

6.4.2 Nature of APMEP Supported Activities and Level of Participation

Out of the 5 APMEP supported activities assessed, 3 are of particular importance to the realization of APMEP's objectives, namely: sale of livestock; sale of rain-fed crops, and; gardening/irrigated agriculture. In all the 6 target districts, the proportion of women (in %) who were involved in sale of rain-fed crops was higher than that of their male counterparts, with the gap in percentage points ranging from 6% (Chongwe) to nearly 22% (Chitambo). With regards to the sale of livestock, all the target districts had higher performance of female headed households (in percentage terms) except Sinazongwe where the performance of male headed households was higher. The gap in percentage points in participation of female headed households compared to their male counterparts ranged from nearly 3 % (Serenje) to almost 20% (Chongwe). In two of the control samples (Ngabwe and Zimba), male participation was higher than their counterparts in both sale of livestock and crops (see **Table 14** for details).

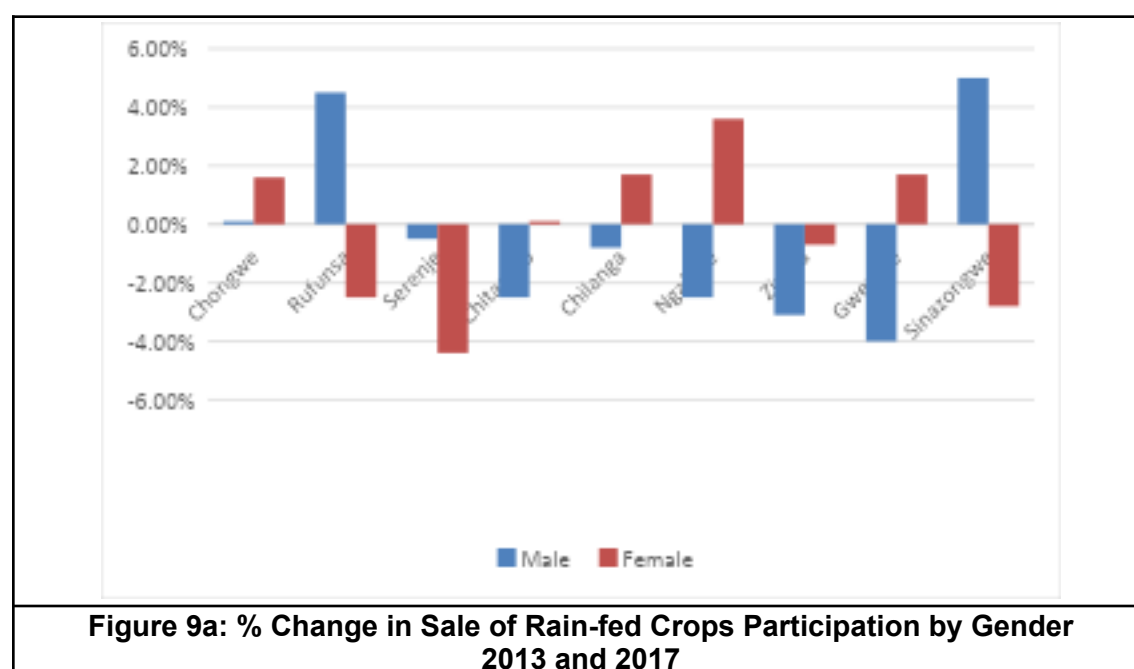
Table 14: Percent household members engaged in APMEMP supported activities by gender and district

	Sale of livestock (2017)			Sale of rain fed crops (2017)			Gardening/Irrigated agriculture (2017)			Beer brewing (2017)			Fish-farming (2017)		
	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female
Chongwe	64.50%	7.90%	27.60%	77.30%	8.30%	14.40%	84.80%	4.30%	10.90%	0.00%	0.00%	100.00%	100.00%	0.00%	0.00%
Rufunsa	72.40%	11.80%	15.80%	78.40%	3.40%	18.20%	80.30%	3.90%	15.80%	50.00%	0.00%	50.00%	50.00%	50.00%	0.00%
Serenje	47.20%	25.00%	27.80%	54.90%	13.90%	31.30%	52.10%	23.90%	23.90%	0.00%	20.00%	80.00%	50.00%	33.30%	16.70%
Chitambo	62.10%	17.20%	20.70%	62.40%	7.90%	29.80%	66.20%	9.10%	24.70%	14.30%	14.30%	71.40%	50.00%	50.00%	0.00%
Chilanga	75.00%	5.60%	19.40%	83.00%	4.10%	12.90%	74.40%	5.10%	20.50%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Ngabwe	58.50%	33.80%	7.70%	72.60%	16.20%	11.10%	75.00%	3.10%	21.90%	22.20%	11.10%	66.70%	33.30%	66.70%	0.00%
Zimba	64.00%	20.00%	16.00%	69.30%	15.90%	14.80%	70.50%	5.70%	23.90%	66.70%	0.00%	33.30%	0.00%	0.00%	0.00%
Gwembe	61.10%	13.90%	25.00%	70.80%	9.20%	20.00%	54.10%	4.10%	41.80%	0.00%	0.00%	0.00%	50.00%	0.00%	50.00%
Sinazongwe	51.20%	30.20%	18.60%	69.20%	5.10%	25.60%	56.00%	1.30%	42.70%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%
Total	61.60%	18.00%	20.40%	70.70%	9.00%	20.20%	65.10%	8.20%	26.70%	25.00%	12.50%	62.50%	50.00%	38.90%	11.10%

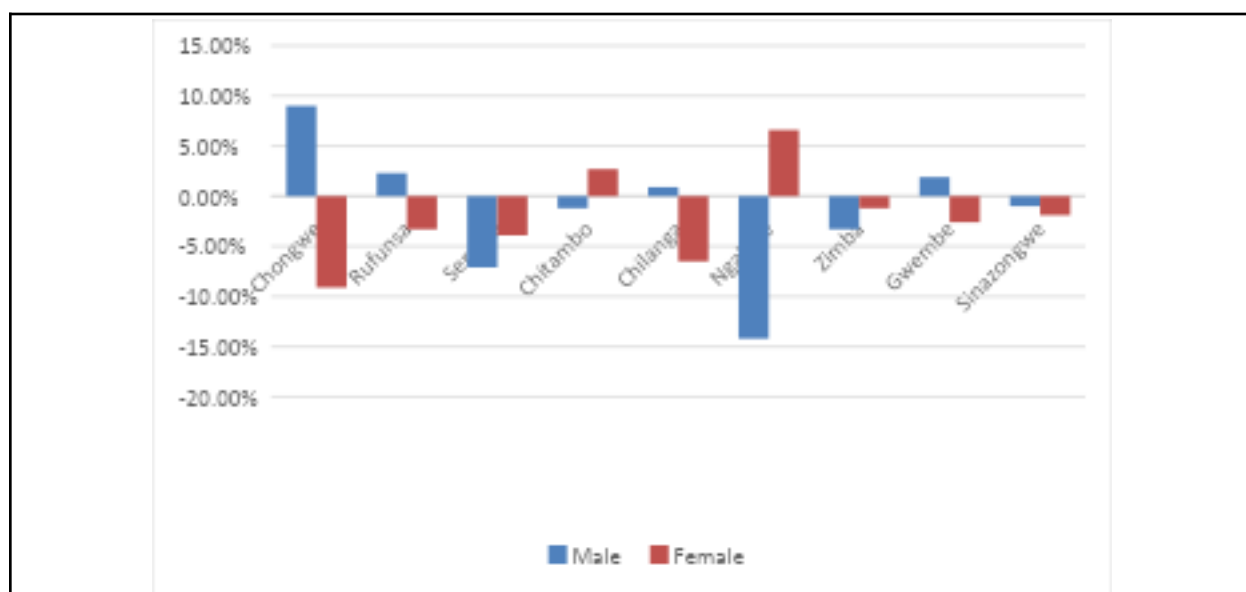
In Southern province, gardening had a far much higher percentage of female participation compared to the male participation with a ratio of 32:1 in case of Sinazongwe and 10:1 for Gwembe. The lowest corresponding ratio was 1:1 in case of Serenje (see **Table 14** for details). The control districts also had better participation of female headed households in gardening/irrigation activities compared to their male counterparts. However, the average performance of female headed households in target districts was better than that in the control sample, 19% compared to 17 respectively.

6.4.3 Comparison in Performance of APMEP Supported Activities between Baseline and MTE by Gender

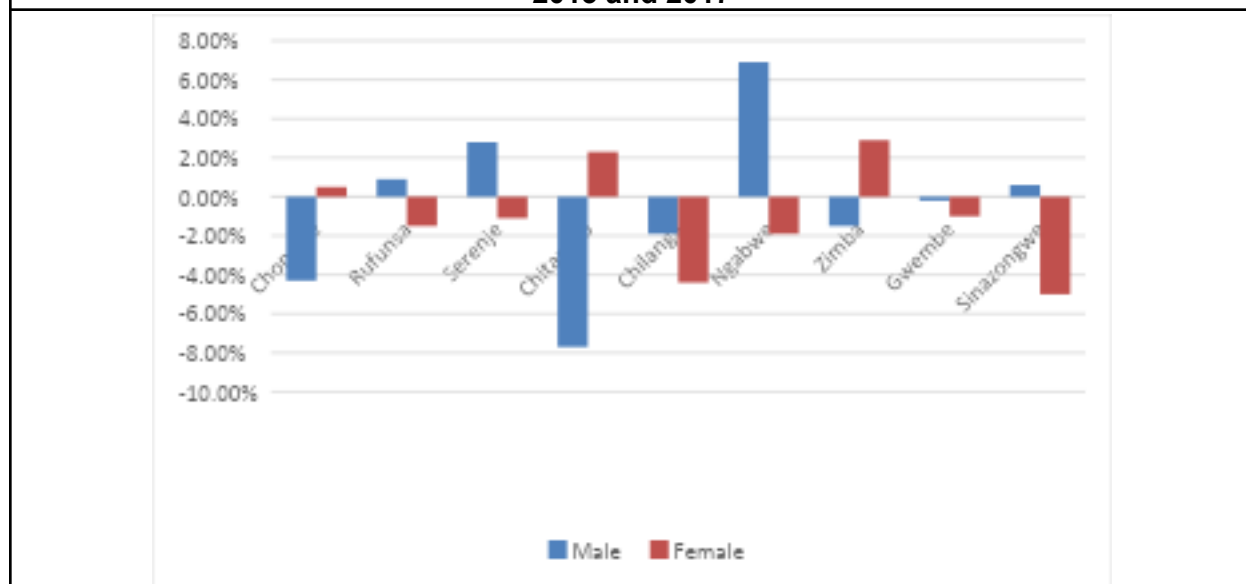
A comparative analysis was undertaken aimed at assessing the percentage change in the three KPIs (sale of rain-fed crops; sale of livestock, and; participation in gardening/irrigated crops) between 2013 and 2017, representing baseline and MTE conditions respectively. The comparison was by gender of household head and district (see **Figure 9**). With regards to female headed households' participation in sale of rain-fed crops, only 3 target districts (Chongwe, Chitambo and Gwembe) showed a positive increase between the two periods. The change in the three districts was relatively very minimal, ranging from 0.1% (Chitambo) to 1.6% (Gwembe), see **Figure 9a** for details. Based on the analysis in **Section 6.4.2**, these findings suggest that the significant increase in the participation of female headed households in rain-fed crops relative to their male counterparts is a recent phenomenon. This is an encouraging development as it shows an acceleration in progress towards increased women participation in APMEP support activities.



In terms of percentage change in participation regarding sale of livestock and gardening/irrigation, the performance of female headed households was negative in all the 6 APMEP target districts except Chitambo where it was 2.7% (in case of livestock sales) and Chitambo and Chongwe (2.3% and 0.5%) respectively. As already alluded to in case of the sale of rain-fed crops discussed above, the better performance in women participation in the APMEP target districts in 2017 relative to the control districts in livestock sales and irrigated agriculture (compared to 2013) suggests that this is a recent development, see **Figures 9b, 9c** and **Table 15** for details.



