**Democratic Socialist Republic of Sri Lanka Ministry of Agriculture (MOA)**

**Agriculture Sector Modernization Project (ASMP)**

**FUNDED BY INTERNATIONAL DEVELOPMENT ASSOCIATION CREDIT NO. CR 5873 LK**

**PROJECT ID NO. P156019 TERMS OF REFERENCE (TOR)**

Hiring of an Individual Consultant to conduct the beneficiary survey covering all Project Districts to have a final tracking of the indicators in the project result framework and to have a project endline analysis against the baseline of Component 2, Agriculture Sector Modernization Project.

**Procurement Plan No:** LK-MOA-PMU- CS-INDV-428593

# Brief Description of the Project:

The Agriculture Sector Modernization Project (ASMP) is comprised of three components. The Component-1, Agriculture Value Chain Development, seeks to promote commercial and export-oriented agriculture and this component is implemented by the Ministry of Plantation Industries (MOPI). The Component-2, Productivity Enhancement and Diversification Demonstration (this particular assignment relates to the Component-2) is implemented by the Ministry of Agriculture (MOA). The Component-2 aims to support smallholder farmers to produce competitive and marketable commodities, improve their ability to respond to market requirements and move towards increase commercialization. The Component-3 focuses on human resource management, and capacity building, logistic requirements, monitoring and evaluation, communication and coordination of the overall Project.

The specific development objective of the ASMP is to increase agriculture productivity, improve market access, enhance value addition of smallholder farmers and agribusiness in the project areas.

* 1. Component 1: Agriculture Value Chain Development, to promote commercial and export-oriented agriculture. This component is implemented by Ministry of Primary Industries (MOPI).
  2. Component 2: Productivity Enhancement, Diversification and Demonstration to support smallholder farmers to produce competitive and marketable commodities, improve their ability to respond to market requirements and move towards an increase in commercialization. It is implemented by Ministry of Agriculture (MOA).
  3. Component 3: Project Management Component, supporting the above two components through support for human resource development, capacity building, monitoring and evaluation, communication and coordination of the overall project.

The ASMP focuses on the demonstration of agriculture diversification and technology improvement for production and post-harvest value addition, value-chain development for higher value-added production and better market linkages and income generation from agriculture. The ASMP seeks to promote agriculture modernization and diversification agenda that is inclusive and allows smallholder farmers, including women, to benefit from investments into value addition, new skills and technology improvements, sustainable crop management, and new financing and marketing arrangements.

MOA is implementing the following sub-components under the Component 2:

* + 1. Farmer Training and Capacity Building.
    2. Modern Agriculture Technology Demonstration Parks (ATDP).
    3. Production and Market Infrastructure.
    4. Analytical and Policy Advisory Support.

The Project Management Unit (PMU) of the MOA coordinates the specific project activities of ASMP between the MOA and the participating provinces and districts supported by the Project.

MOA/PMU work in five provinces, namely Northern Province, North Central Province, Uva Province, Eastern Province and Central Province in the implementation of Component 2. The PMU has five Provincial Project Management Units (PPMUs). One in each project province to support implementation activities.

Initially seven districts (Jaffna, Mullaitivu, Monaragala, Batticaloa, Anuradhapura, Polonnaruwa and Matale) have been selected to implement Agriculture Technology Demonstration Parks (ATDPs) under the IDA fund (US$ 64.23 Mn) and approximately additional US$ 28 million has granted by the European Union (EU) to the ASMP to support the establishment of ATDPs in five new districts (Vavuniya, Kilinochchi, Ampara, Badulla and Kandy) increasing the total number of project districts as 12 in the five project provinces.

ATDPs will support farmers to: (a) develop professional producer associations; (b) achieve economies of scale in production and exports; (c) improve marketing and value addition; and

(d) achieve greater efficiency in the provision of technical and other support services.

The Component 2 aims to reach over 35000 direct project beneficiaries in the 12 districts through ATDPs giving financial assets as technology package and technical and farmer capacity building trainings to selected cluster farmers and also giving technical and farmer capacity building trainings to surrounding farmers who are willing to use new technologies also. Farmers are expected to directly benefit through improved production capacity and input supply/ management, better and more efficient technologies for production and post-harvest, improved market linkages as well as opportunities for value addition. Furthermore, farmers would benefit from capacity building through farmer business and marketing training.

# Source of Funding:

The Democratic Socialist Republic of Sri Lanka has received a Credit from the International Development Association (IDA) of the equivalent to US$ 125.00 million towards the cost of the Agriculture Sector Modernization Project (ASMP), of which US$ 64.23 million have been allocated for the implementation of Component 2 under MOA in the participating provinces.

An approximately additional financing of Euro 23.13 million has been granted by the European Union (EU) through WB to the ASMP to support the establishment of ATDPs and their development of their production and market infrastructure in five new districts, increasing the total number of project districts to 12 in the five project provinces. New districts are Kilinochchi, Vavuniya, Ampara, Badulla and Kandy.

MOA intends to apply some portion of the Credit proceeds to hire a qualified and capable Consultancy Firm (International Service Provider -ISP) to implement ATDPs in the seven IDA-financed districts of the five project provinces; Northern Province, North Central Province, Uva Province, Eastern Province and Central Province. Now the ISP has started to implement the selected clusters in initial seven project districts and project staff has been implementing the clusters in new districts selecting potential crops and beneficiaries by hiring local and international experts who are capable of the planned activities.

