and group members (72 male and 84 females) voted for cluster agents. After their endorsement, the project organized, in collaboration, with the various groups community leaders (per cluster) official meetings for the official certification of these selected village agents. And officially turned-over responsibility from project field staff to cluster village agents to
supervise, coach and facilitate the formation of new groups. A total of 176 community leaders, district leaders and VSLA members participated in the official certification process.

We anticipate that this system (village agents as group supervisors) will serve as a perfect exit strategy for continuation of VSLA activities in project communities in the absence of project staff.

**Activity 2.5: Establish and facilitate links to Micro Finance Institutions.**
A total of three (3) institutions were identified to be linked with the VSLAs. Two (2) of these are micro-finance institutions (Eco bank and Access bank) and the third one is the National Apex structure for village savings and loan associations (NAPEX). So far, planned presentations by each of these institutions to the savings groups were only achieved with NAPEX. All of the 24 groups under the supervision of ACF were all linked to NAPEX.

NAPEX provides training to savings and loan groups; and presented the following information to the VSLA representatives:

- The Central Bank of Liberia (CBL) recognizes NAPEX and gives loans only to groups registered with it;
- Each savings and loan group has to be registered and certificated by NAPEX before being included in the CBL and donor’s loaning program;
- The registration fee for NAPEX is 360 LD per member yearly;
- Registration fees are deposited in NAPEX account located at Afric-land Bank;
- Each group constitution has to be notarized to be accepted;
- Each group must submit up-to-date reports of most recent transactions;
- Each group must have an account with any bank in the country.

By the end of June 2015, all the VSLAs had generated the required funds needed for registration with NAPEX. The registration process is expected to be managed by the groups’ respective management committees.

**Activity 2.6: Develop linkages between the groups, producers, private sector and markets along the value chain.**
The UPANI program aimed to develop vegetable farming in urban and peri-urban areas in Greater Montserrado and Tubmanburg. The production of vegetable crops has the potential to be highly profitable, create employment opportunities and generate income for high producing farmers. In addition to vegetable production, a number of farmer groups have also begun raising pigs for profit. The program has worked with farmers on how to increase their competitiveness by improving their overall product, marketing and business management to increase their market share and profit.

Pig farmers make up a smaller group of our UPANI beneficiaries and the majority of them are also vegetable farmers, so the pigs offer them an alternative stream of income. Pig farmers are limited to the same selling options as vegetable farmers but there is no established pork middleman network. In 2012, a group of pig traders was brought to Bomi to meet pig farmers. This resulted in the first contact, and sales of pigs. Plans were discussed with the pig traders to set up some form of improved hygienic selling point. This resulted in the construction of the pork meat shop located at ELWA junction. The piggery traders and butchers were already active in the business and selling at the...
location. With the support of the project, they were able to improve the hygiene standards at the selling point and to store large amounts of meat. Most pig farmers found it easiest to carry their pork meat around their neighbourhood on foot using a wheel barrow once a buyer is confirmed before they slaughtered a pig to reduce waste. In 2015, linkages were established between the pig farmers and SWIPAL, the association of pig farmers. SWIPAL is supporting over 200 farmers in Greater Monrovia and Bomi County. With the linkages between the pig farmers and SWIPAL and with the linkages between SWIPAL and the pork meat shop at ELWA junction the project aimed to facilitate the sale of piggery products.

The value chain of Bomi Gari has been strengthened and visibility of the product has increased. MoA often mentions the unit in meetings as an example and also other actors (NGOs and the World Bank) started to support the group. The development of a product is a long process and the group still has issues, with packaging and transport. The initial packaging was made in Ghana and therefore very expensive, a local alternative has been developed. The EVD outbreak was a setback for the group as it lost access to market for over a year. The project linked the group to Mary’s Meals (an NGO based in Bomi who runs school feeding programmes) with the aim that the product could be part of Mary’s Meals’ school feeding, but unfortunately because of the outbreak the deal wasn’t sealed and was made redundant when other agencies provided large-scale food distributions to Mary’s Meals. For the GIZ funded CURE project, The Community Based Response Against Ebola Project, Bomi Gari was included as part of the food packages distributed to survivor families. The project aims to continue it collaboration with Bomi Gari in future and is looking for new funding opportunities.

Besides strengthening of the cassava value chain, linkages were established between vegetable farmers in Bomi County and Zou-Jul restaurant. An analyses of the value chain indicated that for farmers producing food in Montserrado County, lettuce, cucumber, melons, cabbage and tomatoes were the most profitable ‘exotic vegetables,’ largely due to the expatriate market in Monrovia. For Bomi county farmers, they focused on growing more traditional vegetable crops like pepper, potato greens, and cassava greens. Some of the stronger farmer groups farming close to Tubmanburg, the capital city of Bomi County, were introduced to the aforementioned ‘exotic vegetables’ as well. These farmers were directly liked to Zoe – Jul Restaurant. The restaurant used the vegetables in dishes served as part of their catering services to events organized by NGOs/UN bodies in Tubmanburg. Zoe-Jul restaurant established also a close relationship with the Greenhouse that was built in Tubmanburg city. At the beginning of 2014, this greenhouse group was very active and the collaboration was promising. Unfortunately, the group lost their group leader during the EVD outbreak (the leader past away of EVD in June 2014) and though the group and the project made a great effort to revitalize the activities, without the leadership of this experienced farmer the Greenhouse group could not reach the production level of before the outbreak.

The Moringa processing group was also linked to Zoe-Jul restaurant, following the meet, the restaurant started to sell moringa products. Additional linkages were established between the Moringa group and supermarkets in Monrovia. Through these connections the group had the opportunity to sell moringa tea. During the outbreak the group was able to open a small ‘tea shop’ at the hospital were doctors, nurses, and visitors started to buy moringa products to build up their immune system.
The business team of the UPANI project made a lot of effort to link farmers actively to middlemen interested in certain crops or to supermarkets. During the last period of the program, more attention was given to business management including the topics of storage, transport and sales.

Farmers explained that through the assistance of the project they were able to make basic calculation and some farmers also attempted to sell directly to supermarkets and restaurants in order to have a consistent buyer and receive a better price for their products. One participant said he had been successful in selling his lettuce directly to a few restaurants in the Monrovia area and said his success was partly due to the fact that he was able to harvest lettuces every 3 weeks at a quantity that was sufficient for the restaurant. This individual also owned a vehicle unlike many of our farmers, which placed him in a better position to deliver his products. The other farmers said that some of the restaurant and supermarket owners had written agreements with some of the middlemen stating that they would only purchase from one or two particular middlemen directly and not from individual farmers, while other owners were open to purchasing from farmers but needed a larger quantity than any one farmer could produce and the restaurant owner did not want to go through the hassle of buying from multiple individual farmers.

According to the results of the value chain study, farmers were able to increase their income by strategically placing their products. For instance individuals growing crops that are mostly eaten by expatriates like lettuce, cucumbers, and tomatoes need to be sold on the outside perimeter of the market or very close to the entrance because most expatriates will not be willing to go very far into the market to do their shopping. Another option for farmers was to sell their products in front of grocery stores. Certain supermarkets such as Harbels in Monrovia will allow the sale of vegetables right at the entrance of the supermarket. Targeting shoppers has been proven to be an effective sales method for many farmers. There are also separate venues for Asian vegetables and so farmers need to identify the necessary middle people to reach this demographic. Currently the farmers have said that there is a network of middlemen who work directly with Asian market owners and the Asian community to make sure vegetables like bitter melon, which are often only eaten by the Asian community, reaches them.

**SWOT Analysis of Vegetable value chains**

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Strong farmer group network</td>
<td>• Poor seed quality</td>
</tr>
<tr>
<td>• Increasing market for vegetable products</td>
<td>• Lack of capital</td>
</tr>
<tr>
<td>• Willingness to increase production and income</td>
<td>• Poor infrastructure</td>
</tr>
<tr>
<td></td>
<td>• Lack of processing services</td>
</tr>
<tr>
<td></td>
<td>• Low market prices</td>
</tr>
<tr>
<td><strong>Opportunities</strong></td>
<td><strong>Threats</strong></td>
</tr>
<tr>
<td>• Training in processing and production of items</td>
<td>• Overly competitive import market</td>
</tr>
<tr>
<td>• Increase in low space technique adoption</td>
<td>• Introduction of “Monocropping” to increase income</td>
</tr>
<tr>
<td>• Creation of strong farmer networks</td>
<td>• Over dependency on NGO’s to provide input supplies</td>
</tr>
<tr>
<td>• Monitoring of market price trends</td>
<td>• Inconsistent expat market</td>
</tr>
</tbody>
</table>

29
All of the participants were aware of how their products travel through the chain and ultimately reach the final consumer. In general, produce mainly travelled through three channels: (i) farmers grew and sold their vegetables to consumers directly; (ii) farmers sold their products to middlemen or (iii) farmers sold to retailers.

Farmers were well aware of the importance of quality attributes such as freshness of products and a product free of pests and pathogens as a means to increase product demand. Farmers also discussed refraining from the use of chemical pesticides and fertilizers which showed many had some idea about food quality standards and the human health effects caused by ingesting contaminated food.

The main value chain constraints as identified by the farmers were lack of access to farm inputs, lack of good quality seeds, lack of marketing services and post-harvest losses. Also, they are not able to access high value markets such as supermarkets and often feel exploited by middlemen.

Market access and storage facilities: The farmers’ market at MCC could not continue due to the restriction of UPANI farmers, high pricing and a lack of storage facility at the market, especially for vegetables.

Overall the project was able to contribute to the strengthening of 4 value chains:

- The piggery value chain and the link between producers, traders, sellers and the farmer union
- The moringa value chain
- The cassava value chain in Bomi County
- The vegetable value chain in Bomi county and Monserrado with a special focus on exotic products.

**Activity 2.7: Exchange visits between VS&L groups**

In the area of greater Monrovia, a total of 14 exchange visits were organized by ACF with the support of WHH during the entire project period, three (3) in 2013, one (1) in 2014 and ten (10) in 2015. More visits were planned for 2014 but were delayed due to Ebola. Two (2) of these were external visits and two (2) internal. During the external exchange visits, a VSLA management committees from one community is taken to VSLA in another communities; while during internal visits, the exchanges are done within groups in the same community.

These visits were organized to facilitate the exchange of experiences amongst the groups i.e. successes, challenges faced and how they were overcome. In most cases the management committees of weak groups were taken to stronger groups (mainly during the group meeting day). The planning and organization of these exchange visits did not target individual farmers as prescribed by the proposal but targeted the VSLAs as these group’s membership comprised individual farmers and other community members which created opportunity for more households to exchange experiences/challenges. Additionally, for the groups, exchanges on the management of the group (e.g.: loaning, loan payback, action audit, meeting attendance) strengthened weak groups.

In total, the project organized 14 exchange visits between the management committees or the entire group involving a total of 862 VSLA members.
Activity 2.8: Value chain analysis/capacity building events

As given under activity 2.6 the project was able to contribute to the strengthening of 4 value chains:

- The piggery value chain and the link between producers, traders, sellers and the farmer union
- The moringa value chain
- The cassava value chain in Bomi County
- The vegetable value chain in Bomi county and Monserrado with a special focus on exotic products

For these value chains the following events took place:

- In 2012, the project organized a 2-days business management training for the Moringa group, the Bomi Gari group and the Bomi Pepper group with a total of 20 participants
- In 2013, 3 meetings were organized with the Moringa group, the piggery groups and the Kormah processing group. The focus of the training for the Kormah processing group was development of the pay-back scheme. Simultaneously the IGA officer visited several supermarkets in the city to link them with producing farmers. The first linkages were established between Harbel Supermarket and Abuyoudi Supermarket.
- At the end of 2013, based on the results of the meetings held during the year, a large stakeholder meeting for the value chain for piggery farmers was organized in the Corina Hotel in Monrovia, bringing together 24 participants from ministries, farmers association, farmers and other institutions involved or with interest in the pig-production value chain.
- In May 2014, the project organized a large event on “Business development and Value Chains” given by 2 external consultants. In total, 58 participants were representing 28 institutions. Based on this event the consultant provided a draft report presented in June 2014 and the initial plan was that the consultant would support the implementation of an action plan resulting from the findings of the report. Unfortunately, during the EVD period, one consultant left to Ghana and the other consultant left to the United States of America. One consultant returned mid-2015 and the other consultant did not return.
- In January 2015, the project facilitated 2 business plan trainings with the Moringa group and the Bomi Gari group
- Later on in 2015, an external consultant was hired to elaborate in a participatory way the vegetable and the piggery value chain. Focus group discussions were held with farmers from Bomi and Montserrado Counties and interviews took place with key informants (NGOs, Market vendors, Market associations) and government officials to create a better insight in the value chains
- At the end of the project period, an assessment was carried out by the SWIPAL organization to provide insight in the status of the piggery producers involved in the project. Based on the assessment a large value chain event was held at 2 locations attended by 122 piggery farmers (of which 43% women).