**Figure 9b: % Change in Sale of Livestock Participation by Gender
2013 and 2017**



**Figure 9c: % Change in Gardening/Irrigation Participation by Gender
2013 and 2017**

Table 15: Percent household members engaged in APMEP supported activities by gender and district

		Sale of livestock (2013)			Sale of rain fed crops (2013)			Gardening/Irrigated agriculture (2013)			Beer brewing (2013)			Fish-farming (2013)		
		Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female
District	Chongwe	64.6%	16.9%	18.5%	75.6%	8.4%	16.0%	88.6%	0.0%	11.4%	40.0%	0.0%	60.0%	100.0%	0.0%	0.0%
	Rufunsa	73.4%	14.1%	12.5%	76.4%	7.9%	15.7%	81.0%	4.8%	14.3%	40.0%	20.0%	40.0%	100.0%	0.0%	0.0%
	Serenje	58.2%	17.9%	23.9%	59.7%	13.4%	26.9%	50.5%	26.7%	22.8%	0.0%	0.0%	100.0%	50.0%	50.0%	0.0%
	Chitambo	60.6%	16.0%	23.4%	64.7%	5.4%	29.9%	71.6%	1.4%	27.0%	33.3%	0.0%	66.7%	0.0%	60.0%	40.0%
	Chilanga	80.6%	6.5%	12.9%	82.1%	3.3%	14.6%	80.6%	3.2%	16.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Ngabwe	66.1%	19.6%	14.3%	71.6%	13.7%	14.7%	70.0%	10.0%	20.0%	14.3%	14.3%	71.4%	50.0%	50.0%	0.0%
	Zimba	68.5%	16.7%	14.8%	73.1%	12.8%	14.1%	69.0%	4.2%	26.8%	66.7%	0.0%	33.3%	0.0%	0.0%	0.0%
	Gwembe	61.8%	15.8%	22.4%	73.0%	5.2%	21.7%	55.3%	3.9%	40.8%	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%
	Sinazongwe	54.2%	29.2%	16.7%	67.1%	10.1%	22.8%	60.4%	1.9%	37.7%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%
Total		64.8%	16.6%	18.6%	71.2%	8.5%	20.3%	66.5%	7.9%	25.7%	29.0%	9.7%	61.3%	50.0%	36.4%	13.6%

6.4.4 Progress in Farmer Group/Club Formation by Gender

Out of the 6 APMEP target districts, farmer groups/clubs formation has taken place in all districts except in Chitambo and Rufunsa. Of these 4 districts, only Gwembe and Chongwe had an indication of the number of women groups formed out of the total. In Gwembe, there was a total of 341 groups out of which 18 to 22 were female. On the other hand, Chongwe had 4 groups for women out of a total of 160.

A number of variables were assessed with respect to gender (**Appendix 5**). These include: the main activities women participated in/ responsibility for implementing various activities; decision making; participation in leadership positions, and; project impact on women, men and youth. The Appendix presents results for which data was captured. The following are the main highlights: women took up the position of treasurer because they were more trusted (Serenje). Nutrition groups were exclusively for women (Serenje). In Sinazongwe, a number of women had assumed leadership positions although there were no statistics. At MTE, project impact on women and men could not be easily visible (see **Appendix 5** for details).

6.4.5 Women Participation in Decision Making

According to qualitative findings, women participation had started to take root. In terms of women participation in other aspects, women had started to participate in leadership of groups with most of them taking up the position of treasurer because they are more trustworthy. According to qualitative findings, 1 out of 6 groups were headed by women. Nutrition groups were exclusively for women who also took up all the leadership positions. **Appendix 5** presents details on Gender Audit findings including: main activities women participate in; participation in leadership; decision making, and; number of women and youth groups benefiting from project activities.

6.4.6 Climate Change Issues

There were no Environmental Impact Assessments (EIAs) carried out related to irrigation schemes, given that during the data collection period for the Beneficiary Assessment and Mid-Term Review, consultants had just been engaged to design the irrigation schemes. Conservation Agriculture (CA) has implications on the environment and climate change. The project has been actively involved in CA whose activities have included: supporting farmers with CA kits, training farmers in CA practices and providing farmers with CA equipment such as rippers and Chaka hoes (see **Appendix 1** for details).

7. EFFICIENCY

Efficiency: Measures the project outputs (qualitative and quantitative) in relation to the inputs. It is concerned about the attainment of project outputs using the least cost means. When evaluating the efficiency of a project, it is useful to consider the following questions: Were activities cost-efficient? Were objectives achieved on time?

There are two major considerations of efficiency dealt with in this short chapter and these are discussed in sequence:

- (i) Cost-efficiency of activities, and;
- (ii) Timely achievement of objectives.

7.1 Cost-efficiency of Activities

As an economic term, efficiency in this case is concerned with demonstrating that APMEP has used the cheapest means possible to achieve the outputs and other results stipulated in its Project Appraisal Report results chain. This should have required comparing alternative approaches to achieving the same outputs to the alternative/approach used by APMEP. This should have been aimed at establishing whether APMEP has used the most efficient approach to achieving the results it has realized at Mid-Term evaluation. On account of a number of factors including limited timeframe, the evaluation team could not undertake a comparative assessment of the cost of APMEP's major project outputs in relation to the cost of their production. This would have entailed getting all the cost figures for each major output and comparing those with cost figures of outputs of similar projects.

7.2 Timely Achievement of Objectives

Going by the relatively low disbursement rate of APMEP (between 40% and 41%) at Mid-Term evaluation (2018, which is 4 years after the official project start in 2014), the achievement of APMEP's main objectives has been significantly delayed. With only one year to go before the official project closure, a considerable number of activities on the ground are either yet to start, are in the initial stage or yet to gain momentum. For instance, though about 50% of the cost of the project is towards infrastructure development, drawings are yet to be undertaken in a number of cases (irrigation schemes and markets). Though roads that are ear-marked for rehabilitation have been identified in all the 6 target districts, none of them has been worked on. All this has resulted in considerable delay in the effective implementation of key project components particularly: irrigation; crop diversification and intensification, and; value chains and market linkages. These components are key drivers to achieving APMEP's main objectives of improving household food, income and nutrition security.

The Mid-Term Evaluation (MTE) has identified two major contributing factors to APMEP's inefficiency, that is, slow; (i) procurement procedures related to the direct suppliers of services (direct disbursements by the funder), and; (ii) disbursement rates as a result of slow replenishment of district financial accounts linked to slow justification and reporting by recipient districts with regard to the funds through the special account. Over 80% of the project activities are tied to issues of procurement, either; procurement of equipment (mechanization, processing and fishing equipment) or consultancy services. The irregular meetings by the demotivated Ministerial Tender Committee (MTC) on account of an absence of financial incentives and the lengthy period it takes for contracts to pass through the Ministries of Agriculture and Justice processes is a major concern. In most cases, contracts take not less than six months to pass through the various processes of the two ministries.

According to the agreed upon financial procedures between government and AfDB, each district has opened a special account used for APMEP project funded activities. Following the initial disbursement to these district accounts, subsequent disbursements are only effected if recipient districts submit receipts amounting to at least 50% of what was disbursed as well as a justification report. The MTE has noted slow submission of receipts and justification reports by recipient districts, resulting in slow overall disbursements to the entire project.

8. SUSTAINABILITY

Sustainability: focuses on whether project benefits will continue beyond donor funding. Sustainability should be environmentally as well as financially. Useful questions to ask when evaluating sustainability should include: To what extent did the benefits of the project continue beyond donor funding? What were the major factors which influenced the achievement or non-achievement of sustainability?

Given the focus of sustainability, namely the continuity of project benefits to the beneficiary population beyond the project life, the low project implementation momentum that has been observed at MTR makes the assessment of sustainability a challenge. As already alluded to earlier on in this report, a considerable number of activities are yet to take place at MTR. In this regard, the assessment of sustainability focused on the identification of measures that had been incorporated into the implementation of the project that would positively impact on sustainability. Two such measures were identified and are discussed in succession:

- (i) Realism of assumptions
- (ii) Capacity building.

8.1 Realism of the Assumptions

An assessment of the extent to which the 5 project assumptions were appropriate is presented in **Section 4.4**. The assumption on “implementation through government structures would be efficient” while being a good practice in terms of promoting project sustainability, has faced some challenges in terms of attainment of the desired levels of implementation performance. Unless greater efforts and new measures are put in place to accelerate implementation performance in the remaining project life, there will be inadequate project benefits to sustain. In addition, the project will not take full advantage of the involvement and participation of government structures at various levels (national, provincial, district and community) to promote and strengthen project sustainability.

8.2 Capacity Building

Capacity building was considered in two respects; provision of equipment and training of various stakeholders. These are dealt with in turn.

8.2.1 Provision of Equipment

The project has procured different equipment to facilitate effective implementation of project activities, including: 36 motor cycles for Camp Extension Officers (CEOs); bicycles for nutrition volunteers at community level as well as tractors and other equipment. It is expected that the various recipient stakeholders will establish mechanisms to ensure effective maintenance as well as the meeting of operational costs. As alluded to in **Section 8.3** below, the project has facilitated the formation and training of management structures to ensure mobilization of resources for operations and equipment, among other things.

8.2.2 Stakeholder Training

Training does positively impact on project sustainability given that it equips stakeholders with the necessary knowledge, skills and expertise to promote project implementation performance that maximizes project benefits. The design of APMEP provided for enough training and project sensitization targeted at various stakeholders particularly those at sub-national level involving both community members and Ministry of Agriculture staff (see Appendix 1). However, a number of these were not undertaken in time partly due to delayed establishment of a fully functional Project Implementation Unit. Consequently, some capacity building efforts have been undertaken as late as a few weeks ago while others are yet to be undertaken.

Some training activities involving the target population that were undertaken at the project start have not yielded fruit due to the late start of the intended project activities. For instance, farmers who were trained in irrigation and other activities have waited for more than two years for project activities to start. This long wait has resulted in an erosion of farmers' enthusiasm, confidence in extension staff and commitment which may negatively impact on ownership of project activities which in turn is linked to sustainability.

Table 16 presents the total number of stakeholders trained by sub-component as well as by national and district/camp level. Justifiably so, stakeholder training tilted towards district/camp level, with a ratio of nearly 31:1 in favour of the district/camp level (see **Table 16**).

Table 16: Stakeholder Training at Central, District and Camp Levels

Sub Component	Trainings At Central Level			Trainings At District And Camp Levels		
	Male	Female	Totals	Male	Female	Totals
Irrigation	63	27	90	233	208	441
Aquaculture	31	9	40	439	290	729
Crops	29	13	42	235	71	306
Livestock Development	99	195	294	188	518	706
Agro-Processing & Market Linkages			0	202	222	424
Nutrition	63	27	90	4534	9,966	14,500
Grand Total	285	271	556	5,831	11,275	17,106

The number of female stakeholders trained at district/camp level were almost double that of their male counterparts (i.e. a ratio of 1.9:1 – which is 11,275 against 5,831). On the other hand, there were slightly more male stakeholders trained at national level than their female counterparts (285 versus 271 respectively), see **Table 16**. In terms of number of stakeholders trained by sub-programme at both national and district/camp level, nutrition had the highest at 14,590 followed by livestock at 1,000. On the other hand, crops had the least number of stakeholders trained.

PART III: CONCLUSIONS AND RECOMMENDATIONS

9. GENERAL CONCLUSIONS AND RECOMMENDATIONS

This chapter deals with two main elements, namely:

- (i) General conclusions and recommendations, and;
- (ii) Specific key issues and recommendations.

9.1 General Conclusions and Recommendations

1. The project has had a slow start due to a multiplicity of factors, notwithstanding some activities such as identification of lead farmers, formation of farmer groups and training and sensitization of farmers and other stakeholders which took place fairly early. However, a number of these efforts have had reduced impact because there was a lack of progressive sequencing and linking these up to subsequent activities, allowing for no or minimum gaps. This situation has bred project inefficiencies given that some of the beneficiaries who were trained more than two years ago have forgotten what they were trained in and are ill-equipped to effectively participate in project implementation. It is **recommended** for future programming of similar interventions that adequate efforts be made at project preparation stage to facilitate the undertaking of crucial pre-requisite activities including: procurement of machinery, equipment and services; preparation of infrastructure designs; the establishment and operationalization of the PIU (including all systems such as M&E), and; undertaking of a baseline evaluation. In this regard, a project Inception Phase of at least 6 months would help. It is further **recommended** that in the remaining project life (including the proposed no cost 12 months extension period), the Ministry of Agriculture in consultation with the other relevant wings of government consider decentralizing the procurement system to the provincial and district level, defined by specific thresholds. Additionally, it is **recommended** that due to the long passage of time, those who were trained a while ago should be retrained. However, every effort should be made to ensure that such trainings are sequenced and carefully targeted in such a way that skills acquired will immediately be put to use.
2. The results chain/logical framework, was well articulated, with appropriately developed and placed Key Performance Indicators (KPI) at various levels of the objectives hierarchy. The casual-effect relationship is also clear and strong at every objectives hierarchy level. Expressed in Theory of Change (ToC) terms as presented in **Figure 1**, the business case for APMEP is strong and compelling. However, the actualization and operationalization of this business case is not that straight forward due to a number of assumptions which do not hold, including: Capacity building has not always taken place at the expected time and to the required level; adequate financial resources have not always been available at the time they have been needed; value chains though much talked about have tended to be vague, lacking clarity about who exactly the key players are; what capacities they have (in

terms of knowledge and resources); quantification of actual opportunities and total resources required to take advantage of the opportunities at the various stages of the value chains. Going forward in the remaining period of the project, it is **recommended** that apart from Project Management, Monitoring and Evaluation sub-components (which the project cannot do without), only three (3) projects be focused on, namely; irrigation, livestock and crop diversification sub-components based on the proposed criteria in **Section 6.2**. It is further **recommended** that a more detailed consideration and study of value chains be undertaken which should include provision of the necessary detail at each stage of the chain such as what exactly is involved? Who should be involved and what are their resource capacities? What exactly must it take to operationalize the value chains to the desired level?