# Project Implementation

The project was implemented in March 2017 and project implementation was started in July 2017. As per the project design, it needed to be hired an International Service Provider (ISP) to implement the suitable crop clusters in initial 7 project districts. But that process is taken more than 8 months period it was decided to implement the pilot project based on the project design help of the project staff and the other stakeholders. Under that decision, 48 crop clusters have been implemented as pilot projects covering all 12 project districts.

From 2019, after hiring ISP, 21 clusters have been implementing in 12 project districts in accordance with the Cluster Development Plans (CDP) prepared by the ISP and 21 clusters have been implemented in new (5) districts prepared by the local experts hired for the new districts.

# Project Management, Monitoring and Evaluation

Project management is made through PMU established under the MOA and 5 PPMUs established at the provincial level to manage and implement the project activities with the support of relevant stakeholders. Project management includes procurement, training, financial management, environment and social safeguard, institutional development and Project Monitoring and Evacuation. To monitor the project activities there are 18 indicators mentioned in the result framework which have been included in the Project Appraisal Document (PAD). Project ERP system and Management Information System (MIS) are used to monitor the project implementation and progress in the terms of process monitoring and outcome monitoring to track the progress against targets, utilization of funds and outcomes of the project. Provincial Monitoring and Evaluation Specialists are the focal points of collecting and analyzing the data gathered from PPMUs and implementing partners/service providers, based on agreed reporting formats and timing.

# Project Annual Indicator Tracking Surveys:

As part of the M&E plan and the RF of the project, it is required to conduct an Annual Indicator Tracking Survey (ITS) to track the achievement of indicators in result framework that are necessary to track the project performance. Although project planned annual ITS, for the project closing year (2024) two ITS were planned to see the progress as at end of the project period also. The following indicators in the result framework need to be updated with the

information collected from the end of the second year onwards to the end of the project through an indicator tracking survey. An annual indicator tracking survey is measuring the values (negative or positive) of the selected indicators against the baseline status. This enables the project management to update progress level of indicators on annual basis to assess the achievement of project interventions which are being implemented by the project together with partner organizations in terms of results or changes made to the beneficiaries and measure long term development benefits and their sustainability of the project interventions.

In view of the project monitoring and evaluation, the project Baseline Survey was conducted in 2019 (pilot projects) and 2022 for real project which enable to carry out the continuous assessment of project results generated as a result of the project interventions in term of output, outcome and impact and also enable to do the needful comparison between treatment group versus a control group who have not received the project intervention during the project implementation.

The project has conducted three indicator tracking surveys, 1st one is considering pilot projects in 2020/21 by provincial project management units and 2nd and 3rd were in February 2023 and 2024 covering 12 project districts. This is the 4th and final indicator tracking survey planned to have in 4th quarter of the 2024. But after studying the project implementation and the surveys, WB evaluation consultancy team has given suggestions along two broad dimensions and it is explained under the tasks of the ITS consultant.

# Objectives and the scope of the assignment

This assignment is specially to conduct the final indicator tracking survey in a consistent manner, while supplementing some data to the project final evaluation (completion) team to tracks outcome measures key to the results framework and theory of change but outside the core ITS framework of Component 2, Agriculture Sector Modernization Project.

# Tasks of the Consultant

The main task is to conduct the final indicator tracking survey to update the achievement of the indicators which have to be tracked by the annual indicator tracking survey and expand it to supplement the additional information to the final evaluation team to track tracks outcome measures key to the results framework and theory of change but outside the core ITS framework. Therefore, final ITS has to be done as a final evaluation activity of the project (ASMP2) and questionnaire has to be revised to capture key indicators and the program’s impact on outcomes central to the Theory of Change to supplement the additional questions for the final evaluation of the project. These questions (Annex 02) and the indicators in the result framework (Annex 01) which have to be tracked by the survey will be given in the end of the ToR.

## Suggestions and the guidelines to do an assignment

As this is not similar with the ITS having in previous years, sampling techniques, methodology and he questionnaire have to be revised based on the guidelines given by the WB evaluation team in end of July 2024. Hence please refer the **Component 2 Evaluation Recommendations Summary** given by the WB evaluation consultancy team to proceed the sampling framework and the questionnaire **(Annex 03)**

## Some Specific concerns have to be done mention in below

As beneficiaries within a cluster are not homogenous with respect to program benefits, duration, and non-program characteristics, etc. selecting random sample within the cluster to make longitudinal comparisons can be challenging and difficult to interpret. Hence sampling has to be done considering to make longitudinal comparisons of the clusters.

In addition to the above, the sampling strategy will need to be adjusted to incorporate a subsample of farmers interviewed during the baseline surveys.

See the possibility to facilitate a difference-in-difference (DiD) style estimate of the program impact interviewing the same beneficiaries interviewed at the baseline survey and the ITS in 2023 and early 2024. Select the considerable sample of none cluster beneficiaries within each cluster, a group of ‘never- joiners’ who have been interviewed at the time of baseline survey in 2019 and 2022 and calculate a ‘counterfactual change’ against which the changes for participants.

Apart from the above counterfactual change, evaluation can be focused on program-specific indicators whose interpretation is less dependent on unknown counterfactual changes. Suitable outcomes would either be insulated from time-varying trends or ones whose counterfactual changes are known to quantify how key intermediate elements in the Theory of Change (adoption of advanced technologies; labor savings) changed as these intermediate elements are necessary conditions for the achievement of higher-level outcomes

# Specific tasks of the consultant

* + 1. Considering above said suggestions do the sampling framework to conduct the

beneficiary survey and prepare a methodology for the assignment.