For these value chains the following reports were provided:

- Report “The pig value chain stakeholder meeting” analyzing the piggery value chain (Oct. 2013)
Activity 2.9: Groups receiving construction materials for processing/storage facilities

5 groups and 1 entrepreneur received construction materials and basic machinery/equipment on payback scheme:

1. “Banana Farm”, Tubmansburg, a processing unit has been constructed, this consists of a building with a small hall, store, office room and cassava processing machinery. The group itself built an extension for drying facilities with a loan from the VSLA group. The project provided an extra drying pan afterwards.

2. “Zoejul Restaurant”, Tubmansburg, a restaurant located in the middle of town received plastic chairs and tables, a refrigerator, and a top.

3. “Sustainable Medicinal Group” (Moringa Group), the land that is used for the production of moringa was bought by UPANI, the group obtained the land deeds. A total of 3760 Moringa trees are planted on the field. A moringa processing unit was constructed and is currently operational.

4. “Kormah Cassava Processing Centre,” the construction of this cassava processing unit was interrupted due to theft of materials carried out by the first contractor. During the EVD outbreak construction came to a complete standstill. After the EVD outbreak a tender took place and a contractor was appointed to finish the construction of the unit. During the last phase adjustment were made and a toilet was added to the building. The unit opened at the end of the project.

5. “Meat Pork Centre,” construction of the center started in 2013 but the delivered structure did not meet the requirements of the group. Following a re-tender, another contractor was hired to finish the construction. During the last phase adjustment were made and a toilet was added to the building. The unit opened at the end of the project.

6. “Pepper Processing Group” in Dixville received support in materials. When, the chairlady left the group, the group was not able to continue the activities.

The payback scheme, introduced at the beginning of the project was not elaborated enough with beneficiaries and was not based on a proper business plan. Therefore, for the most part, the scheme which was set up at the start of the project was extremely ambitious. For members it was not clear how much they should pay back, and if they were able. To make these kinds of systems successful, the payback schemes need to be integrated in business planning from the beginning, and needs to be followed up by a strict, transparent monitoring. This kind of activity requires numerous field staff. The payback scheme did not take into account possible shocks faced by the group, such as problems with construction, problems within the groups or a health crisis (EVD). With the economic impact of EVD-crisis and the closure of UPANI, the payback scheme could not continue.
However, there was a decrease in the targets in each activity from 2012 to 2014. Generally, this cannot be fully attributed to EVD.

Causes of decreases in targets

<table>
<thead>
<tr>
<th>Description</th>
<th>Reasons/causes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease in beneficiaries number</td>
<td>Mainly EVD as two (2) beneficiaries died and others migrated from their communities to other communities that were not highly hit, in and out of Monrovia. Secondly some households migrated due to increment in house rent that they could not afford.</td>
</tr>
<tr>
<td>Decreased in number of active CKMs</td>
<td>Mainly due to the lack of incentives. Some individuals got employment while others concentrated on other activities to meet their household basic needs (mainly food).</td>
</tr>
<tr>
<td>Decrease in number of active demonstration plots</td>
<td>Mainly due to the change of approach. During previous projects, ACF provided incentives to community members who worked in these plots but dropped the incentives during the EU funded project for a more sustainable approach.</td>
</tr>
</tbody>
</table>

### Outputs

<table>
<thead>
<tr>
<th>Outputs</th>
<th>Planned</th>
<th>Achieved</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. key community members trained on ENA and home gardening</td>
<td>120</td>
<td>120</td>
<td>120 Community Key Persons (CKP), selected by community leaders or by own interest have been trained in ENA and home gardening, 33 continue actively and on a voluntary base</td>
</tr>
<tr>
<td>No. Of households received improved agricultural inputs (seeds, seedlings, fertilizer)</td>
<td>600</td>
<td>763</td>
<td>763 households received seed (5 varieties each household (hh) and tools (8 pieces each hh);</td>
</tr>
</tbody>
</table>
Activity 3.1: Carry out participatory meetings to identify possible Income Generating Activities related to the food value chain

120 community members were identified and trained as CKMs (Community Key Members) during the project period.

The selection of CKMs was based on the below criteria:

- Individuals capable to read and write
- Willingness to be trained in gardening and nutrition activities
- Experience in gardening
- Residents with existing gardens for 2012 selected CKMs
- Project participants with existing gardens for 2013 selected CKMs
- Willingness to share knowledge with project participants
- Permanently staying in the community
- Individuals with good moral character

The total number of CKMs selected in each community is:

- New Kru Town: 25
- Chicken Soup Factory: 50
- Pipeline: 45

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number Selected</th>
<th>Number Trained</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research on food safety</td>
<td>1</td>
<td>1</td>
<td>1 Research Report on “Food safety in Liberia”, May 2015.</td>
</tr>
<tr>
<td>Demonstration plots established at health facilities</td>
<td>10</td>
<td>10</td>
<td>10 demo-plots have been established, 7 are working –</td>
</tr>
<tr>
<td>Farmer days organized</td>
<td>4</td>
<td>2</td>
<td>1 At the start of UPANI and 1 Final Exhibition of all farmer groups with award for the best practices realised in June 2015</td>
</tr>
<tr>
<td>Food security and nutrition surveillance system established</td>
<td>1</td>
<td>0</td>
<td>In the project proposal it was foreseen that the ACF listening posts would be added to the national governmental surveillance system. The Ministry of Health didn’t agree with the implementation of this new and more complex system, doubling their own existing system. The findings and discussions during the process of elaborating the Report on Food Safety stimulated the MoH 2013 “Guidelines on Food Safety”.</td>
</tr>
</tbody>
</table>
Despite the number of CKMs mentioned above, there was a decrease in the number of active and committed CKMs in each community. The main reason attributed to the demotivation of trained CPMs was lack of motivation package (mainly cash incentive) as done by other associations. The decision not to give cash was seen as an unsustainable approach. Besides CKMs were not engaged full-time in implementing activities.

The total active CKMs by end of June 2015 were 65 (r54%) as shown below:

- New Kru Town 12
- Chicken Soup Factory 31
- Pipeline 22

**Training**

A total eight (8) training sessions, one (1) induction session and one (1) orientation meeting were organized for CKMs during the project timeframe. All selected CKMs attended all the training sessions.

<table>
<thead>
<tr>
<th>Type of training</th>
<th>Target</th>
<th>Attendance</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>First training session</td>
<td>120</td>
<td>135</td>
<td>15 CKMs trained in 2012 who later dropped out were replaced</td>
</tr>
<tr>
<td>Refresher training</td>
<td>72</td>
<td>52</td>
<td></td>
</tr>
<tr>
<td>Second training session</td>
<td>120</td>
<td>141</td>
<td>20 CKMs trained in 2012 who dropped were replaced + 1 observer</td>
</tr>
<tr>
<td>Third training session</td>
<td>120</td>
<td>125</td>
<td>5 CKMs trained in 2012 who dropped were replaced</td>
</tr>
<tr>
<td>Fourth training session</td>
<td>120</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Fifth training session</td>
<td>120</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td>Sixth training session</td>
<td>120</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>Consolidated training session</td>
<td>48</td>
<td>59</td>
<td>48 targeted, 2 co-facilitators 9 observers⁴</td>
</tr>
<tr>
<td>Induction session</td>
<td>120</td>
<td>160</td>
<td>120 CKMs and 40 community leaders</td>
</tr>
<tr>
<td>Orientation meeting on use of follow-up form</td>
<td>120</td>
<td>105</td>
<td>99 CKMs and 6 observers</td>
</tr>
</tbody>
</table>

The training for CKMs preceded beneficiaries training sessions as CKMs were used as co-facilitators during beneficiaries training sessions.

<table>
<thead>
<tr>
<th>Agriculture/vegetable production</th>
<th>Nutrition &amp; Care practices</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Significance of vegetable production</td>
<td>• Hygiene Promotion</td>
</tr>
<tr>
<td>• Site selection and preparation</td>
<td>• Nutrition of pregnant and lactating women</td>
</tr>
<tr>
<td>• Crops propagation</td>
<td>• Care of pregnant women</td>
</tr>
<tr>
<td>• Soil management</td>
<td>• Care for the young child</td>
</tr>
<tr>
<td>• Crops protection</td>
<td>• Breastfeeding</td>
</tr>
<tr>
<td>• Harvesting / harvest management</td>
<td>• Complementary feeding</td>
</tr>
</tbody>
</table>

⁴ Two (2) others CKMs came to support the team (co-facilitators); while nine (9) community members expressed interest to participate (observers).
Continuous breastfeeding

**Distribution**

During the first quarter of 2015, 25 assorted vegetable tools and seeds kits were distributed to 25 active and committed CKMs - out of the 65 remaining. Note that only 25 CKMs were served the assorted vegetable kits as they had demonstrated their commitment as CKMs to the project activities. These incentives were given after proof of involvement from the CKMs not to influence the participation of community members as CKM by distributing items initially - except for stationeries.

**Activity 3.2: Provide selected beneficiaries with inputs, training sessions and follow up for home gardening and ENA**

A total of 788 households were selected and supported with assorted vegetable tools and seeds kits during the project period:
- 519 from Montserrado, comprising of 494 nutritionally vulnerable households and 25 CKMs
- 269 from Bomi

120 CKMs were initially trained to support in the detection/identification and referral of cases of acute malnutrition and to advise beneficiaries on appropriate practices linked to backyard gardening and nutrition. Out of the 65 CKMs remaining at the end of the project, the 25 most committed were supported with assorted vegetable inputs, *i.e.* tools and seeds. The latter were selected on the basis of their presence at all the meetings and in the field with the ACF team and beneficiaries.

The tools and seeds kits comprised of the following items:

<table>
<thead>
<tr>
<th>TOOL KIT</th>
<th>SEED KIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1 small cutlass</td>
<td>- 400 grams of sweet corn</td>
</tr>
<tr>
<td>- 1 regular hoe</td>
<td>- 1kg of orange-flesh sweet potato cuttings</td>
</tr>
<tr>
<td>- 1 sharpening file</td>
<td>- 400 grams of red groundnut</td>
</tr>
<tr>
<td>- 1 watering can</td>
<td>- A pair of rain boots</td>
</tr>
<tr>
<td></td>
<td>- 1 rake</td>
</tr>
<tr>
<td></td>
<td>- 1 shovel</td>
</tr>
<tr>
<td></td>
<td>- 1 plastic bucket</td>
</tr>
</tbody>
</table>

The selection of beneficiaries was based on the below selection criteria (based on lessons learned from previous projects):
- Households residing in the community;
- Households with more than one child less than two (2) years old;
- Households willing to participate in project activities;
- Households having more than one (1) workforce;
- Households with child/children either previously or currently malnourished;
Households that have available space for gardening.

Initially, beneficiaries were supposed to be served five (5) varieties of assorted vegetable seeds and cutting. Three (3) out of the five (5) types of vegetables *i.e.* sweet corn, orange flesh sweet potato cuttings and groundnut were mandatory and the other 2 types were crops of beneficiary preference. However, due to the challenge faced in procuring 5 varieties of assorted vegetables (*e.g.*, the 2 optional crop types were in small quantities and diverse) the team restricted the composition of the seeds kits to the 3 mandatory crops. Each beneficiary was supported with assorted vegetable seeds and cuttings during two (2) cropping seasons.

By June 2015, 772 HH established home gardens and were still active. Indeed 16 HHs served tools and seeds for home gardens did not established home gardens due to land taken away, illness or even relocation to other communities.

**Training**

A total of eight (8) training sessions on gardening and nutrition were organized for the beneficiaries supported with assorted vegetable tools and seeds kits during the project period – and does not include the 25 CKMs. Different topics were presented during each training.

<table>
<thead>
<tr>
<th>Type of training</th>
<th>Target</th>
<th>Attendance</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>First training session – Montserrado</td>
<td>494</td>
<td>451</td>
<td>A total of 43 persons did not attend for personal reasons</td>
</tr>
<tr>
<td>Second training session – Montserrado</td>
<td>494</td>
<td>462</td>
<td>A total of 32 persons did not attend for personal reasons</td>
</tr>
<tr>
<td>Third training session - Montserrado</td>
<td>494</td>
<td>240</td>
<td>The number absentee is high as many of the individuals expected to attend the training eventually took advantage of a big sale happening the same day - big sale of assorted imported food and non-food items.</td>
</tr>
<tr>
<td>Fourth training session – Montserrado</td>
<td>494</td>
<td>454</td>
<td>A total of 40 persons did not attend for personal reasons</td>
</tr>
<tr>
<td>Fifth training session – Montserrado</td>
<td>494</td>
<td>420</td>
<td>A total of 74 persons did not attend for personal reasons</td>
</tr>
<tr>
<td>Sixth training session – Montserrado</td>
<td>494</td>
<td>464</td>
<td>A total of 30 persons did not attend for personal reasons</td>
</tr>
<tr>
<td>First training session – Bomi</td>
<td>269</td>
<td>221</td>
<td>Initial training for last batch of beneficiaries selected from Bomi.</td>
</tr>
<tr>
<td>Second training session - Bomi</td>
<td>269</td>
<td>262</td>
<td></td>
</tr>
<tr>
<td><strong>Total (without double-counting)</strong></td>
<td>763</td>
<td><strong>At least 726</strong></td>
<td></td>
</tr>
</tbody>
</table>

The training topics discussed during beneficiaries training sessions were similar to those discussed during the training sessions held for Community Key Persons (CKMs).