3. Linked to the above points, reasonably sufficient ground and preparatory work has been done, including adequate progress made in procurement of various services and equipment. This is coming at a point which is 4 years down the line from the start of the project and with only one year to go. With only one year to go and the disbursement of financial resources standing at 60% (as of December 2018), it is impractical to utilize these remaining resources in the remaining one year of project life. It is **recommended** that AfDB, GASFP and Government through the Ministry of Finance consider extending the project by at least 12 months after the official project closure period. In this regard, financial resources would have to be mobilized through the leadership of the Ministry of Finance in the event the whole budgeted amount is exhausted by the time of the official project closure.
4. Some selected interventions (including some trainings) are beginning to bear fruit on the ground in target districts. For instance, a number of indicators at outcome level are beginning to show positive performance. These include: heightened expenditure on agricultural inputs as evidenced by an increase in the proportion of farmers in the target districts spending on agricultural inputs, an increase of nearly 250% between 2013 and 2017 compared to that of the control population at just under 50%; the target population is increasingly beginning to participate more actively in APMEP supported activities including greater market involvement as seen by a bigger proportion of beneficiary households selling agricultural commodities and greater involvement in gardening/irrigation which is crucial to increased farmer productivity and production. It is **recommended** that the outcome performance areas that have shown positive developments be linked to the proposed sub-components to be focused on in the remaining project life.
5. The food security related indicators have shown a greater negative variability to changes in climatic conditions. Based on the current global climatic changes, the challenging climatic conditions the country is facing are likely to heighten in coming years. This calls for more deliberateness on focusing of productivity and production enhancing technologies and farming practices in the remaining project life. It is, therefore, **recommended** that irrigation, livestock and crop diversification sub-components to be focused on in the remaining project life heightened integration of climate change as a critical cross-cutting issue.

9.2 Specific Key Issues and Recommendations

The matrix below presents components and sub-components APMEP has been focusing on, the key issues noted at MTE and recommendations on which sub-component should be focused on in the based on the criteria discussed in **Section 6.2**.

Component	Issue	Recommendation
Irrigation	Consultants have just been engaged to work on irrigation designs.	- Irrigation should be one of the sub-components to be focused on for the following reasons: (i) It is critical to stabilizing smallholder productivity and production in the face of recurring drought conditions; (b) It is not easy to mobilise resources from other development partners for irrigation infrastructure other than government, and; (c) Close to 50% of the total APMEP budget is for irrigation and a considerable proportion of the irrigation budget (nearly 60%) has already been spent. - The design of irrigation schemes needs to be speeded up given that it will feed into the kind of irrigation equipment to procure. Given the lengthy procurement procedures, this may take a far much longer period hence needs special attention. - The Technical Services Branch (TSB) should consider putting in place a special Task Force aimed at accelerating the preparation of designs, procurement of irrigation equipment and operationalization of the irrigation schemes. There is need to prepare a roadmap with monitorable benchmarks which should be occasionally reported on to the Director. This is crucial in accelerating disbursement, given that close to 50% of the total budget of USD 31 million is linked to irrigation.
Aquaculture	Though this component has one of the highest potential in impacting household food, nutrition and income security, it has been moving slowly	- Aquaculture considered as part of livestock should continue in the remaining project life for the following reasons: (i) It has a high potential in contributing towards smallholder household food, nutrition and income security, and; (ii) All the budgeted funds for it have already been spent (total disbursement as of December 2018 was at 109%). - There is need for the Fisheries Department to quickly move in and monitor the performance of the fingerlings that have already been distributed by Yalelo in Chongwe. Let lessons be learnt in terms of what has worked well so far and why? What has not worked well so far and why? - These lessons should be quickly applied to all the districts which have not yet reached this level of project implementation. - A time frame should be prepared aimed at accelerating the aquaculture activities to the rest of the districts ear-market for this intervention, taking into account lessons learnt from Chongwe. - There is need for monthly reports to be submitted to the Director of Fisheries on implementation progress.
Crop diversification and intensification	- Though most of the equipment has been received, progress has been very slow - The delay in seed multiplication is not justified	- Crop diversification should be continued for the following reasons: (i) All the budgeted resources have been disbursed (it had the highest disbursement rate across all the sub-components of 127%), and; (ii) It had a considerably high proportion of preparatory activities that have already been undertaken. - All equipment needs to be quickly moved to the locations it is intended to be used; There should be training arranged for the users as quickly as possible in readiness for this coming rainy season. - As much as possible, stakeholders at community level should benefit from the training on the use of the equipment in order to create an adequate critical mass of those with skills in such. This will positively impact on sustainability. - Seed multiplication should quickly be operationalized. - Where training in seed multiplication has not yet taken place, this should be undertaken within the next four months.
Livestock	Slow implementation of pass-on intervention	This sub-component should continue for the following reasons: (i) It has high potential towards contributing to smallholder productivity and production in the face of increasing climatic challenges that made it difficult to grow crops; in this regard, livestock production would contribute immensely towards stabilizing smallholder household food, nutrition and income security, and; (ii) A

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Component	Issue	Recommendation
		considerable proportion of the budgeted resources have already been disbursed (nearly 70%); • There is need to accelerate the process of procuring goats, other livestock and accompanying supplies. • Heifer International should be given a time frame by the Director, Livestock Production to come up with the operationalization of this entity. This should be done in consultation with the Ministry officials. Again, heightened supervision should be undertaken by MFL as this schedule is rolled out.
Nutrition	• Some food supplies are still at DACO's offices¹² • Late delivery of farming inputs • Wrong targeting of food types • Low dietary diversity	• This sub-component should be discontinued for the following reasons: (i) It has low potential towards contributing to smallholder productivity and production given that its contribution would be embedded in the three sub-components that would be focused on in the remaining project life (irrigation, livestock and crop diversification); (ii) The proportion of the total budget disbursed has been relatively low (32%); (iii) It is relatively easier to mobilize resources from other development partners for nutrition activities, hence it does not have to be largely government. •
Value chains and market development	• Slow implementation pace	• This should be discontinued in the remaining project life for the following reasons: (i) For the majority of the value chain stages to be moved forward, there has firstly to be adequate productivity and production by smallholder farmers; (ii) There has low preparatory activities, and; (iii) Low actual progress on the ground. •
Institutional strengthening	• These had primarily a slow start in terms of their establishment	• Project management; Monitoring and Evaluation should continue because these are vital to the smooth project implementation performance. • There is need for more regular funding to facilitate more effective and regular monitoring and evaluation functions to be undertaken. •

¹² Other than bean seed which districts were specifically advised not to distribute for fear of crop failure since the rain season was almost over.

Appendices

Appendix 1: APMEP Supported Activities' District Progress Summary - 2018

SOUTHERN PROVINCE

SOUTHERN PROVINCE				
District	Irrigation	Aquaculture	Crop diversification and intensification	Livestock
Gwembe	- Mobilization of community on 7 sites in different camps done. Clearing of the main irrigation scheme at Chaboboma (297ha) done - Lead farmers in 10 camps out of 15 selected - Farmer field Schools in all the camps conducted (2 per camp)	- Aquaculture: Fish farmers have been trained waiting for cages to be procured by PIU 3 boats and engines have been received. Area for an Aqua Park has been identified - Training in aquaculture for all participating cooperatives have been conducted	2 tractors sets and equipment provided to 2 groups: Bunyete and Koma). 1 tractor for irrigation scheme - Seed multiplication: identified and recruited 40 Lead Farmers. Training will soon commence with 20 Lead Farmers upon instruction from SMS at National level. 5 Groups were short listed and finally 2 groups were chosen as recipients of 2 tractors and deposited ZMW10,000 each as commitment fee.	- Livestock Component: New Castle awareness meetings held in 6 camps out of 9. Fodder bank management also done in 5 areas. - Livestock service centres constructed and committee trained in management and maintenance - Animal pass on not started (in-calf heifers) - LDAP helping with dairy animals - Officers trained in AI and kits have been received
Sinazongwe	3 sites identified at Buleyamalima camp 246 ha, Siatwinda 90ha and Nchimini 156ha	3 major sites identified at Sianzowa, Siatwinda (pens and cages), Sinzila (Cages) run by cooperatives. At the moment no activities have been implemented yet	Light ox drawn implements procured and distributed to 85 lead farmers of which 40% are women.	- women groups have been formed - Goats pass on to be launched once procurement processes have been done.

District	Nutrition	Conservation Agriculture	Value chains and Market linkages	Institutional strengthening
Gwembe	- The Nutrition unit has conducted some capacity building for district and field level staff in infant and young child feeding practices and production and utilization of bio-fortified food crops 4 schools for school feeding provided with vegetable seed and orange maize. Received inputs for 2 seasons 2016/2017 and 2017/2018; 2 Clinics at Chamwe RHC and Lumbo RHC identified for child feeding but no feeding has started because guidelines and food had just been received in April, 2018 37 Women groups have been mobilized for the nutrition programme and have received inputs for orange maize for 2 seasons. Cooking utensils and measuring equipment have also been received. 10 bicycles for use by volunteers have also been received. Food stuffs have also been received including cassava flour and caterpillars (the latter has not been well received by the beneficiaries majority of whom are Seventh-day Adventists who don't eat caterpillars). This problem hinges on the cultural acceptability of food	In CA, 64 Lead Farmers from 10 camps have been trained	2 Road site markets have been identified and mobilization of groups done. A site for an agrocentre at Munyumbwe has also been identified - Value addition: 30 groups formed. No equipment received	
Sinazongwe	- Trainings conducted. Vitamin A fortified maize distributed to 25 groups: 610x10kg orange maize with 4 bags fertilizers (2 basal, 2 top) - The School feeding centres use children as agents of change. The feeding centres are at Malima and Kanchindu RHC and volunteers are being used - The Nutrition unit has conducted some capacity building for district and field level staff in infant and young child feeding practices and production and utilization of bio-fortified food crops	Introduced seed growing to the Sinazongwe Seed Growers and there are plans to work with the association.	- Market linkages through promoting roadside markets and agro-market centres with sites already identified - Value adding equipment received	

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District	Nutrition	Conservation Agriculture	Value chains and Market linkages	Institutional strengthening
			- and distribution almost complete • Consultant completed the assignment and is due to submit the report for the designs and proposals for business and governance models on 14th September, 2018.	

LUSAKA PROVINCE

LUSAKA PROVINCE				
District	Irrigation	Aquaculture	Crop diversification and intensification	Livestock
Rufunsa District	• Water user Associations have been formed, just waiting for consultant to start activities	• More than 100,000 fingers were distributed to farmers in 2018	• Seed multiplication sensitization done in 11 out of the 17 camps and no funding for this activity. • Farmers have also been introduced to field schools. • Seed Growers: done mobilization, but training only to be provided by ZARI which has not been funded • Land Use: received assorted equipment: rippers (ox drawn) sprayers and Chakachaka hoes have been distributed to all the camps • 2 tractor sets have been received and given to 2 Farmer groups: Chinkuli Multipurpose Society and Women of Varlour Multipurpose through a matching grant. Minimum of K10,000 demanded as matching funds from cooperators. • Tractors and accompany equipment only provided in December. • 1,500 Farmers supported for E Voucher through HQ.	• Animal production and disease control; disease surveillance; utilization of folder; training in disease control in Nkomesha and Palabana; Animal production training in Artificial Insemination not done because the AI kits are not complete
Chongwe District	• Irrigation – sites have been identified and land cleared: Kachenjela – 208 ha; Mutempuka – 92 ha and Kapanda – 252 ha • Water User Associations have been formed though not registered. Farmers now waiting for consultant to do the designing and construction. Farmers were taken on a familiarization tour to Sinazongwe and Kaleya Small Holder Scheme in Mazabuka • 4 staff trained in irrigation in smallholder Irrigation Project concept	• Also working with women coop in Chasonsa where digging of ponds was in progress. • 7 officers have been trained in new technical skills in fisheries at Mwekera. Training was for 5 days • Aqua Park Construction abandoned by contractor. Contractor lacked equipment and know how	• Tractor given to coop for mechanization. The coop paid an upfront of K25,000 for ox drawn equipment and accessories • 2 tractors for irrigation have not been handed over yet	• 4 youth and 16 women groups have been trained waiting for the procurement of goats. The district has no clue how the programme will unfold