* + 1. Revised the existing questionnaire as the need of the track the indicators as well as do the end- line analysis of the project considering the instruction given by the Evaluation consultancy team of the WB.
    2. To track the indicators related with the PUCs that are IR -1.3, IR 1.4, IR -2.5 and IR 2.6, separate questionnaire has to be prepared.
    3. Submit the methodology including sampling framework, and the questionnaires to the project and the WB.
    4. Decide the suitable sampling techniques covering all implemented clusters in initial project districts under IDA fund and the project district under EU grant. Cluster list will be given by the project.

When doing sampling, it is needed to ensure that all groups of farmers across the different clusters are appropriately represented and it is therefore project is proposing do the stratified sampling and the random sampling with pooling all beneficiaries considering the suggestions given by the WB consultancy team (Annex 02)

It is better to consider the 95% of confidence level and the 5% of margin of error when deciding the sample size.

* + 1. Please make sure the selected sample having 40% of the female beneficiaries for the survey.
    2. Select the enumerators and the district level supervisors and train them on questionnaires. Recommend to get the service from the enumerators who have joint with the baseline surveys and the previous annual ITS, if possible.
    3. Use the KOBO Toolbox software for the survey as for the baseline and the previous ITS also had been done using this software.
    4. Conduct the beneficiary survey using revised questionnaire to track the achievement of indicators mentioned in the result framework which have to be tracked by the annual tracking survey (Annex 01) and the data need for the end line analysis of the project. Survey has to be

covered the clusters implemented under IDA funds (pilot and ISP clusters) as well as clusters implemented under EU grant (additional 5 districts).

* + 1. Data of the indicators related with the farmer Public Unlisted Companies (PUCs) have to be collected. All PUCs (58) have to be tracked individually.
    2. When doing the survey with the sampling, it is needed to make separate data sheet for the initial project districts and the new districts so that it can be track the indicator achievements in overall project and the additional districts (EU) separately.
    3. Communicate with Provincial Project Management Unit (PPMU) and arrange the survey and always get the support from provincial and PMU M&E specialists.
    4. After conducting 50% and 100% of the survey submit the surveyed information to the project at those two stages within agreed period of time.
    5. Analyze the data considering given suggestions and present it as entire project and the additional districts (EU grant).
    6. Calculate the indicator achievements of above-mentioned indicators against the baseline values and the do the end line analysis using already collected data.
    7. Submit the summary report of figures of indicator achievement and the end line analysis to the PMU and discuss it with M&E group of the project.
    8. Submit the draft report of the survey including all analysis.
    9. After addressing the comments given for draft report submit the final report of the survey including indicator achievements of the project and the figures of end line analysis of the project.

This assignment will be carried out by the selected individual consultant under the supervision of the PMU of the Agriculture Sector Modernization Project (ASMP).

**Note:** Individual household surveys should be conducted during a single visit to the household. In exceptional cases (if respondents do not have time or are not at home or coding errors need to be verified) it may be necessary to return to the household on more than one occasion, but this should not be the norm.

# Duration and Time Schedule

This assignment has to be completed within **three and a half (3.5) months** (105 days) and the date of starting the work shall be the day of following date of signing the agreement. Consultant is expected to provide a detailed time schedule of various activities to be undertaken during the consultancy together with indicator survey design. It should be included major reports that are to be produced.

# Qualification & Experience

The Consultants should have the following qualification and experiences:

* Possession of post graduate degree holder, Post Graduate Degree (at least Master Level) in Statistics, Agriculture Economics, or any relevant field.
* Previous consultancies of doing evaluations, surveys and M&E tasks under Agriculture Sector Modernization Project.
* Extensive experience in carrying out field-based similar surveys; including surveys related to agriculture-related projects or program during last five-year period,
* Previous experience in quantitative data collection, analysis and reporting using statistical software during last five-year period
* Previous experiences in evaluations and the impact assessment of the projects and programs in last five-year period,
* High degree of independence, flexibility and ability to meet strict deadlines.
* Excellent communication and writing skills in English.

# Deliverables

1. Revised questionnaires for the beneficiary survey, decided sample size and survey plan, mobile software developed using KOBOO TOOL BOX to collect the data with user name and passwords for specific enumerators, supervisor and the project M&E specialist- PMU within 14 days of commencing the assignment.
2. Progress of data collection- after collecting 50% the data by having indicator tracking survey within 44 days of commencing the assignment.
3. Progress of 100% of data collection by having indicator tracking survey, data sheet of supplementary data collection for the final evaluation team and submitting the final values of the indicator achievement of the project as specified under the task within 74 days of commencing the assignment.
4. Draft report including indicator achievement, end analysis of the project as mentioned in the ToR within 90 days of commencing the assignment.
5. Final report of the survey addressing all comments given for draft report and accepted by the WB team together with all data sheets, all data and survey within 105 days of commencing the assignment.

# Reviewing the indicator values and end analysis of the project

Heading with the project director, project M&E team and the project team will be reviewed the reprot as did in the last indicator tracking surveys. In addition to that WB M&E team and the WB mission will be reviewed as per their need. This is an optional.