Table 10. Training topics

| Agriculture/vegetable production | Nutrition & Care practices |
• Significance of vegetable production
• Site selection and preparation
• Crops propagation
• Soil management
• Crops protection
• Harvesting / harvest management

• Hygiene Promotion
• Nutrition of pregnant and lactating women
• Care of pregnant women
• Care for the young child
• Breastfeeding
• Complementary feeding
• Continuous breastfeeding

Over 1,500 training leaflets on home gardening techniques and appropriate nutritional practices were distributed to beneficiaries at training session during the project period.

Follow up visits
Over 16 follow-up visits were conducted during the entire project period. All households were visited at least six (6) times per year – the maximum round of visits is 18.

Initially, two (2) staff – one (1) home gardening extensionist and one (1) nutrition extensionist - visited beneficiaries' homes to assess the nutritional status of children less than 5 years, care practices and progress of the backyard gardens *i.e.* crops condition and application of improved techniques introduced during training sessions. *Cf.* annex 8 for follow-up tools.

The team changed the initial approach of 2 staff per follow-up visit per household. Indeed ACF strategy resulted to one (1) staff conducting follow-up visits and assessing the progress of all components of the project at household level. With this new strategy, each household had only one interlocutor for all components, and the team was able to meets its monthly targets for follow-up visits – 3 visits per day. During the visits, the staff discussed nutritional topics, took children MUAC and visited the garden.

This method gave each staff a pluri-disciplinary approach and a better comprehensive understanding of each household’s progress in integrating food security and nutrition.

By January 2013, ACF staff training sessions were organized and a one-on-one capacity building of staff approach was initiated to enhance each staff’s capacity to implement activities linked to all components of the project - home gardening, detection of a malnourished child, nutrition education, IGA-related topics, etc.
Activity 3.3: Carry out nutrition education campaigns

Three (3) nutrition campaign activities - airing of nutrition messages, community outreach activities and distribution of nutrition Information, Education and Communication (IEC) materials - were implemented during the project period. Two (2) contracts for airing nutrition messages were signed with Radio Bomi, thus reaching Bomi, Grand Cape Mount and Gbarpolu counties. UNICEF covered Montserrado with similar messages. The initial contract lasted from January 2014 to June 2014; the second lasted from November 2014 to March 2015. During both periods, Radio Bomi aired six (6) jingles on optimal breast-feeding and complementary feeding, three (3) times daily.

Three (3) community outreach events were also implemented through cultural performances – one (1) in Bomi and two (2) in Montserrado. Four (4) urban communities – three (3) in Montserrado and one (1) in Bomi - and three (3) rural communities all in Bomi were reached during these events.
The level of malnutrition cases in the target areas of New Kru town, Pipeline, and Chicken soup Factory has decrease. Because of the persistent ENA messaging in the same communities by the ACF nutrition officers and support of the Community Key persons.

The Nutritional practices of the pregnant and lactating mothers has improved in the targeted communities, especially the Pipeline, NewKru town and Chicken Soup Factory communities.

**Activity 3.4: Implement demonstration plots for home gardening promotion at health facilities**

An initial assessment of 20 health facilities in which the integrated management of acute malnutrition (IMAM) is being implemented was carried out in both Bomi and Montserrado. The purpose was to check the feasibility of the establishment of demonstration plots. 10 out of the 20 facilities were selected for demonstration plot activity.

The selection of health facilities for establishing demonstration plots was based on two (2) main criteria: available land space of at least 50 square meters to be used for three (3) years followed by available storage facility for storing demo plots assorted tools kit.

Those health facilities selected were:

**Montserrado**
- Pipeline Health Center
- R.H. Ferguson clinic in Chicken Soup Factory
- Kpallah Community Clinic in VOA
- Duport Road Community Health Center
- Sonewien Community Clinic in Sonewien Community
- New Georgia Community Clinic
- a community site in New Kru Town

**Bomi**
- Beh Town Community Clinic
- Government of Liberia (GoL) Hospital in Tubmanburg
- Tenegar Community Clinic

A memorandum of understanding was signed with each selected health facility for the establishment and maintenance of the demonstration plot. Assorted vegetable tools were distributed to each health facility and the caretakers of the community site in New Kru Town to enhance works at the demonstration plot – similar to the tool kits provided to the 788 HHs that benefited from home gardening and ENA trainings:

<table>
<thead>
<tr>
<th>TOOL KIT</th>
<th>- 1 small cutlass</th>
<th>- 2 pairs of rain boots</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- 1 regular hoe</td>
<td>- 1 rake</td>
</tr>
<tr>
<td></td>
<td>- 1 sharpening file</td>
<td>- 1 shovel</td>
</tr>
<tr>
<td></td>
<td>- 1 watering can</td>
<td>- 1 plastic bucket</td>
</tr>
<tr>
<td></td>
<td>- 1 wheel barrow</td>
<td>- 1 knapsack sprayer</td>
</tr>
</tbody>
</table>

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5 A community site has been selected in order to demonstrate urban gardening techniques and sensitize project participants and other populations on applicable techniques and methods of growing vegetables using limited land space.
The project supported each demonstration plot during six (6) cropping seasons (2 seasons per year) to carry out major maintenance works. Staff (14) from selected health facilities with demonstration plots were provided basic agriculture training in order to enhance their capacity to implement maintenance works at the plots, as per the following: nursery practices, planting techniques, integrated pest management, soil improvement techniques, watering techniques and seed testing.

The demonstration plots were used for practical demonstration of urban agriculture techniques during beneficiaries training sessions. The plots also supported the health and nutrition education session held every morning at the health facilities, as mothers were taken to the plot to see crops that had been planted and techniques used to grow the crops. During the visit, mothers were also sensitized about the nutritional value of those local food crops planted in the plot. Over 50 mothers (non-project participants) expressed interest in growing vegetables upon visiting the plots were served seedlings from the nursery set up in each plot.

Indirect beneficiaries of these demonstrations plots have also been identified. For instance, by the end of June 2015, about five (5) community members and one (1) school in Kpallah Community (Montserrado) had begun adapting techniques seen in the demonstration plots. They have begun planting vegetables in bags, old plastic buckets and pans around their homes. The Kpallah Community School has also set up their demonstration plot within the campus of the school using bags, buckets and pans.

At the end of the project, seven (7) out of the 10 established demonstration plots continued to be functional and maintained by the staff of the health facilities:
- Pipeline Health Center in Pipeline Community
- R.H. Ferguson clinic in Chicken Soup Factory
- Kpallah Community Clinic in VOA, Kpallah
- Beh Town Community Clinic
- GoL Hospital in Tubmanburg
- Kaibba Health Center in Kaibba6
- New Kru Town Community site plot

The three (3) remaining demonstration plots are not in place anymore as health facilities staff stopped the maintenance works, as the benefit (i.e. 60% harvest from the plot) was not enough to compensate for the maintenance works carried out. Initially ACF identified some community members - evicted from their plots by the property owners - who expressed willingness to continue work in the plots voluntarily. However, they later stopped working in the demonstration plots as they were given new sites to garden.

Urban gardening technique demonstration plot

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6 Duport Road Community Health Center as replaced by Kaibba Health Center as 1) the caretaker expired and no one was able to replace him; 2) the initial site on which the demonstration plot was constructed became no longer available as the health facility was expanded i.e. new structures were built on the site of the demonstration plot.
Activity 3.5: Identify and promote a local weaning food

In 2013, one (1) joint research on locally used recipes was conducted during the project period. The research unit of the Ministry of Health (playing a leading role), UNICEF, ACF and Samaritan Purse participated in the study. One (1) study report on locally used weaning food recipes was produced and disseminated. Cf. annex 4 for study report on complementary food & leaflets on weaning food.

In 2015, 31 sessions of cooking demonstrations for the identified locally used recipes were organized. 764 persons (mainly lactating and pregnant women) attended these sessions and 764 weaning food booklets were distributed to women attending the sessions on recipes for weaning food. The team followed 100 participants after these sessions from which 10 participants were seen using the knowledge gained to prepare weaning for their children; while another one (1) is producing weaning food for sale to other mothers. The 100 individuals selected were amongst the HHs that attended the cooking demonstrations and that ACF teams visited during the follow-up visits.

Activity 3.6: Carry out research on food quality and safety from the producer to the consumer

Food safety and quality management of products is increasingly on the agenda in Liberia. Emphasis is on import and export of goods. As in many other countries in development, UPA in and around cities is inherently exposed to many potential sources of contamination along the food production and value chain. Very little information is (publicly) available on quality of water and soils in Liberia. Very few studies have been done on the quality of soils and water for agriculture, but are not available, let alone for farming around and inside Monrovia. The Ministry of Health (MoH) developed National Food Safety Guidelines (2011), which articulate objectives in the improvement of food safety and seeks to clarify roles and responsibilities of ministries and agencies involved in food safety activities in the country, but MoH lack capacity to implement.

RUAF and WHH started a dialogue with the MoH and other stakeholders, bilaterally, and in the subgroup on Food Safety (under the Multi-Stakeholder Forum of Greater Monrovia (see 4.1), and involving the National Standard Lab (NSL, Ministry of Commerce). However, capacity is still limited in both the NSL and the MoH. Hence, there is a need of building individual and institutional capacities, both in public as well in private food related sector. Key actors in this approach are WHH, MoH, the NSL, EPA, MoA, the MSF, the urban farmers, processors and vendors of these products, and the consumers. Dialogue and jointly learning is important.
RUAF and WHH agreed to redesign the proposed study on Food Safety in such a way to combine research (soil, water and plant tissue sampling and testing on contamination), capacity building of students and researchers by involving them in the research, capacity building of farmers and authorities, by organising meetings and training events, and to stimulate further discussion on developing food safety in Liberia in various forums (including the Multi Stakeholder Forum on UPA, the MSF). The budget was re-arranged accordingly.

The study examined the safety risks in (selected) urban food chains and locations in Greater Monrovia, St. Pauls District and Tubmanburg. Activities undertaken are:

- A general assessment of food safety and environmental issues affecting food systems in urban areas: identification of potential sources of risk along the “Farm to Fork” pathway. This was done by talking to WHH and ACF staff, authorities, experts and farmers who are part of the UPANI programme, and by making series of field visits.
- The identification of critical points in selected urban areas where UPA is present (and WHH and ACF are operating).
- Sampling of soil, water and plant tissue at selected critical points. This was done in three rounds. The first extensive round of sampling and testing of soil and water samples was done by six interns (graduate students of University of Liberia), and the later two rounds of water and plant tissue sampling by WHH staff.
- Information was gathered on capacities of various laboratories. Testing of samples was done in three rounds, the first round at the laboratories of EPA (soils) and MoH (water). In addition, several soil samples were tested in Ghana (as part of another study). The latter two rounds of testing of water and plant tissue samples were done at the National Standards Laboratory. The NSL was able to make more detailed analysis of water contamination.
- Capacity building of farmers, processors and vendors, was done as part of the WHH and ACF activities (discussion while visiting), and in a series of special events. In addition to discussing the problem, and showing results of the study, also good agricultural hygienic and manufacturing practices were discussed (training report and material is available).
- Regular meetings were organised with key actors related to Food Safety. Initially with MoH and MoA, and later with various other members under the Multi Stakeholder Platform on UPA in Greater Monrovia and Tubmanburg.
- In these meetings, improved irrigation practices, food processing methods, packaging, storage and transport, marketing as well as treatment at household level was propagated.
- Information on the locations, critical points and testing results was stored in the WHH, MCC, and MoA GIS based Data Base.
- Awareness raising material was gathered and if necessary adapted. Material from IWMI Ghana Office and of FAO was used (obtained through RUAF) and disseminated, power points and posters used in the work with farmers and a fact sheet are distributed among key actors.

The sequence of capacity building activities was hampered by the Ebola Crisis in 2014, and because the project had to be finished end of May 2015. However, the findings of this report are in line with anecdotal evidence and similar investigations of other actors in Liberia, as well as with more robust research elsewhere in West Africa. This information and produced material will allow for the further development of Food Safety guidelines and implementation of Risk Reduction Measures.

Results
One final report, including map and photos; a report on measurements; various PowerPoints for training, training material, no. of training and meetings organized, training reports, and a factsheet.

Outcomes
Given the challenging urban conditions, support to (innovation in) urban agriculture needs to focus firmly on giving space to, and building problem-solving capacities of, the main actors: including citizens and the urban producers and entrepreneurs. Risk reduction and innovation processes in urban agriculture have a better chance of success if they are part of an integrated approach to urban development and are embedded in an enabling institutional and policy environment.