District	Nutrition	Conservation Agriculture	Value chains and Market linkages	Institutional strengthening
Rufunsa District Council	- sensitisation and training have been done - Community mobilization and value addition done in all the 17 camps. For value addition 2 solar driers have been received. Other equipment not bought. Infant and child feeding centres at 2 centres started. Funds for the activity too little for sustainability (K18,000). Four (4) schools identified for the School Feeding Programme: Nyabombwe, Njolwe, Shala and Kasenga - The Nutrition Education component not funded yet - Funding is not regular. Only received 3rd funding in 5 years. (in 2015, 2016, 2017 and March 2018). Funding comes in one basket and sometimes some activities are foregone in line with the farming calendar. Recommended that feeding centres be funded separately. It is recommended that feeding centres be funded separately. - The Nutrition unit has conducted some capacity building for district and field level staff in infant and young child feeding practices and production and utilization of bio-fortified food crops		- Project procured consultant to do Feasibility Study for Milling Plant at Lukusi Camp for maize and sorghum - Farmers went for exposure visit to Chibombo - Value addition equipment received and distribution is underway	
Chongwe	- Orange maize and fertiliser received for 2 seasons. Received 500x10kg. Also received urea 600 x50 kg and top 597x50kg for 2 seasons - Sensitisation has been done and the feeding programme in schools and RHC: Shikabeta School; Chiyota, Machile, Chinyunyu, Nyangwenya and at Chinyunyu RHC, Sinjela RHC, Mupansha RHC. These centres were chosen as they have a high population of under 5 children 5 Women groups had been formed for nutrition at Kankomba, Mpasha, Chinyunyu(Bundabunda) Nyangwenya and Namanongo - The Nutrition unit has conducted some capacity building for district and field level staff in infant and young child feeding practices and production and utilization of bio-fortified food crops		- Community sensitisation done and sites identified at Lwimba, Palabana, and Katende - Farmers went for exposure visit to Chibombo - Value addition equipment received and distribution is underway	

CENTRAL PROVINCE

CENTRAL PROVINCE				
District	Irrigation	Aquaculture	Crop diversification and intensification	Livestock
Serenje	for use of both mini and major equipment using water from Lake Lusiwasi	- Storing the Fish Pens on lake Lusiwasi – mobilization has been done (08 groups have been formed in with villages around the lake who showed interest; Now it is based on individuals who will have followers. The pass-on to be practiced most likely after the first cycle. The company making cages has been to the site and assembling has been done in 2 months time. - Training – trip was undertaken to Lake Kariba where fish farming using this technology is being done. The tour was mainly on feeding fish and general operations. - Procurement of boats	promoting agro-forestry and supporting farmers through the e-voucher system through which farmers can access inputs of their choice	- Livestock Development: Identification of farmer groups – 20 women groups identified each one consisting 20 members - Training the groups in livestock production and management (this was done in 2016). However, farmers will have to be retrained given the lapse of time. - Livestock procurement – Heifer International to procure local chickens and implement the pass-on scheme

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		- Construction of Ice Plant – site identification has been done on Lake Lusiwasi in Nalubi Camp. - Fish Catch under earthen ponds – site selection and mobilization of farmers has been done; training in pond construction; stocking and management; training is on-going. - More than 100,000 fingers were distributed to farmers in 2018		
Chitambo	2 large scale irrigation schemes identified (Luombwa in Mpelembe camp and Mulembo in Kasuko). 9 mini irrigation schemes identified; musola (21ha) and Nchele (21ha) in Yoram Mwanje camp, Kabulumo (13ha) in Kasuko camp, Chitikilo (20ha) and Chonde (12ha) in Chalilo camp, Lusansu (18ha) and Mulembo (35ha) in katikulula camp, Lunika (15ha) and Musola (15ha) in Muchinka camp. 2 water user associations formed for Mulembo and Luombwa and are in the process of registration. - Land clearing for Luombwa to commence as the contractor has been assigned.	- Farmer mobilization and sensitization done. - Sites for pond construction and pond stocking identified. - Pond construction in second phase done. - Monitoring of stocked ponds done and on-going. 217 fish farmers trained. 6 farmers with a total pond area 6,832m2 were stocked with 30,000 fingerlings and 296 bags of feed. - More than 100,000 fingerlings distributed to farmers in 2018 1.840kgs of fish harvested. 15 farmers with a total area 20,300m2 ready for stocking. All to follow a pass on model.	- Lead farmers identified and supported with demo packs under CA. 40 seed growers identified and supported with seed packs. 2 tractors handed over to two farmers associations (Muchinka and Mpelembe Block association) under CA in December 2017. 11 officers trained.	- Livestock development: 40 groups identified each with 20 members (803 beneficiaries); 20 to receive goats and 20 for capacity building with a view to receive as pass on. 40 Groups (7youth and 33 women groups) trained in livestock production and management with 516 farmers attending (121 male and 395 female). 60 groups mobilized (55 women groups and 5 youth groups). - Sensitisation done on various diseases including NCD for all groups. - Sampling for NCD was done with BAMORA. 40 groups (37 women groups and 3 youth groups) trained in village chicken rearing and management with total 702 farmers trained (177 male and 525 female). 12 groups selected from the 40 to receive the poultry under heifer pass on gift scheme. - All field staff trained in training needs assessment. 1 Livestock service center constructed (LSC). 1798 animals sprayed at the LSC.

District	Nutrition	Conservation Agriculture	Value chains and Market linkages	Institutional strengthening
Serenje	The Nutrition unit has conducted some capacity building for district and field level staff in infant and young child feeding practices and production and utilization of bio-fortified food crops	Conservation Agriculture using rippers, chaka hoes, etc.	- Market linkages through promoting roadside markets and agro-market centres with sites already identified - Value adding equipment received and distribution almost complete - Consultant completed the assignment and is due to submit the report for the designs and proposals for business and governance models by end of August, 2018.	Non
Chitambo	Community mobilization and sensitization done in the 8 camps.	140 farmers supported with CF and CA kits.	Contractor to supply and install the cassava milling plant at Mukando already engaged	60 infants (6-24 months) underwent the feeding program at the two centers

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District	Nutrition	Conservation Agriculture	Value chains and Market linkages	Institutional strengthening
	4 schools identified for school feeding programs. 2 health centers identified for child and infant feeding program. 3 farmers supplied with orange fleshed sweet potatoe vines, 2 have supplied to other 20 farmers. 100 IEC materials supplied to the feeding centers. 2 solar driers received for demonstrations at feeding centers. - Orange maize and iron rich beans in put packs supplied to 797 farmers - The Nutrition unit has conducted some capacity building for district and field level staff in infant and young child feeding practices and production and utilization of bio-fortified food crops	78 farmers supported with input packs. 135 ha used for CA including 5ha for small implements. 78 farmers were trained in conservation agriculture practices.	- Value addition equipment distributed to the mobilized groups - Site for roadside market identified and only awaits the designs by the consultant 2 road side markets identified and community mobilized. - Designs and BOQs submitted for consideration - Cassava mill designs and BOQs submitted. Contractor picked awaiting initial payment. - Management entity established for the cassava mill. - Exposure visit for management entity conducted to solwezi (Premiercorn starch company). - Community mobilization for value addition done (20 groups mobilized). 26 various Value addition equipment received and distributed to respective beneficiaries	702 farmers trained in poultry production

Appendix 2: Nutrition Assessment Essential Preliminaries

Reorientation of data collectors

The data collectors for the nutrition component were graduate students from the University of Zambia that had pursued human nutrition studies. The survey team comprised 6 members constituting pairs assigned to each province. Express assumption was made that these data collectors undertook anthropometric data collection technical skills as part of their studies and therefore needed minimal supervision in the field. It was therefore thought prudent that a full-fledged training course was not necessary; providing the advantage of making a saving on the cost implication. Instead a brief reorientation session was held constituting the basics of anthropometric measures and techniques, cautionary measures to be taken, methodological approach, standardization and filling in of the data collection forms.

Standardization of the measurements

Height/length and weight measurements were taken to assess the nutritional status of the sampled children and those of the control groups. Evidently, these like other measurements are prone to bias and errors in recording if they are not properly standardized. Special care was taken to ensure their correctness. Four steps were taken into account to obtain good standardized records:

- i. Data collectors were reoriented through the proper methods of using the measuring equipment
- ii. Emphasis was made that the scales be calibrated on a daily basis. Accuracy was checked by comparing the scale reading with a known weight (2 Kg packet of sugar)
- iii. Observer errors were checked by allowing the measurer to shout out the measured value to the recorder who then shouted it back for confirmation as s/he wrote it down
- iv. Data collectors were encouraged to rotate among themselves between measuring and recording so as to reduce the effect of individual biases.

Data collected

The following information was recorded from each child that participated in the survey. The data so collected was entered and analyzed using SPSS version 22. to calculate anthropometric indices:

i. Age in months

Age of the child was obtained using the date of birth from the under-five clinic cards and recorded. Where the clinic card was not available probing was done by talking about major events that could have happened during or around the time of the child's birth until a fairly accurate age was pinpointed.

ii. Weight

Weight was measured using the Seca scales (baby/mother pair friendly) placed on flat surface as deemed appropriate by the survey teams. Before each measurement was taken, minimum

clothing was allowed for each child to avoid exaggerated bias in weights of the children. The measurer read the value to the nearest .1 kg and recorded. The recorder wrote the value while repeating it back to the measurer to make sure it was correctly heard and recorded.

iii. Height/length

Children aged more than 2 years (24 months) old or measuring 87cm or more were measured while standing up (height). These children were placed on the measuring board standing upright in the middle of the board set up in a place where there was enough light and room for movement. The child's ankles and calves were pressed firmly against the board by one of the measurers while the other positioned the head cursor. Efforts were made that the child's head, shoulders, buttocks, knees and heels touched the board. The measurer read the height values to the nearest .1 cm. The recorder wrote the value while repeating it back to the measurer to make sure it was correctly heard and recorded.

Children who were less than 2 years (less than 24 months) or measuring less than 87 cm were measured while lying down (length). Length was also measured for children who could not stand because they were too sick to stand or simply difficult to handle.

For length the measuring board was placed on flat ground and the child gently placed, lying down in the middle of the board. One of the measurers held the sides of the child's head and positioned the head until touching the footboard. The other measurer placed his/her hands on the child's ankles or knees. While positioning the child's legs, the cursor was positioned against the bottom of the child's feet, which had to be at right angles. Measurements were read and the recorder wrote the values and repeated to the measurer, as was the case with measuring height.

1. Deriving of indices

None of these parameters measured gave information about the nutritional status when taken in isolation. The parameters were related to each other in order to define indices for interpretation.

- i. Weight was related to age (weight-for-age index representing underweight),
- ii. Weight related to height (weight-for-height index representing wasting)
- iii. Height was related to age (height-for-age index representing stunting).
- iv. Body mass index for age

The indices so derived were compared to values of a reference population to determine whether the sample population was performing better, at same level or worse.

2. Data analysis

The information obtained was analyzed using SPSS version 22.computer package. Data was entered directly into the software package for nutrition indices analysis. Computerization of nutrition indices was done with extra care for accuracy taking into account the age and sex of the sampled children.

Statistical analysis of anthropometric data from nutrition indices included:

- ❑ Prevalence rate (percentage of children falling into various categories of malnutrition) and their associated confidence levels.

- ❑ Mean, standard deviation and median levels of nutrition status
- ❑ Frequency distributions showing graphs illustrating the spread of measurements around the mean and median. This provided visual representation of results, a useful tool to reveal abnormalities in comparison with the reference population distribution curve

Overall malnutrition according to weight-for-height (wasting) index defined by <-2 Z-scores ($<80\%$ median), weight-for-age (underweight) index defined by <-2 Z-scores, and height-for-age (stunting) defined by <-2 Z-scores were calculated. Severe acute wasting, underweight and stunting malnutrition respectively were calculated using the same indices defined at the cut-off point of <-3 Z-scores.