# Support to the Consultant by the Project

Project will provide Project Appraisal Document, supervision mission reports, progress reports, baseline report, previous indicator tracking reports, special studies conducted by the project, background information on the project area, reports from M&E studies, etc.

Monitoring and Evaluation specialist in PMU and the Monitoring and Evaluation specialist in each PPMU will support to consultant at the field level when it is necessary and when deciding the survey plan and doing the enumerator training, they will join with the consultant.

# Confidential and Data Ownership

The consultant will protect the confidentiality of those participating in the survey at all stages. All data is confidential and is the property of the Agriculture Sector Modernization Project (ASMP), Ministry of Agriculture.

No data or other information from this survey will be released to third parties without the written approval of the ASM project. The consultant will turn over all data and

questionnaires to ASM Project and will not destroy information and material at the end of the project and after all data and original documentation has been delivered to the ASM project. All data and the software developed for the survey has to be handed over with the final report as soft copies and the hard copies.

# Budget

The payment of the assignment is around Rs 14.0 Mn including staff charges, travel, equipment, hardware, software, ground surveys, technical meetings, report preparation, and other related activities related to the beneficiary survey of above mention 12 districts.

# Payment Schedule

|  |  |  |  |
| --- | --- | --- | --- |
| **Payment** | **Description** | **Payment**  **%** | **Time from**  **signing the**  **agreement (weeks)** |
| 1st  payment | After submitting and getting no objection for revised questionnaires for the beneficiary survey, decided sample size and survey plan, mobile software developed using KOBOO TOOL BOX to collect the data with user name and passwords for specific enumerators, supervisor and the project M&E specialist-  PMU. | 40% | within 14 days of commencing the assignment |
| 2nd  payment | after collecting 50% the data by having indicator tracking survey | 20% | Within 44 days  of the signing the agreement |
| 3rd  payment | After completing 100% of data collection by having indicator tracking survey, submit the data sheet of supplementary data collection for the final evaluation team and submitting the final values of the indicator achievement of the project as specified  under the task. | 20% | Within 74 days of signing the agreement |
| 4th  payment | After submitting and reviewing the draft report including indicator achievement, end analysis of the project as mentioned in the  ToR by the WB team. | 10% | Within 90 days of signing the agreement |
| Final Payment | After submitting final report of the survey  addressing all comments given for draft report and accepted by the WB team. | 10% | Within 105  days of signing the agreement |

1. **Available Project Documents**

* Result framework
* District wise implemented cluster list including pilot projects, ISP cluster and EU clusters.
* Baseline reports of the project 2022
* Indicator Tracking survey report 2023, February 2024
* Project Appraisal Document (PAD)
* Baseline survey questionnaire and questionnaire of ITS

# Annex 01

**Indicators mentioned in the result framework which have to be tracked by the indicator tracking survey.**

1. Clients who have adopted an improved agriculture technology promoted by the project – Productivity Indicator); (Number) - (Core)
2. Clients who have adopted an improved agriculture technology promoted by the project – Productivity Indicator); (Number) Female, Male - (Core)
3. Increase in average value of sales of agriculture products due to project interventions (Market Access Indicator) (Percentage)
4. New Jobs generated through investments in agribusiness organizations under the project (Value addition Indicator) (Number) This indicator is gender disaggregated
5. New Jobs generated through investments in agribusiness organizations under the project (Value addition Indicator) (Number) Female and Male
6. Targeted clients satisfied with agricultural services (Percentage) - (Core) This indicator is gender disaggregated
7. Targeted clients satisfied with agricultural services (Percentage) - (Core) – Female and Male
8. Share of farmer producer organizations functional (Percentage)
9. Share of project-supported famer producer organizations making profit (Percentage)

## Annex 02:

**Component 2 Evaluation Recommendations Summary**

A variety of monitoring and evaluation efforts gather information on the progress and performance of Component #2. These can be divided between two general categories: periodic surveys representative of the current program beneficiaries, and internal data collection and reporting from program staff. In addition, an external consulting group was hired to conduct a final evaluation in support of the required project completion report.

*Internal Data and Reporting*

Internal monitoring and performance reporting generate a significant amount of program administration information and data. A basic typology of regular reporting is as follows: Information flows from the farmer level to the PMU level via regular performance reporting from cluster-based staff to the provincial PMU. Progress reports are then compiled by the Provincial M&E and PPMU staff, and sent to the central PMU. The information conveyed in the reports covers basic program activities, challenges, and reporting on agricultural production.

Field visits revealed that the methodology used to monitor and assess the project indicators is not always well specified, and interpreting the information provided in these reports is challenging. For example, local M&E officials are tasked with inspecting farmer records and then reporting figures for cost of cultivation, production, and revenue.1 However, the details of how the farmers are sampled, how these figures are compiled, and what methods of aggregation are used is not defined. In addition to observed variation in compliance with record keeping at the farm and enterprise level, the lack of standardization undercuts the value of the reports generated from M&E efforts. Because cluster-level staff generates data without a standard protocol for sampling farmers and without a methodology for obtaining information from the farmer, production figures are potentially unreliable and incomparable across clusters.2 In addition, it is unclear whether the provincial management units adhere to the same protocol when compiling reports.

A standardized protocol for the entire chain of reporting is crucial for ensuring that monitoring efforts provide usable information to program managers. During field visits, the lack of standardization was highlighted by the number of field staff who indicated that they were not familiar with the reporting protocols as a result of having recently joined the staff. Without exception, they indicated that a protocol was not provided by their predecessor.