Awareness raising, joint analysis and development/adaptation of low-cost risk-reduction measures would be more appropriate in the case of small scale, informal, vegetable production in and around cities of Monrovia.

- Awareness Raised among farmer and farmers leaders.
- Awareness and interest raised among national government institutions. Capacity built of staff, students, laboratories (indirectly) and other involved institutions.
- Attention for safe urban agriculture and food in various value chains, included in work of various institutions
- Information provided on how to minimise risk of producing food in an urban setting, and thus further enhance food safety on urban and peri-urban food production in Liberia.
- Brought various institutions in contact that did not talk earlier to each other (on the subjects of food, agriculture, hygiene, urban planning).

Sustainability.

a) Authorities: The MoH 2013 Guidelines on Food Safety, The attention to food safety by the Ministry of Commerce, the development of the National Standards Laboratory, inputs; meetings with MoA, MoH, and various presentations.

b) Farmers, Processors: training given, spreading information through MoA, MoH, and Farmer Leaders.

c) Handing over extension material developed in Ghana and a fact sheet.

<table>
<thead>
<tr>
<th>ER4</th>
<th>Capacities of Urban Farmer Association, MoA and MoH and Citizen Townships are strengthened</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Result</th>
<th>Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least 80 training days for MoA and UFA, 40 training days for MoH and 3 multi-stakeholder forums held</td>
<td>Total of 110 training days held</td>
</tr>
<tr>
<td>Staff of the CAC office is trained in using GIS and adopt an open source software</td>
<td>Achieved</td>
</tr>
<tr>
<td>Outputs</td>
<td>Planned</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>No. Of days MoA staff trained on identified priorities</td>
<td>80</td>
</tr>
<tr>
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<td></td>
<td></td>
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<tr>
<td>No. Of days MoH staff trained on identified priorities</td>
<td>40</td>
</tr>
<tr>
<td>No. Of GIS workshops for NGO/GoL</td>
<td>2</td>
</tr>
<tr>
<td>Townships &amp; cities supported in policy development</td>
<td>6</td>
</tr>
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</tbody>
</table>
Activity 4.1: Continue the multi-stakeholder platforms on UPA in Tubmanburg and Greater Monrovia and identify and prioritize capacity development needs of selected institutions (MoA, MoH, UFA, City/Townships).

Multi Stakeholder Forum

As a partner of WHH and CARE Liberia, RUAF facilitated a process of multi-stakeholder engagement, awareness raising, information gathering, and policy development in the UPA projects that ran from 2010-2013. Based on the RUAF MPAP approach (Multi Stakeholder Policy Development and Action Planning), activities included the formation of Core UPA teams in Greater Monrovia, Tubmanburg and Gbarnga, an extensive participatory situation analysis, an exchange visit to Sierra Leone, and the organisation of various multi-actor meetings. This resulted in the organisation of Multi Stakeholder Forums in the two cities Tubmanburg and Gbarnga, and a Multi Stakeholder Forum (MSF) for greater Monrovia by June 2011 (MSF I). The latter focus was based on the need for close collaboration between the cities of Monrovia and Paynesville and the various townships, and anticipating the development of the Metropolitan Area of Greater Monrovia. In the overlapping period of 2013, two more MSFs were held, a Policy Narrative developed, and the MSFs of Tubmanburg and Greater Monrovia agreed on an informal policy framework: the City Strategic Agenda on UPA, and a work plan for the years 2013-2015, in its July 2012 meeting (MSF IV GM) and October 2012 meeting (MSF IV Tubmanburg).

The UPANI project, together with MCC and TCC organised 8 MSF meetings, 5 in Greater Monrovia and 3 in Tubmanburg. This is in addition to 3 CUPAL meetings, 3 Core Group meetings, and 8 Thematic Groups Meetings (on Land, Land Use Planning, School Gardening, Food Safety and Ordinances).

These MSFs were well attended and generated lively discussion. In the MSF of Greater Monrovia, an average of 50 people attended, representing over 25 institutions (authorities of city, township and Ministries, as well as other public agencies like EPA and Lands Commission, NGOs, University of...
Liberia, Farmers organisations, and International Organisations, as well as representatives of the Press). In the MSF of Tubmanburg on average 30 persons attended of over 20.

Various initiatives emerged from these discussions. To name a few:

- Farmer representative criticised MoA for not providing adequate services, while on their turn, FLUPFA and FUN were asked by MCC and the Townships, to clarify their role and visit the townships.
- A lot of ongoing activities of the different organisations was discussed, linked to the work plan of the City Strategic Agenda on UPA.
- Findings by UPANI (on extension, VS&L, Food Safety), but also other projects (like FED) was shared during these meetings.
- A discussion emerged on Extension and Farmers Groups, with MoA, FUN/FLUPFA, WHH and FED
- The University of Liberia developed its curricula on Agricultural extension, including UPA.
- The Townships expressed their interest in working with Students of University of Liberia on UPA.
- Back-to-back to the MSF VI, a meeting was organised by MCC with the townships of Greater Monrovia, on the development of ordinances (including UPA).

As a direct result of discussion during the MSF meetings, separate meetings were organised by Monrovia City with its surrounding Townships on urban policies, and by Ministry of Agriculture and the Producer Organisation on extension. These were co-financed and supported under UPANI. Another results is that the University of Liberia has included urban agriculture in its extension curriculum.

**Involvement of townships**

The Townships have always been part of the MSFs. In fact under UPA I the townships have been trained in MPAP (Multi-Stakeholder Policy Formulation and Action Planning), and have been part of the process of developing the City Strategic Agenda on UPA and the Policy Narrative. Under UPA I, and UPANI RUAF and WHH worked since 2010 with Township officers, in the situation analysis, later in CUPAL, and last 2-3 years through the MSF. Representatives of Townships always participate in the MSF and other meetings. However the Township Commissioners often change position, so regular information and information meetings need to take place.

Under UPANI, the townships have received information and materials. The project provided various hardware (laptops, furniture, small generator, office supplies) support to the offices of the County Agriculture Coordinator (CAC) in Bomi and Montserrado, to the MoA Urban Agriculture office, Commissioners offices of West Point, Congo Town, Caldwell and Barnesville Townships and Tubmanburg City Corporation. Also under UPANI, all townships received 2 maps of their township (Working maps produced by LISGIS and satellite image maps produced by UNMIL) to provide them overview and use the maps for planning purposes, especially in relation to the MPAP process.

Continues visiting of the township took place over the years to share information and discuss issues related to FNS.
RUAF and WHH organised a refresher training on UPA, and MPAP for all townships on the onset of UPANI (December 2012).

MCC has organised a meeting with the townships, to discuss the development of Greater Monrovia and support that can be provide to the townships by MCC (June 2013).

In 2015 UPANI and MCC discussed the option on having a meeting with Township representatives on policy and urban development related to UPA. MCC thought this too political and under responsibility of MiA. Later it was suggested and agreed to make this an agenda item at the MSF, and invite Township Representatives specifically.

**Conference**

In 2013 WHH and RUAF, with CARE and ACF, organised a Conference on UPA. In this conference also key issues and results/activities under UPA and UPANI were highlighted. There were sessions on
- Access to land with Lands Commission
- Food Safety with MoH and ACF/EPA
- Food Security with MoA
- Extension with MoA and University of Liberia
- Market oriented UPA with WHH and CARE

RUAF and WHH were invited by MCC and UN Habitat to provide inputs on the National Urban Policy of Liberia Framework. Comments were given by RUAF on the draft developed by MCC. UPANI staff participated in the National Conference on Urban Planning 24-25 June 2015, where UPA also featured.

UPANI partners organised a final seminar in the form of a Joint Multi Stakeholder Forum on UPA with MCC, this time MCC was taking the lead in the organisation of the seminar. This 1st Joint Multi Stakeholders Forum reflected on the outcomes of the 1st National Urban Conference of October 2010 and the recent 1st National Urban Forum of June 2015. Serving as precursors, these two events will greatly inform the planning and organizing experience of this 1st Joint Multi Stakeholders Forum on urban agriculture which is expected to take the agenda of sustainable urban agriculture forward in Liberia. The event was funded by the European Union through the UPANI project and hosted by the GMD MSF headed MCC. It brought together the key a) central government partners such as MoA, MIA, LISGIS, LC, MPW, MoC, CBL, MFDP, and MLM&E, b) city government partners such as MCC, PCC, TCC, GCC, townships, c) international and donor partners such as FED, GROW, CARE, EU, USAID, SIDA, UN Habitat, d) national partners FLUPFA, TUPUFU, SWIPAL, LIBA, LEDFC and civil society.

**Outcomes**
- Capacity build on UPA of various participants, linkages facilitated between institutions,
- Capacity build of Townships of Greater Monrovia on UPA, on Policies (on workshop with MCC), on Land Use Mapping (see 4.4), on providing services to urban farmers (initiative ongoing with University of Liberia, FLUPFA
- Awareness and interest raised among national government institutions
- Brought various institutions in contact that did not talk earlier to each other (on the subjects of food, agriculture, hygiene, urban planning).
Leadership role discussed with and gradually taken by MCC in development of Greater Monrovia, and outreach to Townships

Provided a platform for inputs by urban farmers, who demanded more attention to their issues by MoA, but were also challenged by MCC, Townships, etc, in acting on the ground, and developing their mandate: services to urban farmers.

**Sustainability**

- The Leadership of MCC (and to a minor extent MoA) and TCC in organising, chairing and facilitating these platforms.
- The involvement of MCC in the Cities Alliance (WB funded) programme, with attention to UPA as part of city planning, governance, slum development, etc. Part of this programme is also that MCC will support Townships and smaller towns/cities in Liberia. Tubmanburg can thus be an example/as Gbarnga can be (UPA I).
- The offer of FED (USAID Enterprise Development) to support the regular organisation of the MSFs in GM.
- The development of the National Urban Planning system with UN Habitat, Min.Internal Affairs, etc. RUAF and WHH have been asked to provide input in the draft plan (is done).
- The organisation of the Agricultural Cluster Coordination meeting by MoA (mainly MoA with NGOs)
- The Food Security and Nutrition Plan being developed and the Agriculture Extension policy developed by MoA
- Policy Development in Greater Monrovia with Townships, linking Univ. Of Liberia, FLUPFA.
- Discussion with FLUPFA, FUN, MoA, and other actors on future role of FLUPFA and building capacity to act on this (or not).

**Activity 4.2: Provide training to staff of selected institutions.**

At the start of the UPANI project, the Ministry of Agriculture, townships, and Urban Agriculture Farmer Association participate in the Multi-stakeholder platform of Greater Monrovia and Tubmanburg. Under the city strategic agenda of these cities, the MOA, MOH, and FLUPFA, participating in the platforms, identified and agreed in 2012 on number of activities to enhance urban agriculture, but the lack of skills to implement these activities has raised concern. Therefore, the project conducted in 2013 a comprehensive SWOT analysis of the existing competencies, capacities and resources of MOA, MOH, and UFA.

Priority capacity needs were identified through an extensive consultation process. Questionnaires on priority capacity needs were sent to participants prior to meetings so that the participants could prepare themselves for the discussion.

The results of the analysis were discussed with the representatives of MOA, MOH, FLUPFA, MCC, ACF and five selected townships (Congo town, Johnsonville, West point, Caldwell, Garnerville), in a general workshop on August 16, 2013.

Training needs were identified and a training plan was developed for the following topics:

1. GIS and Land Use / Urban Planning (linked to Land Use Mapping and other uses, such as Nutrition Surveillance)
2. Food Safety (for Ministries and Farmers)
3. Value Chain and Business Development
4. Safe and Productive Use of Wastes
5. Extension, FFS
6. Policy Development, Ordinances
7. Organizational Strengthening (FUN/FLUPFA)

Based on the above given priorities the following trainings were provided to the various institutions

<table>
<thead>
<tr>
<th>2013</th>
<th>Topic</th>
<th>Participants</th>
<th># of P.</th>
<th># of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Food Safety Training</td>
<td>Farmers organisations, MoH, National lab, Market associations, FLUPFA</td>
<td>73 (M 37, F 36)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>GIS and GPS LISGIS coaching</td>
<td>MOA, MOH, FLUPFA, TOWNSHIPS</td>
<td>24 (M18, F6)</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>GIS and GPS training</td>
<td>FUN, FLUPFA, MCC, MIA, TOWNSHIPS, CHAP, ACF, MOA, LAND COMMISSION</td>
<td>29 (M18, F11)</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2014</th>
<th>Topic</th>
<th>Participants</th>
<th># of P.</th>
<th># of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value chain development</td>
<td>Government, NGOs, University of Liberia, and CBOs representatives of 28 institutions</td>
<td>58 (M 38, F20)</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2015</th>
<th>Topic</th>
<th>Participants</th>
<th># of P.</th>
<th># of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Leadership and good group dynamics</td>
<td>FLUPFA, TUPUFU</td>
<td>2 (M2)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Business management and VSLA</td>
<td>FLUPFA, SWIPAL</td>
<td>4 (M4)</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>GIS re-fresher training</td>
<td>MoA, MCC, FLUPFA, CHAP, UoL</td>
<td>9 (M8, F1)</td>
<td>15</td>
</tr>
</tbody>
</table>

Other forms of capacity building that took place in 2015 were:
- Trainings given by Farmer Associations (FLUPFA, TUPUFU and SWIPAL) to vegetable producers and pig-producers under the supervision of the field staff. Over 500 farmers received training from these farmer associations.
- The Multi Stakeholder preparation with the Township
- The coaching of the MCC to organize the Joint Multi Stakeholder Forum on August 4, 2015

**Activity 4.3: Support the establishment of a food security and nutrition surveillance system.**

In 2012, this activity was scheduled to be implemented in 2013 when the ACF pilot on Hunger Listening Posts phases out.