Appendix 3: Period Food Lasted (month) by Age Group

Food Type and Age Group		Control		Participant	
		Months food lasted in 2013	Months food lasted in 2017	Months food lasted in 2013	Months food lasted in 2017
Hybrid Maize/Open pollinated	19-35 Yrs	8,25	8,74	7,97	8,18
	36+	9,06	9,47	9,01	9,48
	Total	8,88	9,27	8,82	9,20
Local Maize	19-35 Yrs	6,20	5,50	6,24	6,07
	36+	6,58	6,48	7,73	7,79
	Total	6,51	6,20	7,45	7,44
Sorghum	19-35 Yrs	5,20	6,00	8,25	6,80
	36+	4,24	5,68	6,33	6,62
	Total	4,42	5,71	6,50	6,65
Finger millet	19-35 Yrs		5,00	5,75	7,09
	36+	6,80	3,38	5,98	5,75
	Total	6,80	3,56	5,94	5,94
Groundnuts	19-35 Yrs	8,56	6,40	5,78	5,64
	36+	5,97	6,12	6,66	6,61
	Total	6,31	6,16	6,53	6,46
Rice	36+				6,00
	Total				6,00
Beans	19-35 Yrs	6,63	5,23	5,91	5,82
	36+	5,94	6,27	6,07	6,39
	Total	6,07	6,02	6,05	6,30
Cowpeas	19-35 Yrs	3,00	5,00	1,00	6,57
	36+	5,29	6,20	6,53	6,53
	Total	5,00	6,14	6,19	6,54
Irish Potato	19-35 Yrs		1,00	3,00	1,00
	36+			2,20	2,44
	Total		1,00	2,33	2,30
Sweet potatoes	19-35 Yrs	3,60	3,00	3,68	3,98
	36+	3,50	3,92	4,10	4,43
	Total	3,51	3,69	4,04	4,36
Tomato	19-35 Yrs	3,50	2,00	2,70	2,35
	36+	2,14	3,18	3,00	3,15
	Total	2,44	2,74	2,96	3,00
Cabbage	19-35 Yrs		1,50	1,33	2,29

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Food Type and Age Group		Control		Participant	
		Months food lasted in 2013	Months food lasted in 2017	Months food lasted in 2013	Months food lasted in 2017
	36+	2,33	2,25	2,86	3,05
	Total	2,33	2,10	2,76	2,97
Rape	19-35 Yrs	2,00	2,60	3,60	2,78
	36+	2,50	2,96	3,06	3,09
	Total	2,38	2,86	3,14	3,01
Onion	19-35 Yrs		2,00	3,00	3,00
	36+	2,00	6,00	5,96	4,95
	Total	2,00	4,40	5,62	4,72
Okra (ladies' finger)	19-35 Yrs		2,00	4,67	3,80
	36+	1,75	1,67	3,41	3,00
	Total	1,75	1,80	3,60	3,10
Eggplant	19-35 Yrs	0,00			1,00
	36+	1,00		1,67	6,67
	Total	0,50		1,67	5,86
Impwa	19-35 Yrs		12,00	4,00	5,90
	36+	1,50	3,00	6,69	6,26
	Total	1,50	7,50	6,50	6,15
Cassava	19-35 Yrs			8,39	7,63
	36+	8,00	9,00	9,07	9,46
	Total	8,00	9,00	8,94	9,17
Total	19-35 Yrs	7,48	6,91	6,56	6,28
	36+	7,50	7,48	7,10	7,07
	Total	7,50	7,34	7,01	6,93

Appendix 4: Period food lasted (months) by Gender of Household Head

Food Type and Gender of Household Head		Control		Participant	
		Months food lasted in 2013	Months food lasted in 2017	Months food lasted in 2013	Months food lasted in 2017
Hybrid Maize/Open pollinated	Male	9,08	9,57	8,92	9,28
	Female	8,28	8,47	8,61	9,06
	Total	8,88	9,27	8,82	9,21
Local Maize	Male	6,86	6,17	7,51	7,35
	Female	6,21	6,23	7,33	7,59
	Total	6,51	6,20	7,45	7,44
Sorghum	Male	4,82	6,29	6,65	6,50
	Female	3,67	4,30	6,20	6,91
	Total	4,42	5,71	6,50	6,65
Finger millet	Male	6,00	1,50	5,79	6,38
	Female	8,00	5,20	6,26	4,92
	Total	6,80	3,56	5,94	5,94
Groundnuts	Male	6,59	6,34	6,49	6,50
	Female	5,56	5,66	6,59	6,41
	Total	6,31	6,16	6,53	6,46
Rice	Male				6,00
	Total				6,00
Beans	Male	5,90	5,84	6,02	6,42
	Female	6,40	6,41	6,11	6,08
	Total	6,07	6,02	6,05	6,30
Cowpeas	Male	4,67	6,36	5,43	5,79
	Female	6,00	5,71	7,64	8,42
	Total	5,00	6,14	6,19	6,54
Irish Potato	Male		1,00	2,00	2,30
	Female			3,00	
	Total		1,00	2,33	2,30
Sweet potatoes	Male	3,59	3,70	3,98	4,36
	Female	3,22	3,67	4,13	4,34
	Total	3,51	3,69	4,04	4,35
Tomato	Male	2,57	2,74	2,81	2,91
	Female	2,00	2,75	3,41	3,31
	Total	2,44	2,74	2,96	3,00
Cabbage	Male	2,75	2,00	2,55	2,91
	Female	1,50	3,00	3,12	3,09
	Total	2,33	2,10	2,76	2,97
Rape	Male	2,50	2,93	2,81	2,83
	Female	1,50	2,57	3,93	3,56

Food Type and Gender of Household Head		Control		Participant	
		Months food lasted in 2013	Months food lasted in 2017	Months food lasted in 2013	Months food lasted in 2017
Onion	Total	2,38	2,86	3,14	3,01
	Male	2,00	4,40	5,37	4,31
	Female			6,29	5,67
	Total	2,00	4,40	5,62	4,72
Okra (ladies' finger)	Male	2,00	2,33	3,42	2,96
	Female	1,50	1,00	3,88	3,31
	Total	1,75	1,80	3,60	3,10
Eggplant	Male	0,00		1,67	4,83
	Female	1,00			12,00
	Total	0,50		1,67	5,86
Impwa	Male	2,00	7,50	6,78	6,28
	Female	1,00		6,00	5,75
	Total	1,50	7,50	6,50	6,15
Cassava	Male	6,00	8,00	9,12	9,22
	Female	12,00	12,00	8,74	9,13
	Total	8,00	9,00	8,96	9,19
Total	Male	7,73	7,49	7,00	6,85
	Female	6,92	6,95	7,04	7,08
	Total	7,50	7,34	7,01	6,93

Appendix 5: Gender Audit Issues

Appendix 5: Gender Audit Issues

PROGRESS IN FARMER GROUPS/CLUBS SUPPORTED BY APMEP BY GENDER BY DISTRICT

Southern Province		Lusaka Province		Central Province	
Gwembe	Sinazongwe	Rufunsa	Chongwe	serenje	chitambo
341 Farmer groups out of which between 18-22 are for women and 5 are youth clubs.	153 registered cooperatives but no information in terms of composition by gender.	NON	- Sensitisation of farmer groups done - Aqua Park Construction abandoned by contractor. Contractor lacked equipment and know how - There are 160 cooperatives in the district and 4 women groups involved in agriculture related activities and 1 women group is involved in food processing.	20 under livestock production 8 under aquaculture (Lusiwasi only) 150 conservation agriculture 32 in agribusiness 45 under irrigation 20 under nutrition plus 2 feeding centres	140 groups were mobilized of which 98 were female, 17 youth groups and the others have a combination (cooperatives).

VARIOUD GENDER ISSUES

Key issue	Southern Province		Lusaka Province		Central Province	
	Gwembe	Sinazongwe	Rufunsa	Chongwe	Serenje	chitambo
Main activities women participated in	NON	NON	NON	Usually decisions made by women and implementation done by spouse and children.	- Most of the groups have more women than men. Under CA 64% of members are women - Most traditional land belong to women and they make decisions - Gender is cross cutting, for nutrition groups mostly youths and women are in leadership positions.	- Most of the groups have more women than men 70 to 90%. - Mostly farming land belongs to women and they make decisions in farming relations
Decision Making	NON	Women assume leadership positions but no statistics available. Youths normally farming land belonging to parents and assume leadership positions such as Secretary because most of them tend to be better schooled.	NON	NON	- Women mostly take up Treasurer position as they are more trustworthy - Nutrition groups are exclusively women.	For many groups women do not take up leadership role its mostly men and youths that take up the leadership role in decision making with the exception of women groups

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Key issue			Lusaka Province		Central Province	
	Gwembe	Sinazongwe	Rufunsa	Chongwe	Serenje	chitambo
Responsible for implementing various activities	• NON	• NON	- In the groups, 90% of the membership are female - In women groups, women take up leadership roles and a few men are fused in.	• NON	• NON	Women are very active in implementing most of the activities in the groups.
Proportion of women in participation	• 33% women participation	NON	NON	NON	• NON	• 40% women participation.
Participation in leadership positions	Groups dominated by males. 1 out of 6 headed by women. But deliberately try to include women and youths in the project.	NON	NON	No statistics available. But women are elected mostly as Secretary or Treasurer in coops. Youth groups are dominated by young men.	• NON	- Women take up roles as secretaries and treasurers. - In women groups they take up most of the leadership positions.
Female participation in decision making processes	• NON	• NON	• NON	• NON	• NON	It is low as most of the women stop school early making it difficult for them to read and write.
Involvement of men, women and youth in project activity decision making processes	• NON	• NON	• NON	• NON	• NON	Men and youths are more active than women
Number of women and youth groups benefiting from project	• NON	• NON	• NON	• NON	In livestock, have purely youth and women groups	98 women groups and 17 youth groups
Project impact on men, women and youth	• NON	• NON	• NON	• NON	• NON	Increase in production and improvement in the standard of leaving
Youth participation in project activities	• NON	• NON	• NON	• NON	• NON	The youths are active in all the project activities.
Youth participation in leadership and decision making processes	• NON	• NON	• NON	• NON	• NON	Youths do take up leadership roles as most of them know how to read and write
How men, women and youth have been impacted by various	• NON	• NON	• NON	• NON	• NON	Delays in supply of goats and fingerlings to farmers has impacted negatively on their

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Key issue			Lusaka Province		Central Province	
	Gwembe	Sinazongwe	Rufunsa	Chongwe	Serenje	chitambo
project activities' decision making processes						planned production and income generation.

Other key issues

Key issue	Southern province		Lusaka Province		Central Province	
	Gwembe	Sinazongwe	Rufunsa	Chongwe	serenje	Chitambo
Seed growers supported and the nature of support			Only done mobilization and sensitisation. Training to be done by ZARI. Not funded yet.	A few farmers were supported under Kasisi Training Institute.		- Potential grain and legume farmers have been identified. A budget was submitted to conduct training for 10 seed growers 150 Farmers under CA identified
Selected vulnerable farmers accessing yield enhancing inputs by provision of input vouchers			1,500 farmers supported through the E Voucher funded through HQ.	12,142 farmers registered under FISP but only 7,772 received inputs. Had challenges in registration to enrol farmers onto the new system – Zambia Integrated Agriculture Management System.		No farmer accessed inputs under project e-voucher in the district
Market linkages developed or supported			- Being done outside APMEP. Sorghum and maize mill will create market for farmers in the surrounding areas - Livestock Service Centre once completed will also enhance market linkages.	None	Cassava hammer mill once operational will provide ready market	- Establishment of the cassava mil will provide a ready market for farmers. The mill will target big markets such as the breweries and mines for flour and starch respectively. - Establishment of Roadside market and ABC will provide trading for farmers and bulking to produce. Site identified is Chalilo for both the roadside market and ABC. - Mobilization was done for two sites (chalilo and katikulula).
Crop diversification and intensification activities promoted by the project	Always done by Ministry and also now been promoted through E voucher and World Food Programme provides a ready market for selected crops	Crop Diversification and intensification: training of farmers in CA and empowering them with mechanization implements. Farmers have also received inputs under the		- Received legume seeds: Lukupa beans 14x5kg, cow peas, Lyambai beans 20x5kg, Mbereshi beans 5x10kg, Lukupa beans 5x5kg and orange maize 700x10kg - Orange maize has good market and is on high demand by millers in Lusaka	Rice, orange maize	- Training of farmers in CA and support them with mechanization implements. - Farmer training in rice production as well as supply of inputs. - Supply of inputs to farmers in seed multiplication to farmers - Supply of bio fortified orange maize and beans to farmers

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Key issue	Southern province		Lusaka Province		Central Province	
	Gwembe	Sinazongwe	Rufunsa	Chongwe	serenje	Chitambo
		nutrition component but no inputs for crop diversification and intensification of orange maize and cow peas not provided.		(DACO Rufunsa receives calls from Millers inquiring on the commodity).		
Conservation farming technologies being used	Ripping, pot holing for those with chaka hoes. Tractors will assist to increase hectareage.		CA: use of basins, crop rotation, ripping, herbicide use and residue retention.	CA: use of basins, crop rotation, ripping, herbicide use.	Basin, ripping	Pot holing, crop rotation, ripping, residue retention and herbicide use

Appendix 6: Detailed KPI results at Mid-Term Review

RESULTS CHAIN		PERFORMANCE INDICATORS			MID TERM (2018) VALUES
		Indicator (Including CSI)	Baseline	Target	
IMPACT	1. Ensure household income, food, and nutritional security	1.1 Average household income (USD/year) 1.2 Average months/year of household food scarcity 1.3 Percentage of malnutrition (stunting) in under-5 children (%)	2013 1.1 USD 364 1.2 5 months 1.3 45%	By 2022 1.1 USD 500 1.2 3 months 1.3 40% (Project Districts)	1.1 USD 1512 1.2 5.07 months 1.3 32%
OUTCOMES	2.1 Increased agriculture productivity 2.2 Increased agro-processing	2.1.1 Average crop yield (mt/ha). 2.1.2 Average livestock off-take per year (no) 2.2 (i) percentage of primary products processed locally by women and men (%); and (ii) value of processed products by women and men (ZMW)	2013 2.1.1. Maize (2.0); Cassava (9.0) 2.1.2 Goats (2,000); Poultry (100,000) 2.2. (i) 10; and (ii) ZMW 500	By 2020 2.1.1. Maize (3.6); Cassava (12) 2.1.2. Goats (3,900); Poultry (250,000) 2.2. (i) 30; and (ii) ZMW 2,000	2.1.1. Maize (1.6 mt/ha); Cassava () 2.1.2. Goats (9,368); Poultry (37,472) 2.2. (i) 7.2%; and (ii) ZMW.....