*Framework of Existing Data: Periodic Surveys*

The periodic surveys are of two basic types: (1) surveys of beneficiaries occurring at the onset of project activities; and (2) Annual indicator tracking surveys.

The surveys of category 1 are generally referred to by the PMU evaluation unit as ‘baseline’ surveys. The first such survey occurred in 2019 among the population of 2,500 beneficiaries in 48 clusters A second ‘baseline’ occurred in early 2022, and covered only the 37 newly formed and ‘scale up’ clusters that were supported by ISP technology. That survey covered a sample of 1,608 farmers targeted to receive inputs. It remains unclear how many individual farmers from the 21 clusters that overlapped with the 2019 baseline were resurveyed in 2022, though program staff indicated that there was likely little overlap as the 2022 survey was intended to focus on newly joined farmers.

While these surveys are referred to as ‘baseline’ surveys because they covered farmers that had recently joined the program, that label is a bit misleading. For all the surveys, farmers were in the sample because they had already been registered with the program and may have received some program benefits.

*Framework of Existing Data: Indicator Tracking Surveys*

1 Farmers were trained on the use of record books for recording costs and revenue, and the maintenance of such records was a nominal requirement of participation. Field visits noted that compliance was uneven at best.

While many record books appeared populated at early dates, the majority of visited farmers were not currently tracking expenditures.

2 Field interviews with cluster staff revealed a wide ranging of perception of the proper methods of internal reporting, with some staff unable to recount a specific methodology and others who had developed their own protocol.

The PMU evaluation unit reports that Indicator Tracking Surveys (ITSs) were conducted in 2023 and 2024 by Professor AL Sandika.3 A final ITS is planned for Fall 2024.

Each ITS is a snapshot of the contemporary beneficiaries. The data are gathered from a representative sample of the farmers considered participants at the time of the survey. Thus, the population of the survey changes with each iteration of the ITS. Because each ‘vintage’ of survey beneficiaries within a cluster is not homogenous with respect to program benefits, duration, and non-program characteristics, using the ITS to make longitudinal comparisons can be challenging and difficult to interpret. In particular, newly joined participants are more likely to receive fewer inputs, and may be more marginal farmers along several dimensions. Including these farmers in cluster averages can mechanically reduce average farm outcomes, even if each individual farmer experienced an improvement.4 The problem is exacerbated by the inclusion of farmers that have not experienced a full harvest.

*Implications of Existing Data Structure for Program Evaluation*

A key takeaway from the structure of the periodic and ITS surveys is that there does not exist an obvious panel data structure that would facilitate a difference-in-difference (DiD) style estimate of the program impact. The major limiting factor is that there is no consistent data on pre-program outcomes among non-beneficiaries. In a setup more amenable to evaluation, all farmers in the catchment areas of current PUCs would have been surveyed in 2019, 2022 and 2024. That setup would imply that within each cluster, a group of ‘never-joiners’ could be used to calculate a ‘counterfactual change’ against which the changes for participants could be analyzed.

The calculation of a counterfactual change is particularly important in this context. Sri Lanka underwent substantial economic turmoil over the program period. Poverty rates and food insecurity increased, while living standards across the income spectrum decreased. Thus, it is difficult to attribute pre and post project changes in larger economic outcomes to the project without an idea of how those outcomes would have evolved. For a given farmer, a decrease in observed income is perfectly consistent with both a negative and positive true treatment effect.5

A potential remedy is to focus the evaluation efforts on program-specific indicators whose interpretation is less dependent on unknown counterfactual changes. Suitable outcomes would either be insulated from time-varying trends or ones whose counterfactual changes are known. As an example, consider changes in irrigation and labor use. Upgrades to irrigation were a core element of the program, and general adoption of the introduced technologies does not appear to have increased considerably outside of ASMP project areas. Further, beneficiaries reported considerable labor savings from the lower time requirements of the new irrigation systems. Capturing these changes in a standardized manner during

3 The PMU evaluation indicated that a 2021 ITS was also conducted, but no report was furnished. The survey referred to may have been combined with the 2022 ‘baseline’.

4 To illustrate, consider the following example. The program starts in year 1 with 10 farmers of Type A, who receive 100% of the program inputs and each produces 200 units per year. In year 2, 10 additional farmers of Type B join. The Type B farmers receive half of the inputs, and produce 150 units per year. The average output between years 1 and 2 will have declined from 200 to 175. This decline will occur even if the true (unobserved) effect of the program was positive. Because there is no reasonable way to estimate the counterfactual outcomes for each group (i.e. the output they would have received without the program), in this case the longitudinal change from the ITS will not be a good proxy for the true effect of the program.

5 A true positive treatment effect can be negative even when beneficiary incomes decrease if the counterfactual change would have been a larger decline. In such a case, the program can be seen as reducing the negative impact of the economic crisis.

the final ITS would allow the project to quantify how key intermediate elements in the Theory of Change (adoption of advanced technologies; labor savings) changed. These intermediate elements are necessary conditions for the achievement of higher-level outcomes (e.g. increase in allocative efficiency).