In 2013, in the project document, it was foreseen that under this activity, the ACF listening post would be added to the national surveillance system. However, despite several activities, this
was not done. As part of our efforts in knowing the type of surveillance that already existed, a general meeting was held with WHH/RAF, ACF, WFP, MOH, MOA, FLUPFA, Montserrado County Health team. During the meeting the following surveillance systems were identified: the listening post methodology used by ACF, the Health Monitoring Information System (HMIS) that allows for monitoring malnourished children. It was agreed to involve the Ministry of Commerce because of its role in pricing commonalities and expertise in quality testing of food products. As the result of these meetings the FSN surveillance system was put on hold and the focus shifted towards the GIS system.

**Activity 4.4: Develop a land use and agricultural planning and monitoring system and database using GIS.**

In partnership with the Monrovia City Corporation (MCC) and the Liberian Institute of GIS (LISGIS), RAF and WHH supported MCC with the inclusion of urban and peri-urban agriculture in its urban planning system and MoA and FUN/FLUPFA/CHAP in their data systems. The aim was to facilitate access to information on land availability and use for land owners, famers and local authorities, and enhance the provision of services to farmers and entrepreneurs at city level and at township level.

Under UPA I, from 2010-2013, WHH and RAF worked with the core city teams of GM and Tubmanburg on provisional land use mapping, to facilitate discussion on who the urban farmers were, where they operate, and what key issues at city and township level were (see MPAP report UPA 1). Information on urban farming systems and land use was gathered by these teams, and a basic typology for UPA was developed (see below). This typology served as the basis for the suggested part on UPA of the Land Use Mapping System, and compared and matched with other typologies used by LC, MCC, and UN Habitat.

LISGIS is the Liberian Institute for GIS. It provides services to the key stakeholders of Result 4 (MoA, MoH) as well as to NGOs, and other organisations. However, most projects, as institutions prefer to develop their own systems and operate independent, supported by the various donors. WHH used freeware GIS system in UPA I to produce maps. At the onset of UPAI, in 2012 it was decided to work on a compatible system with LISGIS. However, instead of designing a new system, it was agreed to build on the roles of these key actors and ongoing initiatives, adding information on UPA in this. WHH and RAF, agreed with key actors, as LISGIS, MCC and MoA to involve various institutions in the process and built capacity while doing, and directly work with LISGIS. It was therefore decided to link this work to the WHH institutional development and monitoring officers and work with selected consultants. Another reason, was the difficulty to find a good WHH staff member for the short term position of GIS Officer. In 2013, meetings have been held with LISGIS, UNMIL, FED, MCC, LC, MoA, to explore the available data and systems. A consultant from UNMIL/LISGIS analysed the systems used and made a proposal for the system to develop.

Four packages of GIS Arc Info 9.1 were bought and distributed to WHH, MCC, MoA and FLUPFA/FUN/CHAP (6 other packages were bought by other projects of WHH). This system however, could only be used on Windows XP, hence needed to be upgraded end of 2014. In 2015, after the EVD crisis, LISGIS provided updates to ArcInfo 10.0 to 10 staff members on laptops of these four institutions. LISGIS is committed to support these institutions in supporting further data gathering and the development of GIS based urban land use systems including UPA (as part of the National Mandate).
Two series of trainings have been given. A first training on ArcInfo and GIS/GPS and UPA, was done in September 2013. In 2015, after the EVD crisis, a second training was provided to the same institutions on use of GIS and Land Use Planning including UPA, especially focuses on linking various databases available with key partners (MCC, MoA, FLUPFA/CHAP, University, etc. but also the Lands Commission (member of MSF Greater Monrovia) to the main urban planning system, coordinated by MCC.

After the first training, WHH staff and key partners planned to use GPS for data collection in:

- Identification of land under UPA by WHH farmers, and farmers groups, and collection of key information using the UPA Typology.
- Collaborate with selected Townships (Caldwell and Congo Town) and University of Liberia Students in collection of information on open spaces, urban farmers, etc. in selected townships (as discussed under MSF V and VI in 2014).

At this training, briefly also typologies, etc. were discussed, but this did not lead to an agreed system or strategy. A format for collection of information was developed, but this was not used by the actors present, except for WHH under UPANI to start collecting information.

However, linkages were made (bilateral, and in the Thematic Group of the MSF of Greater Monrovia and of Tubmanburg) to the following institutions and ongoing data collection:

- MoA received support by WB in another project, the GIS system provided by WHH would be used for this so data would be available for the UPA system on soils, land quality, etc., and.
- MCC worked on focused area investigations, to develop proposals for urban land use planning with USAID and Rockefeller.
- FUN/FLUPFA: was still in the development phase, so the installation of the system was postponed.
- Discussions were held with FED and USAID on the data they collected and how this can be shared.
- Lands Commission as supported by UN Habitat on data on ownership.
- TCC developing infrastructure and in its new (draft) city plan, sought to allocate spaces for urban farming.
- LISGIS (existing information and new information developed in various projects): county, city, township boundaries, roads, rivers and water bodies, swamp, bridges, land cover, schools. Underlying aerial imagery available

This work, agreed on early 2014 was delayed by hardware and software problems, loss of data in 2 GPS systems, changes in project management, and most importantly by the Ebola Crisis, and related lack of field work and the absence of interest and capacity to work on this by various institutions. In meetings between WHH and RUAF in February 2015, the situation was assessed and new work planning done. Information has been gathered by WHH team, but not in a concise matter. New efforts were needed, in a relatively short time, to (re)build the system, capacity of key partners and deliver final products. Meetings were held with MCC and LISGIS, as well as with UN Habitat (working on Urban Land Use Inventory in the cities of Gbarnga and Buchanan). MCC reconfirmed interest in finalising the system and receiving training on GIS, Urban Land Use mapping and linking this to UPA and other sources of information. And as such coordinate with MoA and FUN/FLUPFA information to townships and urban farmers. With LISGIS it was agreed to organise a final training and coaching to
MCC staff and invited representatives of MoA, FUN/CHAP, WHH, FED and Townships. A training took place early April, where LISGIS, MCC, WHH, MoA and Farmer representatives met and discussed the info data base and typology for UPA, and how to include the various systems to the proposed Land Use Planning System of UN Habitat. From March till July UPANI worked with MCC and LISGIS to finalise the UPA information sheets (on urban farmers and groups, markets and critical points analysed for water quality and soil contamination), which were handed over to MCC and MoA.

Outcomes
Awareness and interest has been raised among national government institutions on UPA, land use mapping and the role of UPA in urban development. This was achieved by bringing together a variety of institutions and creating a platform through which they could share their experiences and contribute to the growth of UPA in Liberia. Furthermore, in partnership with the Monrovia City Corporation and the Liberian Institute of GIS (LISGIS), RUAF and WHH supported Monrovia City in the inclusion of urban and peri-urban agriculture in its urban planning system. At city level and at township level this will facilitate access to information land use and negotiations between land owners, farmers and local authorities. Finally, the action provided a platform for inputs by urban farmers, who demanded more attention to their issues by MoA, but were also challenged by MCC, Townships, etc., in acting on the ground, and developing their mandate: services to urban farmers.

2.3 Activities that have not taken place
Most of the planned activities have been realized or even exceeded. Nevertheless, some activities were not realised or not fully realised, mainly as a result of the EVD outbreak. For example, the pilot project using alternative fertilizers through recycling of organic waste and human excreta (Activity 1.7) was cancelled. The decision to stop this pilot was made in 2014 as due to the Ebola outbreak there were concerns in using human excreta.

The pay back scheme was hampered by a lack of transparency, a lack of monitoring, and the economic impact of the Ebola outbreak. The mechanism for paying back was not defined and therefore the rules on paying back not clear. The lack of clear guidelines and monitoring was further hampered by the shocks brought about by the Ebola crisis, where people lost income and livelihoods and were unable to make re-payments. Finally it was dropped.

The development of a land use system (Activity 4.4) was also not fully realised. This was, in part, due to compatibility issues and problems with hardware and software but also because plans were finalised for 2014 and following the outbreak of EVD attention shifted to emergency and recovery. In 2015 after the Ebola crisis has subsided the momentum had been lost and key contacts were no longer within the Ministry. This led to even more delays and obstacles in the full realisation of the activity.

Finally, it was envisioned that ACF listening post would be added to the national nutrition surveillance system (Activity 4.3). Despite attempts being made at the project conception to ensure that activities were in line with stakeholders. Following discussions with key stakeholders this FSN surveillance system was put on hold as it was seen as cumbersome by the MoH and the focus shifted towards the GIS system.
2.4 What is your assessment of the results of the Action?
The specific objective’s indicators were as follows:
- At least 70% of direct beneficiaries have increased their food intake by the end of 2015;
- At least 70% of direct beneficiaries have improved nutritional practices including diet diversity by the end of 2015.

The first indicator was achieved with the increase of food availability by 300% (more than the 70% stipulated). Nutritional knowledge of the target group has increased by 79%, but only 32.4% of the 148 interviewed beneficiaries indicated that their diet changed, specifically a more diverse diet over the last three years.

Nevertheless, the project’s overall objective is achieved, as there are significantly healthier children, better food availability and enhanced resilience of the target group despite of the EVD-crisis.

The change of key personnel in management and administration of the implementing organisations negatively influenced the project execution, especially in relation to the processing activities. At the beginning of project implementation, the two organizations WHH and ACF did not coordinate and cooperate sufficiently. After mid-term evaluation, the cooperation was strengthened through monthly steering meetings and training of staff on common themes. The complementary work was beneficial to both the organisations and the target group.

Beside the significantly higher food security, a further positive outcome was the up-scaling of urban and peri-urban agriculture on national level. The project encouraged national and local key actors in Multi-Stakeholder-Forum (MSF) to join together with the result of an approved national urban policy narrative. The City Corporation of Monrovia and Tubmanburg took the lead and demonstrated strong ownership.

Another positive aspect has been the multiplication effect of VSLAs. They are highly appreciated as they give access to capital to persons who may not have ever had this opportunity before. In combination with nutrition trainings, Income Generating Activities (IGA) and/or farming activities, the saving and loans lead to the payment of school fees, and contribute to purchasing food, as stated by the group members. The social fund, part of the saving and loans system, is a kind of basic mutual security and reduces vulnerability of the group members.

2.5 What has been the outcome on both the final beneficiaries &/or target group and the situation in the target country or target region which the Action addressed?
Agricultural production in the target area was enhanced and diversified. Prior to enrolling in the UPA/UPANI programs, many farmers from Bomi and Montserrado stated that they did not have knowledge about land preparation in order to plant crops. The skills and training provided to them enabled them to plant more efficiently. Following activities, participants in the project had a better idea of building beds and mounds and some traditional techniques were altered based on the newly acquired knowledge. According to an assessment, there was high adoption of LEIA techniques among the beneficiaries such as manure techniques (UPANI 70.1% and UPA 89.4%), bio-pesticides (41.6% of UPA 49% of UPANI farmers) and crop rotation (89.6% of the UPANI farmers and 72.5% of UPA farmers).
According to the study results, farmers eat 20-30% of their produce and sell 70-80% of the goods. With these funds, farmers are able to invest in other aspects of life, namely:

- School fees for the children;
- House rent for the household;
- Feeding for the household;
- Savings and reinvestments in the farm.

According to the results of focus group discussions with farmers, the trainings in business management given by WHH in the communities, enabled behaviour change among the target group. For the first time, farmers were triggered to shift their thinking from people who have just enough food to feed their families to seeing being a farmer as being an entrepreneur, self-employed and independent with a decent living.

Besides the business training, the VSLA groups had a very positive effect on the living conditions of the target group. Farmers, backyard gardeners, and IGA participants were encouraged to save money for themselves and for their families. For women especially, this positively contributed towards their independence and it increased self-confidence. The VSLA also strengthened other activities as many farmers, IGA participants and backyard gardeners took loans from the groups to reinvest in their business.

The business activities also contributed to an improved food and nutrition security situation for the target group. When ACF and WHH started the IGA activities, ACF measured that 100% of the households selected for IGAs took care of at least one malnourished child, or previously malnourished, over the last six months. At the end of the project, no malnutrition cases were identified among all the beneficiaries. The last case of a malnourished child within a household supported through the project was identified in June 2014, during a follow-up visit.