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RESULTS CHAIN		PERFORMANCE INDICATORS			MID TERM (2018) VALUES
		Indicator (Including CSI)	Baseline	Target	
OUTPUTS	3. Agriculture Production and Productivity	3.1.1 Scheme area under irrigation (ha)	Project Area (2013)	Project Area (2019)	Project Area 2018)
	3.1 Irrigation Schemes Developed	3.1.2 No of beneficiaries (farmers).	3.1.1 (410)	3.1.1 (3,337)	3.1.1(3,122 ha)
	3.2 Aquaculture Developed	3.1.3 No of scheme management entities.	3.1.2 (2,050)	3.1.2 (14,565) (at least 45% women, in all activities)	3.1.2 (0) (0% women, in all activities)
	3.3 Crop Diversification and Intensification Enhanced	3.2 (i) Fish pens (no); (ii) fish cages (no); and (iii) fish production (mt/yr)	3.1.3 (0)	3.1.3 (10)	3.1.3 (9 WUAs)
	3.4 Livestock Development Enhanced	3.2 (i) Fish pens (no); (ii) fish cages (no); and (iii) fish production (mt/yr)	3.2 (i) 0; (ii) 0; (iii) 120	3.2 (i) 280; (ii) 340; (iii) 400 (>45% women, in all activities)	3.2 (i) 0; (ii) 0; (iii) 2.5mt/year
		3.3 (i) Area under conservation agriculture (ha); (ii) Seed supplied (pkt); (iii) area under mechanised agriculture (ha).	3.3 (i) 25,430; (ii) 0; (iv) 47,200	3.3 (i) 32,730; (ii) 13,500; (iii) 69,000 (>45% women beneficiaries, in all activities)	3.3 (i) 12,151 ha; (ii) 16,906 pkts; (iii) 9,876 ha
		3.4 (i) No of livestock pass-on scheme women/youth groups; (ii) No of poultry keeping groups.	3.4 (i) 0; (ii) 0	3.4 (i) 70 (60 women & 10 youth groups); (ii) 120 (80% women & 20% youths)	3.4 (i) 80 (71 women & 9 youth groups); (ii) 65
	4. Value Chain Development and Market Linkages	4.1 (i) Maize mills (no.); (ii) Cassava mills (no); (iii) Community level-processing equipment (no); (iv) % reduction in cassava and maize losses.	4.1 (i) 0; (ii) 0; (iii) honey presses (0), solar dryers (0); (iv) cassava (4%), maize (12%)	4.1 (i) 2; (ii) 2; (iii) honey presses (40), solar dryers (70); (iv) cassava (2%), maize (8%) (at least 45% women beneficiaries, in all activities)	4.1 (i) 0; (ii) 1; (iii) honey presses (40), solar dryers (70); (iv) cassava (0%), maize (0%)
	4.1 Agro-processing Infrastructure Developed	4.2 (i) Agriculture service centres (no); (ii) Roadside markets (no); (iii) Length (km) of rural feeder roads rehabilitated; (iv) No of agro-dealers supported (no)	4.2 (i) 0; (ii) 310; (iii) 0; (iv) 0.	4.2 (i) 6; (ii) 327; (iii) 50; (iv) 60 (at least 45% women, in all activities)	4.2 (i) 0; (ii) 0; (iii) 0; (iv) 0
	4.2 Market Linkages Developed	5.1.1 No of households trained in nutrition activities.	5.1.1 (i) 400 FHH; and (ii) 210 MHH	5.1.1 (i) 550 FHH and (ii) 1,210 MHH.	5.1.1 (i) at least 513 FHH and (ii) 15 MHH.
	5. Institutional Strengthening	5.1.2 No of infants (6-24 months) undergoing feeding programme.	5.1.2 (0)	5.1.2 (1,600)	5.1.2 At least 180
	5.1 Nutrition security and capacity Building Improved	5.1.3 No of farmers trained, based on needs assessment.	5.1.3 (0)	5.1.3 (16,800) (at least 50% women)	5.1.3 (14500) (All women)
	5.2 Project Management Improved	5.2 No of MAL GAFSP Project Technical Team supported.	5.2 (0)	5.2 (1)	5.2 (1)
	5.3 M&E System established	5.3 No of M&E system established & operational.	5.3 (0)	5.3 (1)	5.3 (1)

Appendix 7: References

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2. If They Grow It, Will They Eat and Grow? Evidence from Zambia on Agricultural Diversity and Child Undernutrition Neha Kumar, Jody Harris & Rahul Rawat Pages 1060-1077 | Published online: 01 Sep 2015
3. Project Appraisal Report – Zambia GAFSP: Agriculture Productivity and Market Enhancement Project (APMEP); African Development Bank Group; February, 2014.

Appendix 8: List of Officials/Beneficiaries that took part in the review

No	Full Name	Title	Organisation
1.	Stephen Tembo	Agricultural Economist	Mid-Term Review Team Leader
2.	Ms Dorothy Nthani	Nutritionist	Mid-Term Review Team Member
3.	Mr. Solomon Tembo	Statistician	Mid-Term Review Team Member
4.	Mr. Fison Mujenja	Agri-business Specialist	Mid-Term Review Team Member
5.	Mr. Kelvin Munjile	Field work Coordinator	Mid-Term Review Team member
6.	Mr. Jacob S. Chisha	Researcher	Mid-Term Review Team member
7.	Mr. John Kunda	Researcher	Mid-Term Review Team member
8.	Mr. Lewis Bangwe	Agriculture Expert	African Development Bank
9.	Mr. Derrick Sikombe	Deputy Director	Policy and Planning Department
10.	Mr. Sylvester Mwanza	Project Coordinator	APMEP
11.	Mrs. Nalukui Kazilimani	M&E Specialist	APMEP
12.	Mr. Nkweto Phiri	Project Accountant	APMEP
13.	Mr. Stanley Ngangula	Procurement Specialist	APMEP
14.	Ms Nachimuka Cheepa	Acting Country Director	Heifer International
15.	Dr. Linous Munsimbwe	Provincial Agriculture Coordinator, Lusaka Province	
16.	Charless Simulunda	District Agriculture Coordinator, Sinazongwe	MoA
17.	Scene Mudenda	Senior Agriculture Officer, Sinazongwe	
18.	Thomas Makwende	Ass Technical Officer, Sinazongwe	
19.	Nicola Mung'omba	Fisheries Officer, Sinazongwe	MFL
20.	Obrien Lwando	Livestock Assistant, Sinazongwe	
21.	Mr. Mwanza	Camp Agriculture Extension Officer,	Sinazongwe
22.	Mildred H. Mbozi	Camp Agriculture Extension Officer	Sinazongwe
23.	Dereck Chimanga	Provincial Agriculture Planner, Lusaka	MoA
24.	Pascal Chipasha	Principal Agriculture Officer, Lusaka Province	MoA

No	Full Name	Title	Organisation
25.	Dinah Chipwatanga Phiri	Sr. Marketing Development Officer, Lusaka Province	
26.	Esther Sianga Liyani	Sr. Cooperatives Officer, Lusaka Province	
27.	Moses Lungu	Sr. Land Husbandry Officer	
28.	James Mwale	Sr. Agriculture Officer, Crops	
29.	John Hikanyemu	Sr. Irrigation Engineer	
30.	Lumbo Mwimanzi	Acting Principal Fisheries	
31.	Louis Chipepo	Farm Power and Mechanisation	
32.	Patrick Longwani	Ag, PACO, Central Province	
33.	Cheelo Mudenda	Sr. Irrigation Engineer,	
34.	Lumumba Mwanagonze	Sr. Marketing Development Officer	
35.	Mwape Mweni	Sr. Livestock Production Officer	
36.	Stanslous Nyirenda	Provincial Fisheries Officer, Kabwe	
37.	Jacob Shawa	District Agriculture Coordinator, Ngabwe	
38.	Kabaso M Kababaso	Ag, Sr. Agric Officer	
39.	Collins Kapembwa	Livestock Production and Ext. Officer	
40.	Martin Pasi	Technical Officer	Ngabwe
41.	Dr. Patricia Munthali	District Veterinary Officer	Ngabwe
42.	Aubrey Munsoma	Camp Agriculture Extension Officer	Ngabwe
43.	Fredrick Galuf	Ass Technical Officer	Rufunsa
44.	Chola Muleba	Assistant Accountant	Rufunsa
45.	Dr. Kennedy Mwandila	District Veterinary Officer	Rufunsa
46.	Dr. Stanley M. Njovu	District Agriculture Coordinator	Rufunsa
47.	Ruth Habanji	Aquaculture Assistant	Rufunsa
48.	Benard Mwansa	Block Supervisor	
49.	Brian Simukoko	Director of Works	Rufunsa District Council

No	Full Name	Title	Organisation
50.	Laura Gondwe	District Administrative Officer	Chongwe
51.	Fesiano Banda	District Agriculture Coordinator	Chongwe
52.	Francis Lungu	Accounting Officer	
53.	Monde Hatembo	Food and Nutrition Officer	
54.	Purity Maembe	District Veterinary Officer	
55.	Abel Lungu	Livestock Production Officer	
56.	Namakau Harawa	Marketing Officer	
57.	Elina Kaonga	District Fisheries Officer	
58.	John Lungu	Sr. Agriculture Officer	
59.	Sabo Inambwae	Ass. Cooperatives Officer	Chongwe
60.	Dr. Francis Mwanza	District Livestock Coordinator	Chongwe
61.	Professor Sianyeuka	Camp Agriculture Extension Officer	
62.	Imbuwa Mushebwa	District Agriculture Coordinator	Gwembe
63.	Davy Munthali	Senior Agriculture Officer, Gwembe	
64.	Maxwell Choompa	Veterinary Assistant, Gwembe	
65.	Cladys Ntunta	Livestock Officer, Gwembe	
66.	Ladislav Soko	Livestock Technician, Gwembe	
67.	Kissinger Hanangala	Veterinary Assistant, Gwembe	
68.	Sydney Mwalusaka	Accountant. Gwembe	
69.	Chonzi Kelvin Mulenga	FNO, Gwembe	
70.	Kelvin Mutelo	District Marketing Development Officer, Gwembe	
71.	Charles Mwangala	Fisheries Assistant	
72.	Mr. Masamba	Agriculture Camp Ext Officer	Gwembe
73.	Francia Kalipenta	District Commissioner	Serenje

No	Full Name	Title	Organisation
74.	George Chisebuka	District Agriculture Coordinator	Serenje
75.	Chambwa Mandandi	Assistant Technical Officer	Serenje
76.	Brian Hachaamba	Fisheries and Livestock Coordinator	Serenje
77.	Levison Tembo	District Marketing development Officer	
78.	Musonda Musho	Agriculture Mechanic	
79.	Obster Lungu	Technical Officer	
80.	Peter Chimtozi	Extension Methodologist	
81.	Desderious Musonda	Fisheries Officer	
82.	Kelly Njambi	Camp Officer	
83.	Abigail Shamukale	Camp Agriculture Exte. Officer	Serenje
84.	Alfred Mulenga	Camp Agriculture Extension Officer	
85.	Julio Moreira	Foreman, Conduril	
86.	Frank Mupesha	Director of Works	Serenje District Council
87.	Precious Mukamba	District Planner	Serenje District Council
88.	Wiza Mbale	Programme Manager, Pass On Project, Heifer International	
89.	Catherine Kunda	District Commissioner	Chitambo
90.	Zite Daka	Sr. Agriculture Officer	Chitambo
91.	Costin Hamahiya	Jr Tech Officer	
92.	Edwin Sikazwe	Livestock Production and Extension Officer	Chitambo
93.	Judith Mumba	Assistant Aquaculturist	Chitambo
94.	Alfred B. Mulenga	Agriculture Camp Extension Officer	Chitambo
95.	Isaac Kazani	Agriculture Camp Extension Officer	Kafue
96.	James Zimba	Camp Agriculture Extension Officer	Zimba
97.	Clement Kayungwa	Camp Agriculture Extension Officer	Zimba