*Final Evaluation Mechanisms*

Conceptually, an overall evaluation strategy that included both a final ITS and a separate evaluation effort could complement each other in the following manner: The ITS could continue to track a standard suite of indicators in a consistent manner, while the evaluation unit designed an assessment that tracks outcome measures key to the results framework and theory of change but outside the core ITS framework. The evaluation unit would be tasked with determining the overall strategy and ensuring that the framework is methodologically sound. However, it does not appear that such a complimentary strategy is feasible from both an organizational or logistical standpoint.

As a result, *the final ITS needs to be the core final evaluation activity*. The final version of the ITS will need to expand to include additional questions that capture key indicators and ask respondent to provide their own perspectives on the program’s impact on outcomes central to the Theory of Change. In addition, the sampling strategy will need to be adjusted to incorporate a subsample of farmers interviewed during the baseline surveys. These recommendations and other suggestions are detailed in the following section.

## Recommendations for Final ITS

### *Sample*

* **Panel:** There has not been any consistent effort to consider longitudinal outcomes over the project’s lifespan, nor is there a reasonably identified ‘control’ group that can be used to assess a potential counterfactual change. Given these constraints, there is limited potential in attempting to find matched control groups and compare responses to questions about retrospective changes (e.g. ‘in the last five years, how much has your income changed?’). However, the existence of a 2022 ‘baseline’ of the ISP/EU clusters suggests that there is scope to track basic longitudinal changes in intermediate outcomes.

Therefore, the ITS could sample farmers in the usual ‘snapshot’ manner, but also include an extended oversample of those farmers who were interviewed in the original 2019 and 2022 ‘baseline’ surveys.

The sampling would proceed as follows:

* + Step 1: Draw the sample size consistent with the previous ITS surveys (‘snapshot’ method)
  + Step 2: Draw an additional sample such that at least 33% of original baseline farmers per cluster (minimum of 10 farmers per cluster) are also interviewed in the final ITS. (Note that this is a total figure, and the number of ‘extra’ draws will depend on how many baseline farmers are drawn in the sample in step 1).

Note that the farmers added in step 2 should either be excluded from the standard ITS questions or reweighted to account for the oversampling. The purpose of the panel farmers will be to calculate lower level outcomes based on items from the original baseline questionnaire:

### *Questionnaire*

1. Change in crop revenue
2. Change in specific farm assets (B3)
3. Change in irrigation mechanism (B4.c)
   * Include the questions from the baseline questionnaire to be used for the panel analysis (see ‘panel’ section above). The wording of these questions should be consistent with the original baseline.
   * Include the additional questions that capture various intermediate outcomes and other key indicators for assessing the impact of the ASMP. Suggested questions are including in the appendix.
   * The original ITS contains data on technology adoption assessments that use an ambiguous scaling system (0,1,2) and ambiguous measures (“post harvest treatments”). These should be supplemented (or replaced where appropriate) with “Yes/No” questions about specific technologies that are relevant to the specific cluster. These can then be aggregated to generate indicators concerning appropriate technology use. For example, asking fruit clusters about use of bagging. The PMU should provide a list of the specific recommended technologies that should be included for each cluster, and the questionnaire should be adapted with conditional programming to apply the technology list to the relevant cluster.6 Revising the ITS in this manner will provide more direct evidence of the type of intermediate changes that are plausibly associated with the program.
   * *The ITS needs to be able to distinguish between levels of ‘treatment intensity’ within a cluster*. In many clusters, the beneficiaries have not received the same package of inputs, or received inputs at different times. Cluster averages in the previous ITS are based on an unknown mix of ‘fully treated’, ‘partially treated’ or ‘untreated’ farmers, and the mix is heterogenous across clusters. The inability to identify the assistance received by these farmers severely limits the comparability across years. There are two options. One is to deal with this issue during the sampling stage by identifying and categorizing farmers according to ‘full’ and ‘partial’ treatment status, and then stratifying to ensure that the sample in each cluster contains a representative proportion of fully treated farmers.

A second, non-exclusive option, is to include several questions in the first section of the questionnaire that would allow the treatment intensity to be known ex-post. For example, the beneficiaries could be asked to list the support they received and dates at which they received it. At the analysis stage, the samples could then be limited to (e.g.) fully supported farmers for certain outcomes.

The second option should be implemented exclusively if it is not feasible for the intensity of treatment status to be identified in the sampling lists *ex-ante*.

### *Analysis*

6 This list should be used to fill in the options for Question 48 in the suggested questions annex.

* + Previous ITS surveys calculate district level averages of cluster-level outcomes. The value of such district-level analysis is not clear. Focusing strictly on cluster-level changes, and then displaying aggregations according to meaningful categories (e.g. clusters on similar timelines, crop category, etc…) would be much more effective.7
  + The ‘baseline’ surveys from 2019 and 2022 contain enough questions to calculate cluster-level averages of the “gross revenue” per acre from the “existing” agricultural activities. One could use the final ITS to compare each cluster’s average per-acre revenue from ASMP plots to the (inflation adjusted) gross revenue per acre from the previous cluster level, per-acre average revenue. The report could then calculate the (a) share of clusters within which revenue per acre from ASMP plots exceeds the average revenue of the farmer’s non-ASMP portfolio; and (b) the magnitude of the difference. The comparison could be used to verify that a basic program assumption—that the ASMP activities promote high value agricultural activities—is valid.