In the area targeted by ACF, malnutrition rate decreased from 8.3% in 2013 to 0% in 2015 – last monitoring conducted in January 2015. The final evaluation showed that 91.9% of project beneficiaries interviewed said the health situation of their children improved through the combination of the project activities; and that 92.7% indicated their child (or children) are in a good and very good nutritional status.

### 2.6 Materials distributed

The items distributed depended upon the type of group and the activity.

Under Result 1 the project provided:

<table>
<thead>
<tr>
<th>Animal groups (15)</th>
<th>7 farmer groups received inputs for modern piggery stable (made out of cement)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 4 shovels</td>
<td></td>
</tr>
<tr>
<td>- 4 regular hoes</td>
<td></td>
</tr>
<tr>
<td>- 1 wheelbarrow</td>
<td></td>
</tr>
<tr>
<td>- 3 watering cans</td>
<td></td>
</tr>
<tr>
<td>- 4 cutlasses</td>
<td>5 farmer groups received input for a traditional farmer stable (only the slab is made out of cement the rest out of local materials)</td>
</tr>
<tr>
<td>- 4 sharpening files</td>
<td></td>
</tr>
</tbody>
</table>
- Rainboots for all group members
- 2 rubber bucket
- 1 fence wire
- 1 bucket of Moringa seeds
- 10 cassava cuttings

1 chicken house, 1 rabbit house and 1 fish pond as well as 65 rabbits, 96 hens and 50 cocks were brought to the FRC

1 rabbit stable at the Bomi prison compound with rabbits

chicken stables (4) with chickens

Pigs (11 sows and 14 boars over 12 groups)

<table>
<thead>
<tr>
<th>Greenhouses (3)</th>
<th>Materials for the rehabilitation and maintenance of the greenhouse included;</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 37 pieces of timber</td>
<td>- 250 ml insecticide</td>
</tr>
<tr>
<td>- 20 wire nails pack</td>
<td>- 5 bags of cement</td>
</tr>
<tr>
<td>- carboline</td>
<td>- 1 role of plastic</td>
</tr>
<tr>
<td>- 1 sewing machine</td>
<td>- 2 shade nets</td>
</tr>
<tr>
<td>- 1 spraying can</td>
<td>- 1 EMAS pump</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health facilities demo plots (10)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1 small cutlass</td>
<td>- 2 pairs of rain boots</td>
</tr>
<tr>
<td>- 1 regular hoe</td>
<td>- 1 rake</td>
</tr>
<tr>
<td>- 1 sharpening file</td>
<td>- 1 shovel</td>
</tr>
<tr>
<td>- 1 watering can</td>
<td>- 1 plastic bucket</td>
</tr>
<tr>
<td>- 1 wheelbarrow</td>
<td>- 1 knapsack sprayer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>UPANI farmer groups (34) and UPA farmer groups (39)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>This package was provided at the start of the project.</td>
<td>This package was provided after the EVD outbreak.</td>
</tr>
<tr>
<td>- 10 regular hoes</td>
<td>- 10 scratching hoes</td>
</tr>
<tr>
<td>- 5 shovels</td>
<td>- 2 wheelbarrows</td>
</tr>
<tr>
<td>- Rainboots for all members</td>
<td>- 2 diggers</td>
</tr>
<tr>
<td>- 10 cutlasses</td>
<td>- 1 measuring rope</td>
</tr>
</tbody>
</table>
| - 4 rakes | - 1 seed package (watermelon, corn, okra,  
aubergine, plantain sucker, carrot, lettuce,  
cucumber, cabbage, peanut, hybrid onion) |
| - 1 grinding stone | |
| - 3 watering cans | |
| - 3 axes | |

<p>| - 4 spraying can | - 4 shovels |
| - 1 seed package (cucumber, pepper, collard greens, bitter ball, watermelon, hot pepper, tomato, lettuce, sweetcorn, aubergine, parsley, squash, potato vine, cabbage, water green, onions, cassava bundles) | - 1 wheelbarrow |
| | - 4 regular hoes |
| | - 4 scratching hoes |
| | - 3 cutlasses |
| | - 4 sharpening files |</p>
<table>
<thead>
<tr>
<th><strong>Potential farmers (6)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Water pump machine</td>
</tr>
<tr>
<td>- 1 hose</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Backyard gardeners (788)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1 small cutlass</td>
</tr>
<tr>
<td>- 1 regular hoe</td>
</tr>
<tr>
<td>- 1 sharpening file</td>
</tr>
<tr>
<td>- 1 watering can</td>
</tr>
<tr>
<td>- 1 pair of rain boots</td>
</tr>
<tr>
<td>- 1 rake</td>
</tr>
<tr>
<td>- 1 shovel</td>
</tr>
<tr>
<td>- 1 plastic bucket</td>
</tr>
<tr>
<td>- 400 grams of sweet corn</td>
</tr>
<tr>
<td>- 1kg of orange flesh sweet potato cuttings</td>
</tr>
<tr>
<td>- 400 grams of red groundnuts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>VSLA groups (60)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1 metal steel box</td>
</tr>
<tr>
<td>- 3 padlocks</td>
</tr>
<tr>
<td>- 2 money bags</td>
</tr>
<tr>
<td>- 1 wall clock</td>
</tr>
<tr>
<td>- 1 calculator</td>
</tr>
<tr>
<td>- 1 ruler</td>
</tr>
<tr>
<td>- 1 ink pad with ink</td>
</tr>
<tr>
<td>- 1 stamp</td>
</tr>
<tr>
<td>- 30 members pass books</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>IGA kits</strong></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th><strong>Moringa group (in addition to seeds and tools)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1 2.5 KVA generator (of which the Moringa group contributed 50%)</td>
</tr>
<tr>
<td>- Sealer</td>
</tr>
<tr>
<td>- Packaging materials</td>
</tr>
<tr>
<td>- 880 jars (small and medium)</td>
</tr>
<tr>
<td>- 4 cartons of branded boxes</td>
</tr>
<tr>
<td>- Computer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Kormah processing group (in addition to seeds and tools)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- 1 processing unit building (22,634.85 USD)</td>
</tr>
<tr>
<td>- 1 cassava grinder</td>
</tr>
<tr>
<td>- 1 gari presser</td>
</tr>
<tr>
<td>- Drill screw</td>
</tr>
<tr>
<td>- Fermentation rock</td>
</tr>
<tr>
<td>- 1 gari toaster</td>
</tr>
<tr>
<td>- 1 gari grounded</td>
</tr>
<tr>
<td>- 1 EMAS pump</td>
</tr>
<tr>
<td>- 1 2.5 KVA generator</td>
</tr>
<tr>
<td>- Bagging stand</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Banana Farm (in addition to seeds and tools)</strong></th>
</tr>
</thead>
</table>
- Support for creation of Banana processing building extended to UPANI
- packaging materials boxes
- packaging materials bags
- 2 gari toasters
- 1 cassava grinder

- 1 gari press
- 2 pashing pens
- 1 water tank

Pork meat shop
- Building of pork meat shop (13963.73 USD)
- 5 freezers
- 4 cutlasses

- 4 scales
- 4 axes
- 8 knives

Zoe-jul restaurant
- Tables and chairs
- Freezer
- Cook pot

- Building renovations
- Cooking utensils

2.7 Please list all contracts (works, supplies, services) above 10,000€

The following are contracts awarded above 10,000.00€ for the Action’s implementation period

<table>
<thead>
<tr>
<th>Contractor name</th>
<th>Purpose</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heike Meuser</td>
<td>External evaluation</td>
<td>14,824.00 EUR</td>
</tr>
<tr>
<td>Deloitte Touche</td>
<td>Audit</td>
<td>35,659.54 EUR</td>
</tr>
<tr>
<td>Global construction</td>
<td>Construction of pork meat shop</td>
<td>11,024.27 USD</td>
</tr>
<tr>
<td></td>
<td>Additions to pork meat shop</td>
<td>3,941.64 USD</td>
</tr>
</tbody>
</table>

2.8 Sustainability and continued support

Of the farmer groups established, supported and trained under Result 1, most of the members will continue their farming activities. During the last phase of the project more emphasis was placed on business management training.

The results of the participatory research study on best practices showed that most of the beneficiaries stated that they were benefitting from the business management and leadership training. The business management training encouraged the farmers to begin looking at their farm as a financial resource. The farmers said that they learned how to track their expenses so that they know the exact amount that they spend every year on wages, seeds, and supplies.

Also they were taught to monitor how much income they receive when they sell their crops so that they can calculate their total profit. Many of the interviewees discussed how learning to budget has helped them to improve their lives. Before the training many said they would just receive some money in hand and just spend it on whatever their needs were, so they never knew how profitable their farm was. These trainings have allowed farmers to save and purchase more expensive items like better farming land or family homes.
The prospect of creating wealth has made the farmers much more ambitious and creative when it comes to running their farms. It is therefore expected that those groups and individual farmers who are making a good living out of the farm will continue and even try to extend their activity.

To ensure follow-up of these farmers, close ties between the farmers and the three farmer associations have been established during the course of the project. For vegetable farmers in Bomi, TUPUFU provided a number of trainings. The organisation opened a new office in Tubmanburg, established three (3) example farmers (also with the aim to generate an income for the organisation) and was able to receive funding from other entities.

The farmer groups in Greater Monrovia and St. Paul received extension services from FLUPFA. Besides trainings, FLUPFA also supported the distribution of tools and seeds. In the last months, FLUPFA was able to receive seeds from the MoA and distribute them among farmers in the urban areas. In addition, the organisation was invited a number of occasions to discuss the effects of Ebola on the Food Security situation in the Country and with a special focus on the urban areas.

A critical note is that FLUPFA was not able to receive funding from other entities besides WHH. Although the organisation has been supported for a long time, the organisation was not able to find any other sources of income. Leadership issues within the organisation and the lack of funding make the possibility that FLUPFA is able to continue the services provided to farmers uncertain, whereas TUPUFU, with the demonstrations farms and strong leadership, seem to have the strength to continue part of the activities.

The last organisation that can monitor the activities of farmer groups is SWIPAL which has been linked to the 122 piggery farmers active in the program. At the end of the project, all 122 farmers were registered with SWIPAL, the project covered the membership fee. This fee also invested in SWIPAL. The organisation has a running office, a functioning board and connections with ministries. The organisation also sells wheat bran from the flour mill to farmers for a better price and was able to establish contact with the brewery about the use of malt for pig feed in Monrovia.

The most sustainable activity is the establishment of the VSLA groups. This activity has been implemented in a majority of the 86 project communities with a high success rate. Of the 60 VSLAs established 59 are active and able to adhere to the strict VSLA methodology. As an exit strategy an election process was organized to appoint cluster agents. The cluster agents are assigned with the task of monitoring the existing VSLA groups and to support the village agents with the establishment of new VSLA groups. In addition, the project linked 49 VSLA to the National Apex (NAPEX), the official structure for village savings and loan associations established by the central bank of Liberia.

The CKMs were motivated to stay active till the end of the project despite not receiving incentive for their work, it is therefore likely that they will continue their services in the community. Also the backyard gardeners seem to be motivated to continue the activity and as the planted crops are indigenous and the majority of the farmers are able to preserve seeds for the upcoming farming, not much follow up is needed to keep the backyard garden running for current project beneficiaries.

However, CKMs would need future support to identify new families with high malnutrition rates. For these case, ACF aims to support CKMs through other projects.
The construction of greenhouses and processing units were highly technical and the implementation of these activities challenging. The greenhouses and processing units were partly constructed before the outbreak, whereas construction came to a standstill due to the lack of technical expertise, issues with the availability of materials, monitoring and issues with the contractors. As these activities could not continue during the peak of the outbreak, the greenhouses and the processing units were only finished at the end of the project. To create truly sustainable structures, more technical follow-up training and monitoring would have been required, which time did not allow.

At the end of the project period, the MCC showed the leadership to organize chair and facilitate the Multi-Stakeholder Platforms. With the involvement of the MCC in the Cities Alliance (funded by the World Bank) programme, it is likely that the awareness raised on UPA among MCC actors will strengthen the attention given to UPA as part of city planning, governance, slum development, etc. The project was able to develop the city ordinances for Tubmanburg which has been shared with other townships and can be replicated.

A great success was the request for technical input from WHH and RUAF for the development of the National Urban Planning system with UN Habitat, Min. Internal Affairs, MCC and other governmental actors. During the last phase of the project, project activities and proposals of RUAF, WHH and key partners on developing Resilient Urban Planning, Support to Urban Agriculture and Urban Farmers, and Slum development activities were developed and could potentially result in future possibilities for UPA governance activities.

Besides the question of sustainability, it is important to give recognition to the fact that the activities implemented enabled beneficiaries to sustain themselves and withstand the shock of the Ebola crisis. During the participatory research study, a set of questions was formulated to uncover how farming practices helped the individuals questioned during the EVD crisis. At this time, the population in Bomi and Monserrado Counties suffered a major food shortage as due to Ebola restrictions it was impossible for farmers and traders to travel outside of their homes or have any interaction with people who were not in their immediate family.