Appendix 9: MTE and BA Draft APMEP Report Validation Meeting Participants

S/N	Name	Organisation	Position	E-mail Address
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16.	Ms. Mary Michelo	Ministry of Agriculture, Policy and Information Department	Principal Economist	

Appendix 10: SWOT Analysis of Implementing Institutions and Entities

Model	Strengths	Weaknesses	Opportunities	Threats
Ministry of Agriculture (MoA) Head Quarters (HQ)	- Has the overall responsibility of ensuring all projects/ programmes/ activities under MoA achieve their goal and objectives; - Has the overall and final decision making mandate; - Responsible for policy formulation and ensuring its effective implementation; - Has the overall supervisory, coordination and monitoring functions.	- In the absence of an effective Monitoring and Evaluation System of the entire Ministry, it is difficult to be on top of things regarding what is going on across different interventions; - Limited human resource capacity. The SMSs who are supposed to be key in informing this level regarding APMEP implementation performance are not always on top of things.	- This level yields influence on counterpart funds disbursements by e.g. engaging Ministry of Finance; - Has the authority to formulate policies and make decisions that would deal with a number of hindrances to APMEP implementation performance; - Well positioned to foster synergies and networks with other relevant ministries and government institutions for strengthened collaboration.	Largely depend on subordinates to supply them with the necessary information on implementation performance of APMEP. An absence of this may result in frustration.
Subject Matter Specialists (SMS)	- Many years of experience, wide ranging expertise; - Centrally positioned to provide supervision and technical backstopping across the 3 provinces and 6 districts where APMEP is operating; - The SMSs have had good international exposure in their own respective areas to be able to provide lessons from the regional and internationally.	- There has been high turnover among SMSs which has compromised the institutional memory of APMEP among SMSs; - Weak participation in APMEP supervision and monitoring; - Related to the above point, there was little technical backstopping of provincial and district level stakeholders regarding APMEP implementation.	- There is room to appoint more than one SMS per area to help deal with institutional memory within each specialized area. This would also expand the knowledge base at national headquarters regarding APMEP; - The Annual Work Plan and Budget (AWPB) offers a good opportunity for integrating supervision, monitoring and backstopping of APMEP activities as part of SMSs' overall annual work plan.	The technical performance of APMEP in some areas may be compromised due to inadequate input from SMSs;
Provincial Agricultural Coordinator (PACO)'s office, MoA	- Well qualified and experienced staff; - Well positioned for effective backstopping and supervision of APMEP supported districts; - Well positioned to have an overview of all activities going on within each district;	- Weak linkage with the national and district levels regarding APMEP supported activities; - Inadequate funding has made it difficult for the office to perform its mandate;	- Strategically positioned to facilitate strong linkages between APMEP supported districts; - Well position to promote lesson learning in APMEP supported districts.	- The weak linkage with APMEP supported districts and the national level may seriously undermine APMEP's desired performance at district level; - Linked to the above, sustainability of APMEP's supported activities may be undermined.

Model	Strengths	Weaknesses	Opportunities	Threats
District Agricultural Coordinator (DACO)'s Office, MoA	• Closer to grass-root project activities; • Knowledge of the project target groups/ communities; • Has skilled and experienced Subject Matter Specialists (SMS) easily accessible by project target communities; • District level SMSs know and understand district environment of target districts. • Out of the 96 Agricultural Camps across the 6 APMEP supported districts, an overwhelming majority, i.e. 90 out of 96 (or 93.8%) are manned. In this regard, all the camps in all the districts except Rufunsa (4 out of 12) and Serenje (2 out of 25) are manned. As frontline extension staff for APMEP, this eases community level engagement.	• May not always find it easy to consultant national level SMSs and PIU on account of logistical challenges; • Linked to the above point, weak coordination with the provincial and national MoA offices; • Weak coordination among various APMEP sub-components operating at district level, resulting in duplication and other inefficiencies • Infrequent disbursements have made it difficult for the DACO's office to fully provide all the necessary backstopping and supervision to project activities;	• Potential to modify certain extension inputs and backstopping packages to suit local district conditions due to their knowledge of districts; • Strategically positioned to get the most from PIU staff and SMSs at national level as all converge at district level; • The district level offers a great opportunity to coordinate APMEP activities with other similar initiatives at that level.	• Where a district has several sources of funding supporting development initiatives with each one insisting on their own reporting format, district staff may spend too much time on reporting at the expense of their other technical and professional work; • Given that district staff are "APMEP's face" at the community level, they bear the hostility and pressure from communities when there are delays in project implementation arising from e.g. delayed procurements.
Ministerial Tender Committee (MTC)	• Has highly competent staff; • Follows laid down government procurement procedures designed to maximise government procurement performance.	• Infrequent meetings partly due to inadequate benefits (e.g. removal of sitting allowances); • Linked to the above point, may not always appreciate the urgency of certain procurements	• MTC members could be part of the recipients of all project monitoring visit reports to increase their knowledge of project implementation performance; • Strengthening of monitoring visits to project activities by the MTC would help them appreciate their critical role in facilitating project implementation.	• Delayed procurements beyond a certain timeframe may lead to a serious undermining of the efforts by other MoA departments towards improving implementation performance of the project.
Ministry of Justice (MoJ)	• Have standard procedures for assessment of all government contracts;	• Few staff going by the length of time (on average) it takes to deal with a contract (6 months) – this has resulted in	• Notwithstanding the technical issues related to varying ministry specific technical issues, engaging different ministries	• The current workload may force MoJ to lower its standards and its necessary stringent measures in a bid to cope with the workload;

Model	Strengths	Weaknesses	Opportunities	Threats
	• Able to compare MoA contracts with those from the other ministries for lesson learning; • Experienced staff	• the staff being overwhelmed with work; • Given that the MoJ attends to all government ministries and institutions, it may not always be easy to deal with sector specific technical issues.	• offers opportunities for lesson learning; • There is an opportunity to request for Treasury Authority to engage more staff; • There is an opportunity to further decentralize MoJ by placing a staff to deal with contracts in the biggest government ministries (similar to what MoF has done)	
Program Implementing Unit (PIU)	• Consists of qualified and experienced staff in their own respective areas; • Has a mixture of government seconded staff and those from the market – this strengthens implementation procedures and performance; • The PIU is sufficiently motivated – good work environment, equipment and facilities.	• Critical staff were recruited 2 to 3 years following project launch and hence do not have all the institutional memory; • Do not have adequate authority to drive the project to the desired implementation performance level in terms of being able to make critical decisions and ability to procure even at the lowest threshold.	• The PIU staff have vast experience and expertise working with other similar projects (or potential to access such) which could be used for the benefit of APMEP implementation performance; • The PIU staff being full time to facilitate APMEP implementation.	• Relatively low performance levels arising from circumstances beyond PIU's control;
Community Members/ Smallholders	• They know their precise needs; • They understand best their environment; • They know the available local resources; • They have been given space to get involved in the actual implementation of project activities which concern them.	• Have limited scope of the project; • Largely the knowledge they have is confined to their environment; • May not know their unfelt needs though these could be very important; • Don't always follow extension advice.	• They have experienced Ministry of Agriculture and PIU staff to learn from; • Can accelerate their learning and skills through heightened exchange visits; • Skills and knowledge acquired can be used to reach out to non-project beneficiaries thereby benefit entire communities.	• Those who have had a long passage of time between the point they received training and receipt of equipment/facilities to facilitate implementation of project activities may lose interest; • The long gap between initial activities of the project and follow-up activities may negatively affect community members' relationship with MoA and PIU staff

Appendix 11: Explanations on Impact Indicators

1. Average household income (US\$/year)

The source of the baseline Key Performance Indicator values for 2013 in the Results Framework are not clear. The most comprehensive survey data on income is the Living Conditions Monitoring Surveys (LCMS) carried out by CSO. The LCMS shows consistently higher average household income figures than the \$364 and \$500 baseline and target figures respectively. **Table 1** below shows LCMS results of household income for three years, namely; 2006, 2010 and 2015.

Table 1: Average household income (monthly and annually)

Coverage	2006			2010			2015		
	Average Monthly household income (ZMW)	Annual (Calc.= x12)	Annual income in USD (Exch. rate 1\$=K3,628)	Average Monthly household income (ZMW)	Annual (Calc.= x12)	Annual income in USD (Exch. rate 1\$=K4,946)	Average Monthly household income (ZMW – rebased)	Annual (Calc.= x12)	Annual income in USD (Exch. rate 1\$=K6.58)
All Zambia	770,000	9,240,000	2,546.86	1,112,000	13,344,000	2,697.94	1,801.30	21,615.60	3,283.83
Rural	416,000	4,992,000	1,375.96	664,000	7,968,000	1,611.00	810	9,720.00	1,476.66
Urban	1,432,000	17,184,000	4,736.49	1,917,000	23,004,000	4,651.03	3,152.40	37,828.80	5,746.92

Source: Living Conditions Monitoring Surveys 2006, 2010 and 2015, CSO, Lusaka

- LCMS was last Conducted in April/May, 2015.
- The monthly average income is simply multiplied by 12 months to get the annual estimates.
- For dollar equivalent, Zambian Kwacha amounts were converted using the Bank of Zambia average exchange rate (over 12 months prior to the survey) obtained from <http://www.boz.zm/average-exchange-rates.htm>
- LCMS computation of income includes own consumption which is converted into cash.

2. Months of inadequate food

There was a poor harvest, particularly maize, in 2018, arising from inadequate rains during the 2017/2018 agricultural season. **Table 2** shows results for crop forecasts involving various crops (including maize) from 2011 to 2018. **Figure 1** presents maize production in metric tones (MTs) during the same period under review. Months of adequate household food provisioning (MAHFP) captures the household's ability to ensure food is available above a minimum level all year round. Among the rural households, a drop in the production of the chief staple, maize, is reflected in the MAHFP (increase).

Table 2: Crop Forecast Survey Data for Zambia

Crop Forecast Production	Unit	2011	2012	2013	2014	2015	2016	2017	2018
Maize	Mt	3,020,380	2,852,687	2,532,800	3,350,671	2,618,221	2,873,052	3,606,549	2,394,907
Sorghum	Mt	18,458	15,379	14,971	11,557	8,123	14,107	17,337	13,130
Rice	Mt	49,410	45,321	38,520	49,640	25,514	26,675	38,423	43,063
Sunflower	Mt	43,908	20,468	33,733	34,264	34,726	61,073	50,220	47,594
Groundnuts	Mt	278,775	113,026	106,792	143,591	111,429	131,562	168,699	181,772
Soya beans	Mt	116,539	203,038	261,063	214,179	226,323	267,490	351,416	302,720
Mixed Beans	Mt	51,924	55,301	56,411	61,749	50,398	45,351	45,938	52,351
Cowpeas	Mt	1,376	2,139	4,143	5,301	5,097	10,603	12,428	6,824

Source: Ministry of Agriculture and The Central Statistical Office

Figure 1 presents maize production in metric tones during the period 2011 to 2018. Due to poor rainfall, the production level was lowest for the whole period under review in 2018 on account of inadequate rainfall.

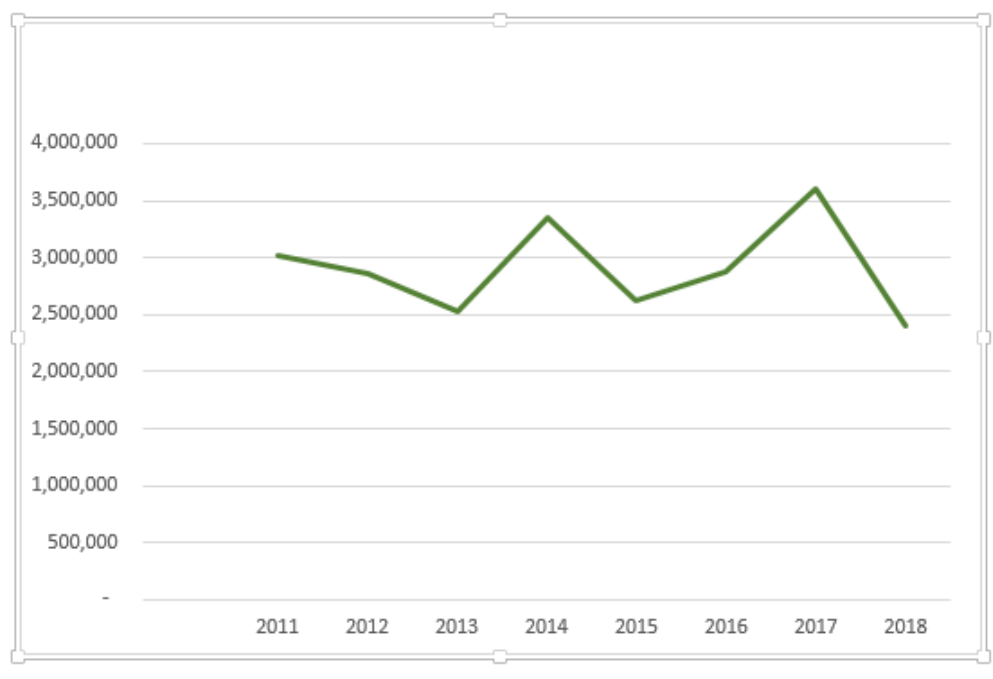


Figure 1: Maize Production in Mt, 2011 - 2018

Appendix 12: Terms of Reference for the Beneficiary Assessment and Mid-Term Review of APMEP - FIRM

1.0 INTRODUCTION

The Government of the Republic of Zambia, through the Ministry of Agriculture is implementing the Agriculture Productivity and Market Enhancement Project (APMEP). APMEP is being financed with a Grant from the Global Agriculture and Food Security Programme (GAFSP) multi-donor trust fund. The supervising entity for the Grant is the African Development Bank (AfDB). APMEP will be implemented in Sinazongwe and Gwembe Districts (Southern Province), Chongwe and Rufunsa Districts (Lusaka Province) and Serenje and Chitambo Districts (Central Province).