## General Component 2 Evaluation Recommendations

*External Consultant Report*

* + *Methodological Consistency*

The evaluation consultants have indicated that they intend to collect only limited information on quantitative outcomes related to the cost of production. The sampling strategy and methodology that was discussed in preliminary meetings lacked clarity. The evaluation consultants must be transparent and use well documented and clear methods appropriate for the outcome. The steps taken for both sampling and measurement must be detailed and justified.

* + *Use of Mixed Methods to Illustrate Steps in the Theory of Change*

The evaluation consultants propose utilizing focus group discussions and structured interviews to provide insight into program effects. Those methods will be most valuable if used to explicate the intermediate outcomes in the theory of change. Specifically, how did the program increase knowledge of production practices, market standards, and farming opportunities, lead to changes in social networks or connectivity, and contribute to local capacity for higher value agricultural production? And to what extent did these changes lead to improved adoption of recommended agronomic and economic practices and generate increased market linkages? What factors contributed to success, and what bottlenecks proved most critical in impeding progress.

The proposed mixed-method evaluation should try to generate insight not only into the achievement of specific program benchmarks, but also the understanding of strengths and weaknesses of the program design and logic.

*Internal monitoring data*

7 A justification in the TOR for the district calculations is that they help to distinguish effects in clusters funded by different sources. However, such comparisons can be made directly by simply aggregating on the funding source variables.

For the remainder of the program, any internal data collection exercises require a standardized methodology explicitly documented and communicated to the field level. Mobilizers need to sample farmers in appropriate manner, collect data using standardized questionnaires, and enter data into an accessible database. Otherwise, resources should be used to scale up professional survey evaluation efforts.

*Use of PUC profitability data to generate meaningful indicators*

Each PUC has now hired a professional staff to handle accounting and bookkeeping. As a result, all PUCs visited during the field visits were able to generate income and profit statements. The PMU can use the information provided to demonstrate both the economic viability of the clusters as well as the contribution of the PUC to the economic livelihoods of its shareholders. Because profitability analysis is already a core function of the PUC management, the role of the PMU evaluation unit will be to ensure that the metrics are calculated in a standard manner.

The PMU will need to ensure that one key modification from how profits are currently calculated is implemented. Currently, PUCs are calculating profits by subtracting only costs that are currently incurred, which means that subsidized inputs are excluded. Specifically, staff costs are not considered in net income calculations. The PMU will need to ensure that PUCs calculate net income based on the unsubsidized unit costs, which will provide a clearer picture of the profitability of the PUCs beginning in January of 2025.

After calculating gross profits and net income in a consistent manner, the PMU can use the number of outstanding shares to calculate the earnings per share (EPS) of each PUC.

*Capacity Building Activities*

The Ministry of Agriculture received approximately $5 million for capacity building projects in support of the ASMP and component 2. The PMU monitoring and evaluation needs to clearly document how that money was spent, the current status of the projects supported by those funds, and how the expenditures are connected with the ASMP operations and PDO.

# Annex 03:

**Questions supplement to the final evaluation by the ITS**

## Basic Program Participation

1. \*\*Are you cultivating an ASMP crop? \*\*
   1. Yes
   2. No
2. \*\*During what year did you plant your first crop with the ASMP?\*\*

- [ ]

1. \*\*What is the total land area used for the ASMP project on your farm?\*\*

- [ ] acres

## Questions 4 thru 12 refer specifically to the plot enrolled in the ASMP project

1. \*\*Is the land used for the ASMP project previously cultivated or newly cultivated land?\*\*
   1. Newly cultivated
   2. Previously cultivated ### If 1 (Newly cultivated)
2. \*\*Why was the land uncultivated?\*\*
   1. Could not irrigate
   2. Was not cleared
   3. Previous crop failure/disease
   4. Did not have time to manage or work on the plot
   5. Could not be profitably cultivated for other reasons
   6. Government restriction ### If 2 (Previously cultivated)
3. \*\*What was the primary crop grown on the ASMP land during the Maha season before the project?\*\*

- [crop list]

1. \*\*What was the total revenue you generated from the ASMP land during the Maha season before the project?\*\*

- [ ] LKR

1. \*\*What was the total profit you generated from the ASMP land during the Maha season before the project?\*\*

- [ ] LKR

1. \*\*What was the primary crop grown on the ASMP land during the Yala season before the project?\*\*

- [crop list]

1. \*\*What was the total revenue you generated from the ASMP land during the Yala season before the project?\*\*

- [ ] LKR

1. \*\*What was the total profit you generated from the ASMP land during the Yala season before the project?\*\*

- [ ] LKR

1. \*\*How much of your own funds were used to prepare the land for use in the ASMP project?\*\*