Under these regulations most of the farmer groups fell apart. Many people feared for their lives and left to join their extended families in the counties, others remained in the area, at home but decided maintaining the farm was not worth the risk of transmission. One group said that they continued to farm on the group property during the outbreak but that everyone took a small plot and just tended to the amount of land that they could manage on their own. Furthermore, some group members were killed during the Ebola outbreak and some groups stopped working together or meeting.

In spite of restrictions which limited farmer group activities, nearly every participant said that they took their skills back to their backyard garden. It was stated during these discussions that making a profit as a farmer was no longer the goal and people sought just to keep their family fed. With limited tools and food, many of the farmers said they returned to their local techniques, which were not very labor intensive and did not require the use of tools. The backyard gardens helped the beneficiaries continue to provide food for their family when the markets were closed and movement was highly restricted. Some even stated that were able to start rationing their own yield as is was not known how long the outbreak would last. The majority of the beneficiaries questioned stated that their farms allowed for them and their family to consume at least one full meal per day, some said the
meal was not quite sufficient but everyone was glad to always have a source of food available. One woman was quarantined after her husband died so she had to rely solely on the food she had in her backyard garden since she was not allowed to leave her home for any reason.

An important conclusion is that the activities contributed strongly to the resilience of the target group during the outbreak. It is therefore expected that these activities have provided beneficiaries with the skills and tools to withstand future shocks.

2.9 Mainstreaming of cross-cutting issues
Urban agriculture in Liberia also plays a role in the social inclusion of marginalised groups (unemployed youth, persons with disabilities, those afflicted by HIV-AIDS, refugees, female-headed households etc.) by providing them an opportunity to feed their families and raise an income, while enhancing self-management and entrepreneurial capacities.

A HIV/AIDs mainstreaming workshop was held in the first year. Staff and partners participated, the red ribbon was printed on T-shirts which were distributed to participants. During coordination meetings, the issue of HIV/AIDs was discussed, urban agriculture is generally acknowledged as a strong mitigation strategy for people living with HIV/AIDs.

In 2014/2015, attention was given to identifying EVD, prevented the spread and addressing causes and how to keep people safe. All farmer groups and VSLA groups received the materials to set up hand washing stations (bottle of chlorine, buckets with tap, EVD awareness stickers, EVD awareness posters, tides soap) to be placed at entrance to farms. As a topic, EVD was included in the trainings following the official manual developed by MoH. In total 879 farmer group members (369 male and 510 female) and all VSLA groups with received training in EVD awareness in their communities.

Gender equality was planned in the project, by ensuring that at least 50% of beneficiaries would be women. This was exceeded as the final evaluation showed that around 70% of the total beneficiaries were women. Efforts were made to enlist more females in leadership positions (CFT’s, group leaders, CKMs, farmer association boards).

For farmer groups, often the secretary would be female especially since their knowledge on saving increased as they were often part of the VSLA groups. The UPA backyard garden activity is generally viewed as a way to supplement nutrition and possibly income. While increases in income may be limited, one benefit of backyard gardens is empowerment as producing one’s own vegetables can provide a sense of pride and self-importance. This production enables women to feed their families and often supplement the household income.

Democracy and good governance were promoted at various levels. At the start of the project, the participatory meetings enabled beneficiaries to identify UPA opportunities and indicate issues. After the EVD outbreak, farmers were encouraged to work in groups again and training sessions at a community level on group formation were conducted, highlighting democratic decision making and good leadership. Addressing these issues helped farmers have a better understanding of the economical benefits of working in a group as well as how the body of elected individuals can support the democratic process. Farmers were able to voice their issues through Farmer Associations, FLUPFA, TUPUFU and SWIPAL. These groups represented farmers at MoA meetings and at a township
level. This assistance to the local MoA and MoH authorities aimed at assisting the decentralisation process.

The Multi-Stakeholder Forum, established to support policy formulation and action planning, contributed to more participatory governance, public-private partnerships and helped to bridge the gap between citizen groups and the government. With the multi-stakeholder approach, urban agriculture action plans and policies are formulated in collaboration with, and in open interaction between, local government and all relevant stakeholders. Different types of urban farmers, CBO’s, NGO’s, Municipal departments, Governmental organisations, credit institutions, private enterprises were all involved in the process. This collaboration goes beyond processes of mere consultation, where stakeholders are asked for their feedback on an already defined line of action. Instead through the multi-stakeholder approach actors have the opportunity to participate in the definition of problems and identify potential opportunities related to policy issues. Stakeholders were invited to propose possible solutions and were stimulated to define their own role in the implementation process.

2.10 Monitoring and Evaluation
At the start of the UPANI project, a Monitoring and Evaluation (M&E) system was developed by an external consultant including activity, output, use of outcome and impact indicators as well as survey tools. Due to the high number of project managers, the designed M&E system was not entirely implemented accordingly. At the start of 2014, an intern was recruited to coach the M&E officer and improve/reinforce the designed data collection system. Unfortunately, before the assignment could be finalized, the intern was evacuated due to the EVD outbreak.

Monitoring was carried out by the M&E officer attached to the project and the various project managers, project coordinators and technical advisors. Information collected concentrated on indicators linked to activities and output level, such as number of trainings, number of participants etc. At the end of the implementation period surveys were carried out to measure direct outcome or impact indicators, such as yield increase and the adoption of LEIA techniques.

During the last 6 months of project implementation, a number of improvements were made in regard to monitoring and evaluation activities.

- In December 2014 and January 2015, verification of farm group members was conducted by the M&E Officers and agriculture field staff. Registration took place for the 37 UPA groups and 34 UPANI groups.
- Transparency towards beneficiaries in regard of the distribution of items improved. For all materials handed out by the project (seeds, tools, EVD related items, cash-transfers) hand over documents were signed by the receiving beneficiaries and also the town chief, women leader and youth leader. In addition, the farmer unions were always present to monitor the distribution process. Multiple copies were made and at least one (1) copy was kept by the community leader; this was later confirmed by the M&E Officer and the Project Manager together with the Project Administrator.
- Action audits were carried out among 49 VSLA groups (the 10 new groups were not included as they have not finished their cycle yet)
- Regular follow-up was conducted on the activeness of the CKMs and issues with participation were discussed openly.
- Data collection and analysis on the higher indicators took place among beneficiaries containing quantitative as well as qualitative research methods.
- All trainings were implemented at community level, and participatory elements as well as lessons on democratic process were increased. Beneficiaries were informed about their rights according to the standards of the HAP (Humanitarian Accountability Partnership) of which WHH is a member.

A baseline study was conducted by a German Intern in June 2013. A Mid-Term Evaluation by a consultant from the consultants’ pool at the Head Office in Germany, Mrs. Barbara Jilg. And the Final Evaluation was done by Mrs. Heike Meuser an external consultant from the pool at WHH Head office in Germany.

The final evaluation provided the following observations and recommendations:

- The integrated approach of UPANI project is relevant for Liberian context and the target group for peri-urban and more rural area. To rely on different organisations with their core competencies brought an added value for the beneficiaries. To link the “nutrition chain” from agricultural production to food, combined with complementary trainings in nutrition, income generating activities and access to capital by VSLA, is appropriate to significantly improve food and nutrition security of the target group.
- The project activities contributed to strengthen resilience during the Ebola crisis. The strong “political connection” and cooperation with local stakeholders (Health Centres, MoAs, City Corporations) contributed to give a voice to vulnerable farmers and to influence structural changes.
- Introducing a participatory approach for staff and beneficiaries from the beginning would have brought more ownership and certainly an improved result of the pay-back scheme.
- More time in participatory preparation, a sound analysis and concentration on few value chains would have also eased the implementation. Also here, professional and sufficient staff has to be ensured, especially when it comes to “new topics” for the target group such as animal husbandry, greenhouses, agro-processing.
- The project suffered from frequent change of management and administration, contributing to slow down and hampering of processing activities within the WHH responsibility. At the end, the project benefited from strong management, which re-activated activities with dedication even through the difficult circumstances of Ebola-outbreak.
- The selection of dedicated and professional management is crucial for the success of a development project. A system of “Stand-by” - emergency project manager could ensure the project management in unintended cases of termination of contracts.
- In the emergency situation of Ebola outbreak, more advice and support also in human resources, would have been necessary. Partly, beneficiaries of the UPANI-project received trauma counselling. Coaching for staff under extreme circumstances is advisable.
- In the context of Monrovia, in view of the high land insecurity, high water and soil contamination in urban areas as well as relatively higher vulnerability of peri-urban and rural population, it is recommendable to focus on peri-urban and more rural areas. Compared to European cities, the surroundings of Greater Monrovia and smaller towns like Tubmanburg offers peri-urban conditions.
Monitoring and tracking of project indicators should be implemented regularly.

To avoid EVD-contamination, hunted meat is banned in Liberia. The promotion of small animal husbandry (pigs, rabbit, and guinea-pig) can provide a reliable source of proteins and income (costs of a couple of rabbits were 40US$ in June 2015).

Focus on fewer value chains and develop the few identified chains in more detail. The selection of few value chains can be based on experience e.g. of UPA 1 and UPANI, and may be confirmed by respective questions in a baseline study. For final selection, a detailed value chains analysis helps to compare advantages, opportunities and constraints/costs and to follow a systematic approach.

In constructions, own contribution shares of beneficiaries by labour did not lead to the intended result in quality. An expertise in construction is necessary to ensure an adequate quality throughout the entire construction phase from planning till conclusion.

EMAS – water system may not be the solution which can be applied everywhere. It is an economical solution to partially resolve the problem of contaminated water.

VSLA as complementary measure. The combination of improving general knowledge on how to improve agricultural productivity, how to make a business, how to improve nutrition and health, with the Village Saving & Loan concept is promising, respond to the overall lack of capital and missing access to finance institutions and should be extended.

2.11 Lessons learned

Approach

Sharing experiences internally. The participatory approach was not as robust as it could have been. Welthungerhilfe has extensive experience with the implementation of Participatory Rural Appraisal (PRA) in the southeast and an exchange with colleagues from the southeast would have supported and inspired the project team to develop a more in-depth and better structured participatory approach.

Impact of community based training. In 2012, the UPA 1 project was advised to work with Community Farmer Trainers (CFT) instead of directly with farmer groups. In the last project phase, the program decided to conduct community based trainings directly in the community. This enabled all farmer group members to participate (instead of only the CFT), even interested community members could attend. At the end of the UPANI project, the evaluation showed that most farmers actually benefitted from the group approach (directly training the group) and preferred to work on a common plot (of the 12 UPANI groups selected, out of 34, 91.67% of the members stated the preference of working together on one general plot/general farm). Many of the farmers realized that part of their success as a farmer was as a result of being part of a farmer group, one which is based in their own community, where everyone supports one another and works together. The shared proceeds can then be used to support community development projects. One participant said that every child in his community is enrolled in school, and that these schools are partially maintained by the farmer groups. Some participants also appreciated the knowledge and tool sharing.

Create feedback mechanism. It would have been beneficial to conduct a yearly Do No Harm study. This is a standard tool used by Welthungerhilfe in the Southeast. This study would have highlighted that the community leadership and farmers felt excluded by the project as only the CFTs were being trained and led to a change in approach much earlier.
• **Deliver management training earlier.** It is assumed that beneficiaries would have had greater benefits from the business management training and the good group dynamics training if these trainings were provided at an earlier stage in the project in the community.

• **Increase yields lead to increase need for access to markets.** In the value chain development more focus should have been given to market access and storage facilities. Following the boost to production farmers started to experience losses as they tried to access markets to sell their products. Often farmers are not able to access high value markets such as supermarkets and often feel exploited by middlemen. Before the outbreak, the project was able to establish rotating farming markets. Unfortunately, due to the EVD the activity did not continue. In the Southeast, tricycles are given to farmer associations as a means of transport. This approach could be considered for a follow up project in the urban and peri-urban areas, especially since the roads are better.

### Cooperation and collaboration

• **Utilise strengths of partners in same communities.** During the course of the project, the Action improved synergies between the partners. At the beginning, WHH and ACF worked in separate communities. Once the partners started to work in the same communities, more information was shared and complementary activities were implemented together. This strengthened the overall collaboration between the partners.

• **Establish one M&E system.** It would have been advisable for ACF, WHH and RUAF to have developed and shared one Monitoring and Evaluation and reporting system. Due to the change of project management within WHH, the M&E systems were not given the attention they demanded and remained weak over the course of the project.

### Resource allocation

• The project was under resourced. For Result 2, WHH had only 1 VSLA officer for 50 groups. For the agriculture component WHH had 4 agriculture extension staff for 73 farmer groups (UPANI 34 and UPA 39) spread over two counties.

• The lack of qualified national consultancies in Liberia makes it challenging to hire technical expertise for a short period of time. Therefore, more technical expertise was needed within the project team in order to conduct the necessary assessments of value chains, construction of processing units, greenhouses and GIS systems.