The sector goal of the Project is to contribute to economic growth and food security. The specific objectives of APMEP are to contribute to economic growth and poverty reduction by enhancing food, income and nutrition security, among participating households. The Project has three (3) components: (1) Agriculture Production and Productivity; (2) Value Chain Development and Market Linkages; and (3) Institutional Strengthening and will be implemented over a period of 5 years, through the existing Government of the Republic of Zambia (GRZ)/Ministry of Agriculture (MoA) structures. APMEP is expected to directly benefit about 75,000 people [including 33,750 women (45%) and 2,000 youths (2.7%)]. In addition, about 40,000 people will indirectly benefit along the commodity value chain. The Project is expected to create about 450 full-time skilled/semiskilled and 2,200 part-time unskilled jobs in agri-business, crop production, processing and marketing activities.

To help assess achievement of its objectives and results, the Project through the Project Appraisal Report (PAR) has established three important assessments during the life of the Project. These include i) Baseline Survey - to be done in the first year of the Project, ii) Mid-Term Review - to be done in the third year of project implementation and iii) End of the Project Evaluation - to be done at the end of the Project once all activities are completed.

However, there was no baseline conducted during the first two years of the project as per plan due to various reasons including the delayed start of implementation of activities. The Project, which is now in the third year of implementation, will now only undertake a joint Beneficiary Assessments and Mid-Term Review following recommendations of key stakeholders. The Beneficiary Assessments and Mid-Term Review will evaluate the general performance of the Project in achieving its objectives and whether or not the project should continue in its current form after three years of implementation. It will recommend whether or not modifications are required to the project design. The Consultant will therefore prepare a consolidated Beneficiary Assessments and Mid-Term Review Report which will include aspects of a Gender and Nutrition Audit. The Consultant will also examine the M&E system to ascertain if it has adequate indicators for purposes of evaluation upon completion of the Project.

2.0 OBJECTIVES OF THE ASSIGNMENT

The assignment aims to carry out a joint Beneficiary Assessments and Mid-Term Review, which is a decisive review to evaluate project progress to date, achievement of objectives and whether or not the project should continue in its current form. The Review will recommend where modifications to the project design may be required.

3.0 SCOPE OF ACTIVITIES UNDER THE STUDY

The specific activities to be carried out are as follows:

i) General Beneficiary Assessments and Mid-Term Review

Using the Project Appraisal Report and its Results Based Logical Framework indicators as a basis, as well as the GAFSP core indicators, the consultant shall design a framework to:

- document evidence of project impact on household livelihoods, based on condition of assets, household incomes, annual food availability, social amenities available, agro-processing activities, income generating activities, input and output delivery services.
- Per component assess physical progress, efficiency and adequacy, in terms of delivery of project inputs and outputs.
- Assess the relevance of the project to local development priorities and needs; clarity and feasibility of project objectives (including targets); prospects for sustainability; quality and adequacy of project strategy (including logical consistency, clarity of assumptions and risks, quality of external relationships, cost –effectiveness; and the quality of participatory processes and support to strengthening local organizations.
- Per component, analyze financial progress. Assess whether the use of project funds is commensurate with attainment of physical progress, efficacy and the timeliness of procurement and disbursement activities
- Assess efficiency of project organization and management with respect to its size and composition, organizational structure, personnel management and policy, the qualifications of local staff and consultants, reporting, effectiveness of the M&E system (in defining performance indicators and collecting and analyzing monitoring data on project progress) and follow-up on primary stakeholders reactions to project activities
- Assess the quality of cooperation with institutions and effectiveness of coordination mechanisms with respect to composition. Changes in project design in this respect should be thoroughly assessed
- Assess degree of compliance with grant agreement and Grant recommendations.
- Analyze which factors and constraints have influenced project implementation, including technical, managerial, organizational, institutional, and socio-economic policy issues, in addition to other external factors unforeseen during design
- Assess project results and impacts, in terms of development outcomes, based on the projects actual and potential development impact on the primary stakeholder groups, relevant institutions and wider context. This includes identifiable benefits for primary stakeholders – including wider livelihood and capacity building – in terms of depth, spread and gender, primary stakeholder participation and environmental concerns

- Assess the prospects of the local primary and secondary stakeholders and National Project Coordinator for sustaining impact after termination of the project, taking into account old and new assumptions and risks.
- Pay particular attention to the analysis and recommendations on institutional and management sustainability of the various public and community infrastructures established.
- Make an overall assessment of the project cost effectiveness.
- Identify where project design needs adjusting/ re-orienting in order to increase effectiveness in reaching the target groups. This includes proposals to adjust the project objectives and strategy, activities, budget and inputs, organization/ institutional set-up and implementation plans.
- Assess the performance of funding and supervising agencies in terms of quality of supervision, efficiency in loan administration, ability to anticipate problems and extend implementation support, adequacy of reporting, recommendations and effectiveness of follow-up on recommendations. Identify how this has affected project performance
- Produce a clear set of lessons learnt that can benefit the project in its remaining lifespan. Suggest an exit strategy, possible preparations for scale up or follow up with the project.
- Review and make recommendations on institutional and management sustainability of generated outputs such as irrigation schemes and other infrastructures.

ii) Gender Audit

This will feed into the MTR Report and will include issues such as:

- Assessment of gender roles in the Project (women, men and youths)
- Assess involvement and impact on men, women and youth in various project activities leadership and decision making processes.
- Quantify the relative number of Men, Women and Youth groups reached per component.

iii) Nutrition Security

This will also feed into the MTR Report and the Consultant is expected to carry out the following assessments:

- Conduct a food consumption pattern assessment. The assessment will briefly determine current trends with regards to household diets especially in the project sites as well as the influence of the project activities on the same.
- Document the prevailing food consumption pattern
- Assess malnutrition prevalence among under five children, in the six (6) APMEP districts and which project activities have an impact. .
- Assess the dietary diversification impact of various project activities on the the target beneficiaries
- Assess the general months of household food scarcity in the project areas
- Identify the underlying factors which contribute to prevailing food consumption and dietary diversity
- Based on the understanding gained from the assessment, recommend to the project on how to formulate dietary guidelines and interventions that would influence behavioral change for rural households in the project sites.

Duration

The maximum duration of the assignment is four (4) calendar months.

Field work

The Consultant will undertake field visits to the participating Districts in order to collect primary data. This data could be based on project records and reports, key informants and or a sample of beneficiaries in cases where supplementary survey tools will be used. The Consultant will work together with MoA officers, local leaders and farmers in the execution of the field tasks.

Stakeholders' Workshop

A workshop to disseminate the findings of the Review will be organized by the Project to enable the Consult to present the Draft report and findings to the stakeholders. This workshop will be attended by key stakeholders, such as Government staff, Bank officials and Private sector participants. The workshop will provide inputs to help the Consultant finalize the report in line with the Bank PCR format.

4.0 METHODOLOGY

The Consultant is expected to prepare a detailed methodology that will ensure achievement of the objectives of the assignment. The Project expects that the assessment will employ quantitative and qualitative complementary methods that will ensure active involvement of various relevant stakeholders.

4.1 Study participants: - The Consultant will be free to interact with all key stakeholders in the Project. These include Subject Matter Specialists, DACOs and PACOs. For activities that may require a survey, the Consultant will draw participants from project areas and target groups in any of the 6 districts. These will include; farmers; community leaders, local leaders and Government staff at Headquarters, Provinces, Districts and sub-district levels. Other participants may include Agro-dealers who among other things provide improved seed inputs to the farmers in the project areas.

4.2 Tasks

The following is an indicative list of activities to be considered by the Consultant for the conduct of the Mid-Term Review:

- Inception meeting with key Project and Ministry staff
- Desk review of relevant project documents including; Project Appraisal Report and other relevant materials as may be required by the Consultant.
- Interviews with relevant key informants (MoA, and other key stakeholders)
- Where applicable, preparing a representative sample frame i.e. draw representative sample of beneficiaries in targeted districts (in collaboration with extension services, or population statistics). A general approach for stratification should be harmonized across the six Project districts.
- Developing a harmonized survey instrument (i.e. questionnaire) for all the Project districts, where this will be required
- Household interviews with beneficiaries in targeted areas including, focused group discussions where necessary.
- Geographical mapping of target areas at community and district level.
- Data analysis and
- Report Production

5.0 STAFFING REQUIREMENT AND QUALIFICATIONS

The Consultant should be experienced in data collection and analysis using standard sampling procedures. The team should have a skill mix that includes survey design, socio-economic analysis and statistical analysis. The team should be knowledgeable in conducting surveys at household or community level, and should have statistical capacity to transform primary data from the field into values that can easily be interpreted and understood by users of the information. Experience in conducting surveys and evaluations in agriculture or rural development projects will be an added advantage.

No	Key Personnel	Minimum Qualification	Minimum Experience	Person-months
1	Agriculture Economist/Socio-Economist/Development Studies (Team Leader)	MSc. in Agriculture Economics or equivalent	10 years	2
3	Statistician	BSc in Statistics or related field	5 years	2

6. REPORTS AND SCHEDULE OF DELIVERIES

During the assignment, the Consultant will be required to produce reports in acceptable format (Bank PCR Format) and in English language, as per the following schedule:

i. Inception Report

This report will be submitted not later than **one (1) calendar week** after commencement of the consulting services. It will be submitted in hard copies (1 original and 5 copies) and an e-copy (in CD or flash disk/memory stick).

ii. Draft Report

This report will be submitted not later than **six (6) calendar weeks** after commencement of the consulting services. The report will be reviewed by stakeholders through a stakeholder workshop or stakeholder consultations. It will be submitted in hard copies (1 original and 5 copies) and an e-copy (in CD or flash disk/memory stick).

iii. Final Report

This report will be submitted not later than **eight (8) calendar weeks** after commencement of the services. The report will also incorporate comments from the stakeholder workshop or direct inputs from stakeholders. It will be submitted in hard copies (1 original and 10 copies) and an e-copy (in CD or flash disk/memory stick).

7.0 REMUNERATION

The remuneration is dependent on the qualifications and experience of the consultant. The consultant will work under the supervision of the Project Coordinator. All logistical costs such as transport, per diems, and any other costs necessary for completion of the assignment, training and field activities will be included in the negotiated contract.

Government is obliged by law to deduct 15% withholding tax on professional fees paid out to the Consultant. The amount and schedule of payment of fees shall be in accordance with the terms and conditions of the contract agreement finally made between the Client and the Consultant.

8.0 SERVICES AND FACILITIES PROVIDED BY CLIENT

The Client will provide all the required coordination for the assignment. The Client will source and provide the consultants with reports and other documents related to the assignment. The Client may also provide advisory services on logistical arrangements for field work as required. The Client will assist the consultant in all relevant local matters in order to ensure the smooth implementation of the assignment.

9.0 RESPONSIBILITIES OF THE CONSULTANT

The consultant shall carry out the assignment in a professional manner in keeping with internationally accepted standards, using qualified and appropriate staff. The consultant may have additional experts they may deem necessary to successfully undertake the assignment, but at no extra cost to the Client. These shall endeavor to implement the assignment with diligence and within the time frame agreed upon in the contract. The consultant shall furnish to the Client the updated full curriculum vitae (CVs) for the team members it has proposed for the assignment. The consultant and his staff shall be ready and willing to work with Government staff.

At the end of the contract, all items procured for the assignment or for which reimbursement was claimed and received shall be handed over to the Client. The consultant shall also keep complete records of all services carried out under the assignment and handover to the Client all documents, working papers, calculations and computer data produced during the assignment.