- [ ] LKR

## In your enrolled plot, as a result of ASMP….

1. \*\*This project improved the yield (quantity per acre) of crops on the enrolled plot\*\*
   1. Strongly Agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly Disagree
2. \*\*This project improved the quality of the output in my enrolled plot\*\*
   1. Strongly Agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly Disagree
3. \*\*This project improved the unit price I received from the output on my enrolled plot\*\*
   1. Strongly Agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly Disagree
4. \*\*This project improved the total revenue of my output from my enrolled plot\*\*
   1. Strongly Agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly Disagree
5. \*\*This project improved my ability to find buyers for my agricultural production\*\*
   1. Strongly Agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly Disagree
6. \*\*This project reduced the amount of fertilizer I use on this plot\*\*
   1. Strongly Agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly Disagree
7. \*\*This project reduced the amount of labor used on this plot\*\*
   1. Strongly Agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly Disagree
8. \*\*This project reduced the amount of water I use on this plot\*\*
   1. Strongly Agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly Disagree
9. \*\*This project reduced the amount of chemicals I use on this plot\*\*
   1. Strongly Agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly Disagree
10. \*\*This project has reduced my farm’s vulnerability to drought\*\*
    1. Strongly Agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly Disagree
11. \*\*This project has improved my farm’s ability to manage changes in climate\*\*
    1. Strongly Agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly Disagree
12. \*\*This project improved my household’s ability to withstand a crisis\*\*
    1. Strongly Agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly Disagree
13. \*\*This project has improved my family’s basic food security\*\*
    1. Strongly Agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly Disagree
14. \*\*This project has reduced my anxiety about my family’s economic future\*\*
    1. Strongly Agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly Disagree
15. \*\*This project has made me MORE optimistic about my future economic prospects\*\*
    1. Strongly Agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly Disagree
16. This project has improved the way household members spend their time?

. 1. Strongly Agree

1. Agree
2. Neutral
3. Disagree
4. Strongly Disagree ## Labor/Time Use
5. \*\*When compared to before the ASMP project, do you spend more, less, or the same amount of time on the land enrolled in the project?\*\*
   1. More
   2. Less
   3. The same ### If 1 or 2
6. \*\*How much [more/less] time do you spend on that plot?\*\*

* [ ] hours/days
* Unit [ ] week/month

### If 2

1. \*\*What is the main activity you do with the time saved? (pick up to X)\*\*
   1. Other agricultural labor (other existing plots)
   2. Agricultural activities on new plots
   3. Business activities
   4. Wage labor
   5. Salary job
   6. Childcare
   7. Other domestic activities
   8. Leisure activities ## PUC
2. \*\*Are you a shareholder of a PUC?\*\*
   1. Yes
   2. No ### If YES
3. \*\*What was the total cost of the shares you purchased?\*\*

* [ ] LKR
* Skip to 35 ### If NO

1. \*\*Were you offered the opportunity to purchase PUC shares?\*\*
   1. Yes
   2. No ### If YES
2. \*\*What best describes the reason you did not purchase a share?\*\*
   1. I would like to but I have not had the opportunity to formally make my purchase
   2. I would like to but I do not have the cash on hand currently
   3. I am not yet sure if I want to participate in the PUC
   4. I do not think the benefits of being a shareholder are worth the cost of the share
   5. I do not want to be involved with the PUC
3. \*\*Do you sell any of your output to the PUC?\*\*
   1. Yes
   2. No ### If YES
4. \*\*In the last season in which you produced a crop and sold it to the PUC, what percentage of your output was sold to the PUC?\*\* - [ ] %
5. \*\*Do you purchase inputs from the PUC?\*\*
   1. Yes
   2. No

## Livelihood Impact

1. \*\*Over the past two years, have you made any major investments, or asset or durable good purchases?\*\*
   1. Yes
   2. No ### If 1
2. \*\*Please list the investments (select all)\*\*
   1. Purchased new land
   2. Purchased water pump
   3. Drilled or expanded well
   4. Installed irrigation equipment in non-ASMP land
   5. Purchased an agricultural machine
   6. Purchased livestock (cow, goat, etc.)
   7. Purchased poultry or other small animals
   8. House repairs or house expansion
   9. Purchased a truck
   10. Purchased a car
   11. Purchased a motor bike
   12. Purchased a tuk tuk
   13. Purchased furniture
   14. Purchased household appliances (TV, refrigerator)
3. \*\*[For each investment selected above, select the response that best characterizes the agreement with the following statement:]\*\*

\*\*The ASMP enabled me to make this investment: \*\*

* 1. Strongly Agree
  2. Agree
  3. Neither Agree nor Disagree
  4. Disagree
  5. Strongly Disagree

1. \*\*What was the total value of the investments/purchases from above that you made because of the ASMP? Please do not include investments that you would have made even if you did not participate in ASMP.\*\*

- [ ] LKR

1. \*\*Over the past two years, have you made any changes to your expenditure on your children’s education?\*\*
   1. Yes, increase
   2. Yes, decrease
   3. No
   4. 99/ Not applicable (no children) ### If N/A, skip section

### If 1 or 2

1. \*\*[Select the response that best characterizes the agreement with the following statement:]\*\*

\*\*The ASMP is primarily responsible for this [increase/decrease] in educational expenditure:\*\*

* 1. Strongly Agree
  2. Agree
  3. Neither Agree nor Disagree
  4. Disagree
  5. Strongly Disagree

1. \*\*Please list the amount of increase/decrease on educational expenditure that has occurred as a result of your participation in the ASMP? \*\*

* [ ] LKR
* Unit [week/month/year]

1. \*\*What is the primary destination for your educational expenditure? \*\*
   1. Tuition payment
   2. Sending student to university
   3. Sending student abroad for studies
   4. Sending student to certificate program/technical training/private college
   5. Online classes
   6. Extra books/education materials
   7. Other

## Technology

1. Have you adopted any technologies recommended by the ASMP on land was not supported by the ASMP program?
2. Yes
3. No

## If 1

1. What practices (include all)?

1 Installed sprinkler or drip irrigation system 2 Other irrigation practice

1. Bagging (fruit)
2. Other preharvest practice (will be given by the project)