• **Embed staff within the community.** While it requires a lot of human capital, embedding field staff within communities for extended periods of time (one month) allows for more responsive support to communities and is advisable for future actions.

### External capacity

• **Analyse benefit of potential partnerships.** Consultancies from governmental partners/private partners are often quite expensive and may not deliver the expected outputs. For the GIS system, it would have been better to hire a GIS officer instead of working with LISGIS. In addition, for the development of data collection tools it would have been advisable to allocate more funds to work with specialized partners such as AKVOFLOW (a partner of WHH in the WASH sector).

• **Identifying capacity needs.** In regard to studies, there is a lack of qualified consultants and a lack of availability of labs and options for testing in line with what was proposed in the conception. For the food safety study, a number of tests were not possible in Liberia and therefore the project was not able to give more detailed results to the processing groups.
The project also had to train lab technicians on a number of occasions, which was not built into the project. These kind of capacity needs should be assessed and indicated in the project proposal.

Introducing community resilience within project activities

- Creating community resilience. The VSLA did not only directly benefit the members, it also strengthened communities and complemented other farming and IGA activities. The majority of the farmer and processing group members took loans from the VSLA group to strengthen their activities. And during the EVD crisis members of the community who were not part of the VSLA were able to take out loans to support their families.

Creating opportunities for national dialogue

- Timing is everything. In regard to the Multi-Stakeholder Forum, the possibility to create policy changes depends on timing. A project needs to create momentum for a topic and external factors can delay or block such momentum. Unfortunately, only when the EVD cases went down the project could intensify the collaboration with MCC and UPA was put back on the agenda.
3. Partners and other Co-operation

3.1 Relationship between formal partners

The action has two implementing partners ACF and RUAF, WHH is the executing agency. This was the first time that ACF and WHH collaborated in Liberia. RUAF was an implementing partner in the first phase of the project UPA-1, together with CARE.

**WHH/ACF**

At the end of UPA-1, CARE phased out of the country, this opened doors for a new collaborative partnership with ACF. The organisation’s sectoral leadership are complimentary, WHH with expertise in VSLA, agricultural business development and value chain development capitalised on ACF’s strength in nutrition related activities. The target groups were therefore extended from producing farmers to strong entrepreneurs as well as the most vulnerable households in the community.

The relationship between ACF and WHH during the project timeframe was fruitful. This goes particularly for Result 2 which was implemented jointly and Result 3 which required complementary activities by ACF in areas initially targeted by WHH.

At the start of the project, WHH and ACF were working in separate areas, similar to WHH and CARE during UPA-1, during the course of the project, and confirmed by the findings of the mid-term evaluation, it became clear that the communities would benefit if both partners were present in the same communities. In the end, WHH and ACF managed to overlap activities in 36 out of 90 communities.

Furthermore, the strength of the partnership allowed the agencies to coordinate activities as part of the agencies’ response to EVD outbreak. Under the direction of ACF, the project carried out a Rapid Livelihoods Assessment in December to have a better understanding of the impact of EVD and to agree jointly on the way forward. Welthungerhilfe praised ACF for the quick set-up of EVD tracing activities through the CKMs trained in the UPANI project, whereas ACF made use of the WHH farmer group structure to retrieve information quickly out of the community.

A major challenge for both organisations were the multiple changes in project management, mostly at WHH. The quick turn-over of project managers hampered the implementation of an overarching M&E system for all partners. Following a stable leadership in WHH from the end of 2014, the agencies were able to intensify their collaboration, this had a positive influence on the visibility of the project. Good examples are the ‘Project Exhibition Event’ organized in Bomi County and the “Joint Multi-Stakeholder Conference” organized by MCC in Monrovia at the end of the project cycle.

At the end of the project, a joint lessons-learned session was organized with all the project staff, to discuss not only the recent evaluation but also all the feedback that had been gathered over the years, and the results of the project. Although several joint sessions had taken place in the course of this project, it was a productive exercise where both organizations were able to identify gaps and areas where progress and improvement are needed for future individual and joint projects.

**WHH/RUAF**
The collaboration with RUAF went well considering the fact that RUAF does not have a base in country.

A challenge not foreseen during project design was that RUAF had responsibility to implement certain indicators, unfortunately, RUAF faced difficulties in fulfilling these actions as the Liberian representative needed more coaching and supervision than expected.

RUAF’s plans limited travel to twice or three times a year therefore the day-to-day management fell to WHH, increasing the management time and supervision required to deliver Result 3.6 and Result 4. This was difficult for a project with little management and human resources. A learning from this project is that in future partnerships the lead organisation would require partners to implement from a base in country.

3.2 Continuation of partnerships

The partnership between WHH and ACF has continued, most recently the agencies have implemented an ECHO-funded project entitled ‘Mitigating the impact of Ebola on households in Sierra Leone and Liberia’, in Montserrado and Bomi counties.

Additionally, ACF and WHH have formed a Food Security Consortium with ZOA and are submitting further proposals to strengthen livelihood recovery (post-Ebola crisis) and sustain food security in Liberia.

RUAF and Welthungerhilfe developed a number of concept notes on Resilient Cities and Marketing for the Poor.

3.3 State Authorities

Ministry of Agriculture (MoA)

The Ministry of Agriculture (MoA) has been very supportive throughout the implementation of the project. The Food Security and Nutrition Unit contributed significantly when the project advocated for training extensionists of the MoA in implementing nutrition sensitive agriculture activities.

Although there is willingness at top level to engage, encouraging county level extension workers to visit implementation sites remains a challenge. The majority of ministries lack resources, manpower and even technical knowledge to translate agreements into effective cooperation on the ground.

The most responsive and the open for collaboration is Monrovia City Corporation (MCC), evident in the final Joint Multi Stakeholder Event organized on 4 August 2015. The MCC made a lot of effort to make the event a success.

The townships are willing, but lack the infrastructure and staffing capacity to actively contribute to implementation. Changing power structures within local government make certain areas highly sensitive, this then requires careful introduction and operation.
The MSF in Greater Monrovia and Tubmanburg played a facilitation role in information sharing and joint planning. The MSF increased awareness on UPA and can hopefully continue under the supervision of MCC.

**Ministry of Health (MoH)**

ACF also had cordial relationship with the Ministry of Health (MoH). The Nutrition Division of the MoH trained all project staff on Essential Nutrition Actions (ENA) package; and the Research Unit supported the project by coordinating with other organizations, such as UNICEF and Samaritan Purse, in conducting the study on locally used recipes for weaning food.

### 3.4 Other organisations involved in implementing the Action

The project collaborated closely with other actors, such as UNICEF and Samaritan Purse for the development of local weaning food and with UNHabitat and USAID FED program for the establishment of the MSF and support to the realisation of GIS activities.

Two local contractors received contracts to construct the Kormah Processing Unit and the Pork Meat Shop at ELWA junction. These contractors were selected through a bidding process according to the award of contract rules of Welthungerhilfe, internationally validated.

Once an experienced engineer was hired to monitor progress, the quality of construction of the processing units improved significantly.

### 3.5 Links and Synergies Developed

In the first year of the project, the cassava processing groups benefitted from the results of the IFAD funded Agricultural Sector Rehabilitation Project that WHH implemented in Bomi County. The distribution of improved varieties of cassava ensured an increase in productivity of cassava farms around Tubmanburg. The West African Agriculture Productivity Program (WAAP) is a program under the MoA that was implemented by Human Development Foundation (HDF). Cassava farmers, members of the processing group could take advantage of information sharing and technical expertise at the Innovation Platforms that formed part of the WAAP program.

WHH also ensure that coordination of the GIZ-funded Emergency project “Community-based Response Against Ebola” CURE Project occurred as activities took place in the same operational areas as UPANI. EVD survivors, and people that lost their family member to the EVD received support from the CURE. The project also provided psychosocial support for these survivors and victims. Additionally, farmers from communities that were quarantined during the EVD outbreak received seeds and tools to boost food security.

During the project period, ACF linked beneficiaries who had serious family/social problem to other ACF projects for psychosocial counselling and support.
3.6 Building on previous projects
The UPANI Project served as a follow-up project to the “Enhancing Urban and Peri-Urban Agriculture Project” funded by the European Union which was implemented from December 2009 until February 2013.

Many of the farmer groups and processing groups that are targeted within this intervention framework were supported through previous EU-funded projects. Strengthening of the UPA previous targets group was central to the UPANI approach, as indicated by Activity 1.1.

Refresher trainings were incorporated into the UPANI project to ensure that gains made through the UPA projects were maintained. Furthermore, following the Ebola outbreak both UPA and UPANI target groups received training to help revitalise their agricultural activities.

Banana farm is a positive example of continued and sustained action, having received support through UPA I and UPANI. Banana Farm is one of the most successful processing groups and shows establish small scale community based processing units as successful enterprises can only be achieved with continued support.

3.7 Cooperation with the Contracting Authority
WHH welcomes cooperation with EU and has experienced a fruitful and collaborative partnership during the implementation period. Most recently, the fruitful relationship between the EU and Welthungerhilfe have brought about the ECHO-funded project “Mitigating Dangers of Localized Food Insecurity in Sierra Leone and Liberia (2015/00749/RQ/01/03).
4. Visibility

A visibility and communication plan, outlining the communication strategy has been written and submitted to the EU Delegation.

**Project launch**
The project was officially launched with a live radio broadcast of a panel discussion from Monrovia City Hall, where the panellists from the EU Delegation Mr. Cires Alonso, MCC Mrs. Ellen Pratt, MoH Nutrition Division Director Mrs. Bawu, MoA special advisor for Food Safety Dr. George, ACF food security coordinator Dr. Walter Sanches and Welthungerhilfe Regional Director Mr. Bernd Schwenk, discussed (Urban) Food Security and Nutrition issues under the moderation of Mr. Ledgerwood Rennie, one of Liberia’s top journalists and director of the National Radio Station. Mrs. Josephine Francis, chair of the standing committee of the House of Representatives on Agriculture was giving remarks to wrap up the programme. The one-hour show was aired live on two radio stations (among which the National Radio Station) and one day later a recorded compilation was relayed on 5 different radio stations, one of which has Nation-wide coverage. The event was also covered by two newspapers. Banners advertising the event were displayed in front of the City Hall.

**Visibility materials**
All visibility materials e.g. t-shirts, training leaflets, banners, stickers and audio messages carried the EU flag and name. At the start of the project, t-shirts for farmers were printed with the new project slogan “Plenty Good Food For All” indicating availability (plenty), nutritional quality (good food) and access (for all). ACF printed t-shirts depicting various messages on breastfeeding and complementary feeding which were also distributed.

Project motorcycles and vehicles provided from the EU displayed EU stickers in conformity with the instructions of the manual for Visibility and Communication. Larger items provided to beneficiaries displayed EU stickers where possible.

Also for event organized by the Farmer Associations, such as the value chain event organized by SWIPAL at the end of the project, the logo of the EU was present on all distributed items (t-shirts, banners). The logo also appeared on all processing facilities and piggery stables. The logos were painted after a meeting with the community on which pictures should be next to the logos (for example, the piggery farmers could choose a pig but some also choose to display meat). During these meetings the project explained again the role of the European Union. The project ensured that the EU visibility was in place at all demonstration plots.

**Community awareness**
A flyer was made for the project UPANI printed and distributed among stakeholders. Providing an overview of the project, activities and goals. At community meetings beneficiaries were informed at that the action was financed by the European Union. During every community meetings and training sessions organized, beneficiaries and other participants were informed about the EU contribution to the project.

**Media and public relations**
The action has been mentioned in a number of articles. For example the visitation of the President of Liberia to the processing unit in Kormah town was reported in several newspapers.

The project made a film on important UPA topics, one of these is, “The Meat Eater” [https://www.youtube.com/watch?v=U4f5mkMclqU] and can be seen on YouTube.

The last Joint Multi Stakeholder Forum organized by MCC received a lot of visibility. The show was broadcasted on television and several articles were written on the topic. This event was visited by the Head of the delegation of the European Union and the Monrovia City Mayor.

Visits
A delegation of the German Parliament was given a presentation and a tour of the project site in Fiamah in 2012. A team of German journalists visited a few months later in 2013.

Events
Three (3) exhibition events, two (2) in Montserrado and one (1) in Bomi, were organized and these events prominently displayed the EU flag.

Over 1,000 persons, such as representatives from the Ministry of Agriculture, Ministry of Health, Care-Liberia, Food Security Cluster, Swiss Development Corporation (SDC), beneficiaries’ etc. attended these events.

The most significant event was the end of project exhibition event organized in Bomi on 12 June 2015. The event carried high EU visibility on all materials including press releases and three (3) days of TV broadcast.

Banner for the EU end of project exhibition, held in Tubmanburg on June 12, 2015

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No objections
Name of the contact person for the Action: Michael Kuehn

Signature: Location: Monrovia

Date report due: Date report sent: 29/02/2016